

PRODUCT CHANGE NOTICE

产品变更通知

| | | | | | |
|---|---|-----------|--------------------------------|----------|------------|
| PCN#编号: | PCN#20251021-001 | Date 日期: | 2025/10/21 | | |
| Subject 主题: 关于 CA-IF48XXXX 系列、CA-IS308XXX 系列、CA-IS305XX 系列、CA-IF105XX 系列、CA-IS356XXX 封装线材变更的 PCN。 PCN on the change of wire bonding material for CA-IF48XXXX&CA-IS308XXX&CA-IS305XX&CA-IF105XX&CA-IS356XXX product. | | | | | |
| Originator 发起人: | Runzhi Li | Phone 电话: | +86-021-50838601 | Dept.部门: | Production |
| Change Details 变更说明 | | | | | |
| Change Classification 变更等级: | <input checked="" type="checkbox"/> 一级变更 <input type="checkbox"/> 二级变更 <input type="checkbox"/> 三级变更 <input type="checkbox"/> 四级变更 | | | | |
| Change Type 变更类型: | <input type="checkbox"/> Wafer Fabrication 晶圆制造 <input checked="" type="checkbox"/> Assembly 封装 <input type="checkbox"/> Test 测试 <input type="checkbox"/> Product Revision 产品改版 <input type="checkbox"/> Datasheet 产品规格书 <input type="checkbox"/> End of Line 停产 <input type="checkbox"/> Other 其它 | | | | |
| Description of Changes 变更描述: CA-IF48XXXX 系列、CA-IS308XXX 系列、CA-IS305XX 系列、CA-IF105XX 系列、CA-IS356XXX 封装线材变更。 The change of wire bonding material for CA-IF48XXXX&CA-IS308XXX&CA-IS305XX&CA-IF105XX&CA-IS356XXX product. | | | | | |
| 变更前 before | | | 变更后 after | | |
| 0.8mil 金线 0.8mil gold wire | | | 0.8mil 金钯铜线 0.8mil AuPdCu wire | | |
| Reason for Changes 变更原因: 1.进一步优化成本结构，同时保持产品的高性能和可靠性。这一变更将有助于我们提供更具竞争力的价格，同时确保产品的质量和性能不受影响。 To further optimize our cost structure while maintaining the high performance and reliability of our products. This change will help us to offer more competitive pricing while ensuring that the quality and performance of our products are not compromised. 2.性能提升：金钯铜线在电学性能、热学性能等方面具有更出色的表现。例如，它可能具有更低的电阻，从而减少信号传输中的能量损耗，提高芯片的性能和稳定性。 Performance enhancement: AuPdCu wire has better performance in terms of electrical and thermal properties. For example, it may have lower resistance, which reduces energy loss in signal transmission and improves chip performance and stability. | | | | | |
| Impact of the change (positive or negative) on fit, form, function & reliability 变更（正面或负面）对外观、尺寸、功能和可靠性的影响： 1.对产品外观，尺寸和可靠性方面均无影响。 The change has no effect on the appearance, size and reliability of the product. 2.对产品电性能均无影响。 No effect on the electrical properties of the product. | | | | | |
| Affected Part Number 受影响产品型号: CA-IS305XX 系列 CA-IS3050W; CA-IS3052W CA-IS3050G; CA-IS3052G CA-IF48XXXX 系列 CA-IF4805HS; CA-IF4820HS | | | | | |

| | |
|--|---|
| CA-IF4850HS; CA-IF4820FS CA-IF4888HS; CA-IF4820HD CA-IS356XXXX 系列 CA-IS3562HWP; CA-IS3563HWP CA-IS-308XXX 系列 CA-IS3089WX; CA-IS3088WX CA-IS3086WX; CA-IS3080WX CA-IS3082WNX; CA-IS3082WX CA-IF1051XX 系列 CA-IF1051HS; CA-IF1051VS CA-IF1051S | |
| Samples Status 样品状态: 根据客户要求，可在六周内提供样品。 Samples can be provided within six weeks upon customer request. | |
| Implementation Date 实施日期: 量产切换： 预计工厂切换的日期为 2025 年 11 月中旬。 Volume production switchover: The anticipated date for the factory transition is mid-November 2025. | |
| Appendix 附件: 更新版可靠性报告 Updated Reliability Report | |
| Chipanalog Approval/Comment: <input checked="" type="checkbox"/> Approval <input type="checkbox"/> Not approval <input type="checkbox"/> Other | Date: 2025/10/21 Name/ title: Chen, Liang/Quality Director |
| Customer Approval/Comment: <input type="checkbox"/> Approval <input type="checkbox"/> Not approval <input type="checkbox"/> Other | Date: Name/ title: |

Remark: After Chipanalog notice of change is issued, for class 1 change, please review within 30 calendar days. For class 2 change, please review within 15 calendar days. If there is any problem, please feedback timely. If there is no feedback, you will agree to the change by default.
 备注：川土变更通知发出后，一级变更请您在 30 天内进行评审，二级变更请您在 15 天内进行评审。若有问题，请您及时反馈。若未反馈，默认您同意变更。

For additional information regarding this change, contact your local sales representative or contact the PCN administrator at chenliang@chipanalog.com.
 有关此更改的其他信息，请联系销售代表或 PCN 管理员：chenliang@chipanalog.com.



