UM0405
Ameba Flash AVL (NAND Flash)

本文档列示在 Ameba-Smart/-Green2 平台上测试通过的 NAND Flash 信息

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USING THIS DOCUMENT

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1 NAND Flash 测试须知

1.1 特别提醒

NAND Flash 具有不同的制造工艺类型，因此不同 NAND Flash 的寿命和数据保持能力会有很大的差异。客户需要特别关注 NAND Flash 的编程/擦除（P/E）周期数量和数据保持性能是否能满足产品要求。

1.2 免责声明

鉴于 Realtek 仅基于 Flash 厂商提供的少量 Flash 样品完成功能测试，受限于测试样品数量，测试时间长度，以及 Flash 不同批次的差异，对于一些概率性发生的问题，Realtek 无法保证。

同时，Realtek 不承担 Flash 产品的品质保障责任。大规模量产时，Flash 的质量问题和可靠性须由客户自行向 Flash 厂商索要质量报告予以保证。

1.3 NAND Flash 分级标准

级别	列入标准	说明
3	通过 Flash 功能兼容性测试，且 Flash 厂商提供了经认证的第三方测试报告来证明 Flash 稳定性的 Flash 型号，列入此等级	推荐
2	通过 Flash 功能兼容性测试，且 Flash 厂商提供了标准、规范的测试报告来证明 Flash 稳定性的 Flash 型号，列入此等级	请做好 Flash 质量的评估与验证
1	通过 Flash 功能兼容性测试，但 Flash 厂商未能提供稳定性测试报告的 Flash 型号，列入此等级	不保证 Flash 的稳定性。请客户自行向 Flash 厂商索取稳定性测试报告，并做好 Flash 质量的评估与验证

1.4 NAND Flash 测试报告清单

在提交 Flash AVL 测试需求时，除了需要提供 Flash 相关产品文档外，还必须提供经严格测试的 Flash 测试报告。无论是由 Flash 厂商自己出具的测试报告，还是由经认证的第三方出具的测试报告，测试报告中的测试内容必须至少包括以下测试项目：

优先级	测试项目	强制	Flash 测试报告
1	Human Body Model (HBM)	是	必须由以下机构之一出具： ● 经认证的第三方 ● Flash 厂商
2	Charge Device Model (CDM)	是	
3	Machine Model (MM)	是	
4	Latch-up	是	
5	High Temperature Operating Life (HTOL)	是	
6	High Temperature Storage Life (HTSL)	是	
7	Endurance	是	
8	Uncycled High Temperature Data Retention (UCHTDR)	是	
9	Post-cycling High Temperature Data Retention (PCHTDR)	是	
10	Low Temperature Data Retention (LTDR)	是	

11	Early Life Failure Rate (ELFR)	是	
12	Low Temperature Operating Life (LTOL)	是	
13	Non-Volatile Memory Cycling Endurance (NVCE)	是	
14	EMI/EMC 测试报告	是	
15	最高速率下的高低温/高低压耐力 long run 测试报告	否	Flash 厂商
16	CP/FT 测试报告	否	
17	主芯片的兼容性测试报告或实际信号波形测量报告	否	

NOTE

- *优先级为 1 – 14 的测试项为强制提供的测试项。若测试报告由经认证的第三方出具，则该款 Flash 有资格列入级别 3；否则，预列入级别 2。*
- *优先级为 15 – 17 的测试项为选择性提供的测试项，测试报告可由 Flash 厂商自己出具。如提供，则该款 Flash 有资格列入级别 3。*
- *测试报告的提供将影响 Flash 最终的测试结果和评定等级。*

2 NAND Flash AVL

2.1 Ameba-Smart

下文详细列出了各 Flash 厂商在 Ameba-Smart 平台上测试通过的 Flash 型号，结合测试结果和测试报告提供情况，分为三个级别。

2.1.1 级别 3

就产品性能和质量而言，列入级别 3 的 Flash 为推荐使用的 Flash。

暂无。

2.1.2 级别 2

列入级别 2 的 Flash 已通过功能兼容性测试，且能初步保证稳定性，但需要客户自行做好 Flash 质量的评估与验证。参阅 NAND Flash 分级标准。

2.1.2.1 GigaDevice

型号	Flash ID	容量	电压	I/O	STR 最大频率	SDK 支持?
GD5F1GM7UE	0xC8	128MB	3.3V	4O	133MHz	默认支持
GD5F2GM7UE		256MB	3.3V	4O	133MHz	

2.1.3 级别 1

列入级别 1 的 Flash 仅通过功能兼容性测试，不能保证稳定性和 Flash 质量。参阅 NAND Flash 分级标准。

暂无。