

# ELECTROSTATIC DISCHARGE (ESD) TESTING REPORT

## Latch-Up (LU)

Report No : <K230317030>

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MA-tek is the only analysis service laboratory in Taiwan that has been certified under ISO/IEC 15408 (Common Criteria for Information Technology Security Evaluation). It possesses the qualifications to provide security assessment and testing services for information and communication products ranging from EAL1 to EAL6.

閱康科技是國內唯一通過ISO/IEC 15408 (資訊技術安全評估共同準則) 認證的分析實驗室，具有資通訊產品EAL1至EAL6的安全性評估檢測服務資格。



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## Contents

- 1 Background Information**
  - 1.1 Client Information
  - 1.2 Testing Inquiry
  - 1.3 Pass / Fail Criteria
- 2 Testing Summary**
- 3 Testing Items and Raw Data**
  - 3.1 Pin Assignment
  - 3.2 Raw Data
  - 3.3 Appendix (Pass/Fail Criteria)

## **1 Background Information**

### **1.1 Client Information**

Applicant/Department: CorePower Technology Co., Ltd.

Product: CP02B

### **1.2 Testing Inquiry**

Test Item: Latch-up (LU)

Package/Pin Count: SOT-23-3

Reference: JESD78F

Temperature:  $25 \pm 5$  °C

Humidity:  $55 \pm 5\%$  RH

Test Instrument: MK2-TE(1)

Calibration Date: 2023/03/28

Trigger Current:

( $\pm$ )100mA

Test Voltage:

(+)5V ~ (+)7.5V, Step:(+)0.5V

### **1.3 Pass / Fail Criteria**

Device no longer meets the parts drawing requirements using parametric (1.4X INOM or INOM+10mA whichever is greater), functional or IV requirements.

## 2 Testing Summary

| IT CLASS: I<br><br>NOTE:                                                                                                                                                                                                                                                                                                                             | Trigger Model             | Pin Combination | Sample | Pass Level    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------|--------|---------------|
|                                                                                                                                                                                                                                                                                                                                                      | +IT                       | IP_7V           | 3      | Pass (+100mA) |
|                                                                                                                                                                                                                                                                                                                                                      | -IT                       | IP_7V           | 3      | Pass (-100mA) |
|                                                                                                                                                                                                                                                                                                                                                      | Vsupply Over voltage test | PWR_5V          | 3      | Pass (+7.5V)  |
| <p>Class I - Latch-up testing performed at room temperature.</p> <p>Class II - Latch-up testing performed at maximum ambient rated temperature for the device.</p> <p>Level: A</p> <p>Level A - The failure criteria as defined in JEDEC.</p> <p>Level B - Special failure criteria. Supplier shall provide definition of failure criteria used.</p> |                           |                 |        |               |

\* DUT failed at the first level of test condition, defined by client.

NOTE: Red color in raw data indicates failed pins.

