



PPAP Technical Specification

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Abbreviations & Nomenclature	
Name	Description

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1. PURPOSE

The purpose of this document is to define the Production Part Approval Process (PPAP) requirements applicable to all Suppliers involved in the manufacturing of components, subassemblies or units delivered to any plant of ZAPI GROUP (hereinafter called ZAPI).

The objective is to ensure that all supplied parts consistently meet engineering specifications, quality standards and performance expectations.

2. APPLICABILITY

This specification applies to:

- New components or assemblies
- Engineering changes or drawing revisions
- Supplier process changes (equipment, tooling, materials, location)
- Requalification activities

These requirements apply to all Suppliers of production materials, mechanical and electronic components, outsourced manufacturing services.

3. REFERENCES

- AIAG PPAP (Last Edition)
- AIAG APQP (Last Edition)
- VDA 5 – Measurement Process Capability (Latest Edition)
- VDA 4 – Quality Assurance Prior to Series Production (includes SPC guidelines) (Latest Edition)
- ZPSFR2017R0008 - Supplier Technical Specification: Supplier Quality Book (Latest Edition)

4. PPAP Submission Levels

Suppliers shall submit PPAP according to the level requested in the Purchase Order:

- **Level 1:** Part Submission Warrant (PSW) + limited supporting documentation
- **Level 2:** PSW + limited supporting documentation
- **Level 3:** PSW + full supporting documentation (default requirement)
- **Level 4:** As defined by the Customer (Zapi)
- **Level 5:** On-site review of PPAP documentation

Unless otherwise specified, **Level 3** is the mandatory submission requirement.

5. PPAP Documentation Requirements

Below the Table of PPAP Documentation requirements for each specific Submission Level (AIAG) including the details of their association with the specific documents requested for Zapi product categories:

PPAP Requirement	Level 1	Level 2	Level 3	Level 4	Level 5
1.Design Records					
<u>Zapi Specific Requirements:</u> - For Mechanical parts: Approved drawings (ballooned) at latest revision as per Zapi P.O. - For PCB: Design Outline Drawing - For PCBA: Bill of Materials (BOM)	R	✓	✓	*	R
2.Approved Engineering Change Documents Any Engineering Change, if available	R	✓	✓	*	R
3.Customer Engineering Approval Any design Approval if available	R	R	✓	*	R
4.Design Failure Modes & Effects Analysis (FMEA) Design FMEA (if Supplier is design responsible)	R	R	✓	*	R
5.Process Flow Diagram Process Flow Chart	R	R	✓	*	R
6.Process Failure Mode & Effects Analysis (FMEA) Process FMEA	R	R	✓	*	R
7.Control Plan Process Control Plan	R	R	✓	*	R
8.Measurement System Analysis (MSA) Verification of measurement system reliability.	R	R	✓	*	R
<u>Zapi Specific Requirements:</u> For PCBA: MSA for AOI Inspection					

9. Dimensional Results					
<u>Zapi Specific Requirements:</u> - For Mechanical parts: Full dimensional report on production samples (including thickness report for surface treatment) - For PCB: Full dimensional report - For PCBA: reflow and wave soldering profiles	R	✓	✓	*	R
10. Material, Chemical, and Performance Test Results					
<u>Zapi Specific Requirements:</u> - For Mechanical parts: Raw Material Certificate (E.g.: 3.1 certificate) and Test report related to specific requirements (E.g.: Leakage Test) - For PCB: Datasheets for Raw Materials used and Electrical Continuity Test Report - For PCBA: Datasheets for solder paste + solder bars and In-Circuit Coverage Report	R	✓	✓	*	R
11. Initial Process Studies (SPC) Cp/Cpk analysis for critical / special characteristics (according to ZPSF-2017-0008: Supplier Quality Book)	R	R	✓	*	R
12. Qualified Laboratory Documentation Evidence that PPAP tests were performed by qualified internal or accredited external laboratories	R	✓	✓	*	R
13. Appearance Approval Report If Applicable	✓	✓	✓	*	R
14. Sample Production Parts Quantity defined by Zapi	R	✓	✓	*	R
15. Master Sample If Applicable	R	R	✓	*	R
16. Checking Aids Calibration and maintenance records, if applicable.	R	R	✓	*	R
17. Customer Specific Requirements - For Mechanical parts: Only if requested by Zapi	R	R	✓	*	R

- For PCB: Outgoing Inspection Report - For PCBA: Certificate of Conformance (according to Zapi Specifications)					
18.Part Submission Warrant (PSW) Signed by the Supplier's authorized quality representative.	✓	✓	✓	✓	R

Legend:

✓ = The Supplier shall submit to Zapi and retain a copy of records or documentation item at appropriate locations

R = The Organization shall retain at appropriate locations and make available to Zapi upon request

* = The Supplier shall retain at appropriate locations and submit to Zapi upon request

6. ACCEPTANCE CRITERIA

PPAP approval status may be:

- **Approved:** Supplier may ship production parts.
- **Interim Approved:** Temporary approval with defined limits and actions.
- **Rejected:** Supplier shall correct issues and resubmit.

Suppliers shall:

- Ensure process capability is maintained.
- Notify to Zapi of any change impacting the product.
- Deliver only parts conforming to the approved PPAP.

Any deviation from this specification must be formally approved through a Supplier Deviation Request before implementation.

7. REQUALIFICATION REQUIREMENTS

The Supplier shall resubmit PPAP in the following cases:

- Drawing or specification changes
- Material or process changes
- Tooling replacement or refurbishment
- Manufacturing location change
- After 12 months of inactivity (if required by commodity)

8. RECORDS

The Supplier shall keep for **minimum 15 years** all PPAP-related records, unless otherwise specified. Documentation shall be made available upon Zapi request.