Supplier Quality Management

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FOREWORD

Production Part Approval Process (PPAP) is a valuable tool for establishing confidence in suppliers and their production processes. In today’s competitive manufacturing environment controlling cost and maintaining a high level of quality have become vital to a company’s success. Therefore it has become imperative to provide quality parts that meet the customer’s requirements the first time and every time.

The PPAP process is not just a requirement from Siemens to our Suppliers. You as Siemens Supplier benefit from the principles of the PPAP process, because it gives you the assurance that your process is ready and capable to meet all Siemens requirements consistently throughout all future production runs, not just the first run.
1 INTRODUCTION

1.1 What is PPAP?
- PPAP (Production Part Approval Process) is a process to approve products for serial production. It was developed by AIAG (Auto Industry Action Group) based on the international Norm IATF 16949 (former ISO/TS 16949)
- PPAP process consists of 18 elements. Not all of the elements are required for every submission.
- There are 5 generally accepted PPAP submission levels.
- Supplier can buy the PPAP book with detailed information, guidelines and sample documents as well as many other books. All information about PPAP can be found in the World Wide Web, Courses can be booked, Experts and Consultants can be hired.
- Nowadays, PPAP is Standard in different “classic” industries
- PPAP is only carried out on samples that have been manufactured under series production conditions (production line, test equipment, employees, etc.)

1.2 Purpose
The purpose of production part approval is to verify that the Supplier understands all Siemens engineering design specification and requirements and that the Supplier’s manufacturing process has the potential to produce products with consistent good quality under series production conditions.

The resulting PPAP documentation provides evidence that the supplier has met or exceeded Siemens requirements and that the process is capable of consistently reproducing quality parts. This applies to not only the first production run but to all future production runs.

The supplier is responsible for the performance and the correctness of the test and measurement results. PPAP and other quality tools continue to be implemented into more industries; therefore, it is important to gain an understanding of the PPAP requirements to remain competitive as a parts supplier.

This document is not meant as a training primer on PPAP or any of the many activities associated with it, such as Process FMEAs, capability studies, etc. There are numerous training resources available that the Supplier can take advantage of as needed.

1.3 Scope
The PPAP process defined in this manual applies to the production of items (components, parts, materials, products, assemblies, sub-assemblies, etc.).
1.4 When to perform PPAP?
A PPAP is required for any new part submission as well as for approval of any change to an existing part or process. Siemens may request a PPAP at any time during the product life. In detail:

- If a new part is ordered for the first time,
- In case of a new supplier or a change of supplier,
- After any part modification by Siemens or Supplier
- Following an interruption of production for more than one year
- Following a production process modification or relocation of production or use of new or relocated machinery and/or operating or test equipment,
- Following the use of alternative materials or alternative sub-suppliers,
- Lost or change of official inspection marks, safety approvals, etc.,
- Or in special cases and needs, by agreement between Siemens and Supplier.

2 PPAP SUBMISSION LEVELS

<table>
<thead>
<tr>
<th>Level 1</th>
<th>Part Submission Warrant (PSW) and Appearance Approval Report (if applicable) submitted to Siemens.</th>
<th>A Cover sheet sampling for small changes: no samples, no measurements etc. needed</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>For example:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Revision change due to a change of a text in the drawing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>* Revision change of an approved tolerance due to a change notice from supplier, since the part is already produced with this deviating tolerance (so, Siemens adapt the drawing with the changed tolerance)</td>
<td></td>
</tr>
<tr>
<td>Level 2</td>
<td>PSW with product samples and limited supporting data.</td>
<td>For non-critical changes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* In exceptional cases for simple new parts (labels, wires, …)</td>
</tr>
<tr>
<td>Level 3</td>
<td>PSW with product samples and complete supporting data</td>
<td>* This is the Standard Level if nothing is agreed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>* For new parts, products, suppliers or critical changes</td>
</tr>
<tr>
<td>Level 4</td>
<td>PSW and other requirements as defined by Siemens.</td>
<td>For individual sampling</td>
</tr>
<tr>
<td>Level 5</td>
<td>PSW with product samples and complete supporting data available for review at the supplier’s manufacturing location.</td>
<td>Analogue to Level 3 but with on-site review at supplier</td>
</tr>
</tbody>
</table>
3 PPAP REQUIREMENTS

A PPAP is Siemens Part Number Revision State Level specific. When PPAP is required, the correct part number revision state must be approved with PPAP (fully or interim) in order for a Supplier to make production shipments.

3.1 PPAP Workbook

The potential Suppliers will receive a PPAP Workbook (Excel Sheet) with all needed and important data for PPAP submission with the RfQ (Request for Quotation) from Siemens strategic procurement.

The potential Suppliers will also receive the “Subscriber Package” with all relevant drawings, specifications, files etc. for the Submission. This Subscriber Package has the same number as the part, but with date and time information. For the quotation, the “Initial Subscriber Package” (*) will be submitted to the potential Suppliers.

Since these documents can still change during the development process, the selected Supplier will receive the “approved Subscriber Package” (**) which is the latest valid Package prior to the PPAP Submission (see also PPAP Element #3).