### 3 Testing Items and Raw Data

#### 3.1 Pin Assignment

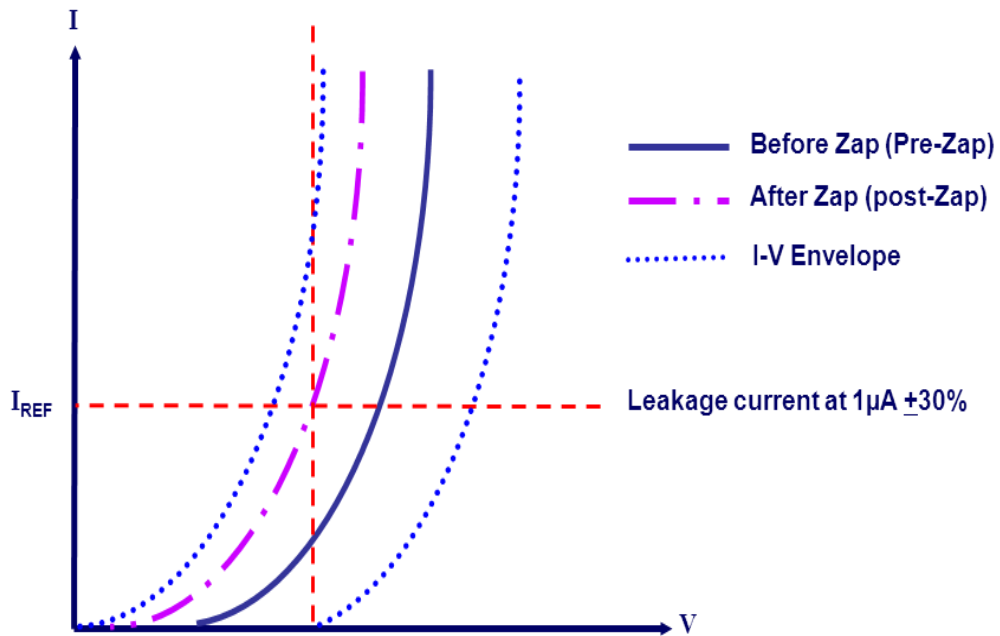
| Pin Group | PAD Pins |
|-----------|----------|
| IP_7V     | 4        |
| PWR_5V    | 3        |
| GND       | 2        |

## 3.2 Raw Data

| (Unit:mA)<br>(Unit: V)          |     |   | +IT  |      |      | -IT  |      |      | OV   |      |      |
|---------------------------------|-----|---|------|------|------|------|------|------|------|------|------|
| Test Pin Fail Current / Voltage |     |   | #37  | #38  | #39  | #40  | #41  | #42  | #43  | #44  | #45  |
| 4                               | VM  | 4 | Pass | Pass | Pass | Pass | Pass | Pass | N/A  | N/A  | N/A  |
| 3                               | VDD | 3 | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  | Pass | Pass | Pass |

### 3.3 Appendix (Pass/Fail Criteria)

**Note** Device no longer meets the parts drawing requirements using parametric ( $1.4 \times I_{\text{NOM}}$  or  $I_{\text{NOM}} + 10\text{mA}$  whichever is greater), functional or IV requirements.



**Pass/Fail Criteria:**  
Variation of Leakage Current and I-V Shift in Pre-Zap and Post-Zap curves

## MA-tek Milestone, Accreditation & Certificates

MA-tek is a company with ISO 9001, IECQ 17025 and ISO 27001 certifications and is the only lab in Taiwan awarded the Industrial Excellence Award by the IDB (2008). MA-tek's method of dimension measurement of analytical data can be traced back to the NIST Standard (National Institute of Standard and Technology).

MA-tek is the only analysis service laboratory in Taiwan that has been certified under ISO/IEC 15408 (Common Criteria for Information Technology Security Evaluation). It possesses the qualifications to provide security assessment and testing services for information and communication products ranging from EAL1 to EAL6.

- 2004 Certified by ISO 9001 and IECQ 17025.
- 2006 Elected as the Distinguished Enterprise by the Industry Development Bureau (IDB).
- 2006 Awarded #32 in the Taiwan Top 50 and #157 in the Asia Top 500 Fastest Growing Companies by Deloitte.
- 2008 Awarded the best performance company of Industrial Excellence Award by the Economy Ministry's Industry Development Bureau (IDB).
- 2009 Listed on the Taiwan OTC market (3587)
- 2012 Awarded #474 in the Asia Top 500 Fastest Growing Companies by Deloitte.
- 2013 A+ companies in Taiwan by Global Views Monthly Magazine.
- 2015 Certified by ISO 27001.
- 2017 JS Lab certificated by TUV NORD Certification in Automotives
- 2018 Passed the ANSI/ESD S20.20 certification in ESD protection
- 2020 Certified by ISO/IEC 15408 CC EAL6 in Information Security.  
Ranked #83 among Top 100 rapid growth companies in Taiwan by CommonWealth Magazine
- 2021 MA-tek (Shanghai) certificated by High and New Tech Enterprises Certification.
- 2022 Certificated by CNAS-CL01.



ISO / IEC 27001



ISO / IEC 15408



IECQ 17025



CNAS-CL01



ISO 9001