Reliability Test Report

Qualification Purpose: Device Change Qualification
Report Version: V1.0

| Prepared by | Reviewed by | Approved by |
|-------------|-------------|-------------|
| 邵晓梅 | 刘和英 | 陈亮 |

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1. Overview

Reliability testing of microelectronic products is a risk mitigation process designed to ensure the service life of device in customer applications. Semiconductor wafer manufacturing process and package-level reliability can be assessed in a variety of ways and may include accelerated environmental test conditions. Chipanalog evaluates manufacturability of the device to verify a robust silicon and assembly flow to ensure continuity of supply to customers. Chipanalog qualifies new devices, significant changes, and product families based on JEDEC JESD47. This report is aimed to show the reliability test result about the isolation and interface bonding wire changed from Au wire to AuPdCu wire.

2. Part Number List

| Package Type | Part Number |
|--------------|--|
| SOIC8-NB(S) | CA-IF4805HS/CA-IF4820HS/CA-IF4850HS/CA-IF4820FS/CA-IF4888HS/CA-IF1051HS/CA-IF1051VS/CA-IF1051S |
| SOIC8-WB(G) | CA-IS3050G/ CA-IS3052G |
| SOIC16-WB(W) | CA-IS3050W/ CA-IS3052W/CA-IS3086WX/CA-IS3080WX/CA-IS3082WNX/CA-IS3082WX/CA-IS3089WX/ CA-IS3088WX/CA-IS3562HWP/CA-IS3563HWP |
| DFN8(D) | CA-IF4820HD |

Note: JEDEC specification is designed to also qualify a family of similar components utilizing the same fabrication process, design rules, and similar circuits. The family qualification may also be applied to a package family where the construction is the same and only the size and number of leads differs.

3. Product Information

3.1. Package Information-SOIC8-NB

| | Before | After |
|----------------------|----------------|--------------------|
| Assembly site | SiMAT | SiMAT |
| FT site | SiMAT | SiMAT |
| Package | SOIC8-NB | SOIC8-NB |
| Lead frame | Cu | Cu |
| Bond wire | 20um Au | 20um AuPdCu |
| MSL level | MSL3 | MSL3 |

3.2. Package Information-SOIC8-WB

| | Before | After |
|----------------------|----------------|--------------------|
| Assembly site | SiMAT | SiMAT |
| FT site | SiMAT | SiMAT |
| Package | SOIC8-WB | SOIC8-WB |
| Lead frame | Cu | Cu |
| Bond wire | 20um Au | 20um AuPdCu |

| | | |
|------------------|------|------|
| MSL level | MSL3 | MSL3 |
|------------------|------|------|

3.3. Package Information-SOIC16-WB

| | Before | After |
|----------------------|----------------|--------------------|
| Assembly site | SiMAT | SiMAT |
| FT site | SiMAT | SiMAT |
| Package | SOIC16-WB | SOIC16-WB |
| Lead frame | Cu | Cu |
| Bond wire | 20um Au | 20um AuPdCu |
| MSL level | MSL3 | MSL3 |

| | Before | After |
|----------------------|----------------|--------------------|
| Assembly site | UNIMOS | UNIMOS |
| FT site | UNIMOS | UNIMOS |
| Package | SOIC16-WB | SOIC16-WB |
| Lead frame | Cu | Cu |
| Bond wire | 20um Au | 20um AuPdCu |
| MSL level | MSL3 | MSL3 |

3.4. Package Information-DFN8

| | Before | After |
|----------------------|----------------|--------------------|
| Assembly site | SiMAT | SiMAT |
| FT site | SiMAT | SiMAT |
| Package | DFN8 | DFN8 |
| Lead frame | Cu | Cu |
| Bond wire | 20um Au | 20um AuPdCu |
| MSL level | MSL3 | MSL3 |

4. Reliability Requalification Plan

Base on JESD 47L Part 6.4 Guidelines for Stress Tests for Product / Process Changes, the wire bonding related process change reliability qualification plan is as following:

| Stress | Ref. | Abbv. | Conditions | Duration /Accept |
|-------------------------------|--------------------|--------------|--|----------------------------|
| MSL Preconditioning | JESD22-A113 | PC | Per appropriate MSL level per J-STD-020 | Electrical Test (optional) |
| High Temperature Storage | JESD22-A103 & A113 | HTSL | 150°C, 1000 hrs | 1000 hrs/0 Fail |
| Temperature Cycling | JESD22-A104 | TC | -65°C to 150°C | 1000 cycles/0 Fail |
| Unbiased Temperature/Humidity | JESD22-A102 | AC | 121°C, 100% RH, 29.7 psia | 96hrs/0 Fail |
| Biased Temperature/Humidity | JESD22-A110 | HAST | 130°C, 85% RH, 33.3 psia, Vcc=Vcc _{max} | 96hrs/0 Fail |

| | | | | |
|--------------------|-------------|-----|--|---------------------------------------|
| Bond Pull Strength | JESD22-B120 | BPS | Characterization, Pre Encapsulation | Ppk \geq 1.66 or Cpk \geq 1.33 |
| Bond Shear | JESD22-B116 | BS | Characterization, Pre Encapsulation | Ppk \geq 1.66 or Cpk \geq 1.33 |

Note: Three lots totally come from the impact list .

5. Reliability Test Results

5.1. Package Reliability Test Results

| Package Type: SOIC8-NB | | | | |
|------------------------|--|-------------|----------------|---------|
| Stress | Condition | Duration | Sample size | Results |
| PC | MSL 3 | / | 231*2 lot | Pass |
| HTSL | T _A = 150°C | 1000 hrs | 77*2 lot | Pass |
| TC | -65°C to 150°C | 1000 cycles | 77*2 lot | Pass |
| AC | 121°C, 100% RH, 29.7psia | 96 hrs | 77*2 lot | Pass |
| HAST | 130°C, 85% RH, 33.3 psia, V _{cc} =5.5V | 96 hrs | 77*2 lot | Pass |
| BPS | JESD22-B120 | / | 30 bonds/5 ea. | Pass |
| BS | JESD22-B116 | / | 30 bonds/5 ea. | Pass |

Note: qual vehicle is CA-IF4805HS and CA-IF1051S.

| Package Type: SOIC8-WB | | | | |
|------------------------|---|-------------|----------------|---------|
| Stress | Condition | Duration | Sample size | Results |
| PC | MSL 3 | / | 231*1 lot | Pass |
| HTSL | T _A = 150°C | 1000 hrs | 77*1 lot | Pass |
| TC | -65°C to 150°C | 1000 cycles | 77*1 lot | Pass |
| AC | 121°C, 100% RH, 29.7psia | 96 hrs | 77*1 lot | Pass |
| HAST | 130°C, 85% RH, 33.3 psia, V _{cc1} =5.5V, V _{cc2} =5.5V | 96 hrs | 77*1 lot | Pass |
| BPS | JESD22-B120 | / | 30 bonds/5 ea. | Pass |
| BS | JESD22-B116 | / | 30 bonds/5 ea. | Pass |

Note: qual vehicle is CA-IS3052G.

| Package Type: SOIC16-WB | | | | | |
|-------------------------|---|-------------|-------------|---------|--------|
| Stress | Condition | Duration | Sample size | Results | |
| | | | | SiMAT | UNIMOS |
| PC | MSL 3 | / | 231*4 lot | Pass | Pass |
| HTSL | T _A = 150°C | 1000 hrs | 77*4 lot | Pass | Pass |
| TC | -65°C to 150°C | 1000 cycles | 77*4 lot | Pass | Pass |
| AC | 121°C, 100% RH, 29.7psia | 96 hrs | 77*4 lot | Pass | Pass |
| HAST | 130°C, 85% RH, 33.3 psia, V _{cc1} =5.5V, V _{cc2} =5.5V | 96 hrs | 77*4 lot | Pass | Pass |

| | | | | | |
|-----|-------------|---|----------------|------|------|
| BPS | JESD22-B120 | / | 30 bonds/5 ea. | Pass | Pass |
| BS | JESD22-B116 | / | 30 bonds/5 ea. | Pass | Pass |

Note: qual vehicle is CA-IS3050W and CA-IS3082WX.

| Package Type: DFN8 | | | | |
|--------------------|--|-------------|----------------|---------|
| Stress | Condition | Duration | Sample size | Results |
| PC | MSL 3 | / | 231*1 lot | Pass |
| HTSL | T _A = 150°C | 1000 hrs | 77*1 lot | Pass |
| TC | -65°C to 150°C | 1000 cycles | 77*1 lot | Pass |
| AC | 121°C, 100% RH, 29.7psia | 96 hrs | 77*1 lot | Pass |
| HAST | 130°C, 85% RH, 33.3 psia, V _{cc} =5.5V | 96 hrs | 77*1 lot | Pass |
| BPS | JESD22-B120 | / | 30 bonds/5 ea. | Pass |
| BS | JESD22-B116 | / | 30 bonds/5 ea. | Pass |

Note: qual vehicle is CA-IF4820HD.

6. Conclusion

The bonding wire process change reliability qualification are passed according to JEDEC standards.

Disclaimer

This information is provided to assist customers in design and development. It could change for technology innovation without notice.

The devices are shipped after passing final test. Customers are responsible to conduct sufficient engineering and additional qualification testing to determine whether a device is suitable for use in their applications.

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Revision History

| Revision | Change Log | Date |
|-----------------|-------------------|-------------|
| V1.0 | Initial release | Oct, 2025 |