The PPAP Workbook consist of:

- PPAP Submission Data: All needed data for PPAP submission
- PPAP Variants: Data for variant sampling
- PPAP Requirements
- Special Characteristics List: List of all Special Characteristics (if any)
- Part Submission Warrant (PSW): PPAP Cover Sheet
- PPAP Supplier Checklist
- Helpful Templates: Results Sheet, P-FMEA, Control Plan, Supplier Change Request (SCR), Appearance Approval Report (AAR)
- Label: For labelling the sample delivery
- Links: Helpful links for PPAP

(*) Example of the Initial Subscriber Package:
A5W00090127-AA-001-SupplierData-2020-03-05_14_12_33.zip
  ⇒ It’s the ZIP folder name which potential Suppliers will get with the RfQ
  ⇒ For Quotation to Siemens

(**) Example of the Approved Subscriber Package:
A5W00090127-AB-005-SupplierData-2020-09-23_09_28_15.zip
  ⇒ It’s the ZIP folder name which Suppliers will get from Siemens prior to the PPAP Submission
  ⇒ For PPAP Submission
  ⇒ To be noted in the corresponding field of the PSW

Since there were some changes, the revision state and revision of the part have changed from AA-001 to AB-005 and the data and time stamp have changed as well.
3.2 The 18 Elements of PPAP

PPAP Element #1: Design Record

The drawing defines the engineering design requirements of the part. The PPAP submission must correspond to a specific Drawing Revision State, which must match with the called Revision state in the “PPAP Submission Data” of PPAP Workbook or stored drawing(s) in the “approved Subscriber Package”. All dimensions and characteristics, notes/comments and other such callouts on the Siemens drawing/CAD/CAM data shall be numerically indexed (ballooned) and correlate with the results on the PPAP dimensional result form including OK / not OK rating. Where the design record is in electronic format, e.g. CAD/CAM math data, the organization shall produce a hard copy (e.g. drawing) to identify measurements taken.

Design record includes:
- Component and/or assembly drawings with “ballooned” characteristics
- Bill of Materials
- Referenced engineering specifications with “ballooned” characteristics
- Material specifications
- Performance or test specifications

PPAP Element #2: Authorized Engineering Change Documents

If the PPAP is being required due to a request for a change to a part or product, the documentation requesting and approving the change (a document that shows the detailed description of the change, e.g. an Engineering Change Notice (ECN) etc.) must be included in the PPAP package. The ECN must be approved by Siemens R&D department.

You find a Template in the PPAP Workbook.

PPAP Element #3: Siemens Engineering Approval

If necessary, Siemens will order samples (prototypes, engineering samples etc.) for on-site testing. When the tests are completed, the test engineers will grant the approval for inclusion in the PPAP submission. If required for the PPAP, the supplier must provide proof of approval from the Siemens engineering department. This includes all supporting documents (drawings with marked features, measurement records, etc.) for parts that were sent to Siemens prior to the PPAP.
PPAP Element #4: Design Failure Mode and Effects Analysis (DFMEA)

The DFMEA shows evidence that potential failure modes and their associated risks have been addressed in order to eliminate or minimize their effects through product design changes and improvements.

The DFMEA is a living document that should be reviewed and updated throughout the product life cycle.

**DFMEA is only required if the supplier is responsible for the Design!**

Supplier can perform another, equivalent risk assessment.

You find a Template in the PPAP Workbook.


PPAP Element #5: Process Flow Diagram(s)

The Process Flow Diagram show the flow of materials through the process, from incoming inspection through packaging, including all processing and inspection steps in-between. It provides a picture of the separate steps of a process in sequential order and should be in alignment with the Process Control Plan. Any outsourced operations must be clearly identified as such and must include the name of the company performing the operation. The Process Flowchart must be a controlled document. In addition to its own date/rev control, it should always reflect the latest Revision Level of the part that it was PPAP Approved to.

PPAP Element #6: Process Failure Mode and Effects Analysis (PFMEA)

The PFMEA is a systematized technique which identifies and ranks the potential failure modes of a process in order to prioritize improvement actions. The PFMEA has many benefits – it is vital input into the Control Plan; it is a communication tool – but its greatest benefit, when done properly, is in the prevention of problems. It must be a controlled document. In addition to its own date/rev control, it should always reflect the latest Revision Level of the part that it was PPAP Approved to. It should also be reviewed for potential revision in response to any process changes as well as any quality issues. Ultimately, the PFMEA must continue to be a living, dynamic document.

You find a Template in the PPAP Workbook.
PPAP Element #7: Control Plan

The Control Plan is an output from the PFMEA. The Control Plan lists all product Special Characteristics and inspection methods at each phase of the process required to deliver products that continually meet the Siemens quality requirements, used by implementing a new process or by a process change. It must be a controlled document. In addition to its own date/rev control, it should always reflect the latest Revision Level of the part that it was PPAP Approved to. It should also be reviewed for potential revision in response to any process changes as well as any quality issues.

Since processes are expected to be continuously updated and improved, the control plan is a living document!

You find a Template in the PPAP Workbook.

PPAP Element #8: Measurement System Analysis (MSA) : Gage R&R Study

An MSA is a statistical tool used to determine if a measurement system is capable of precise measurement.

- To determine how much error is in the measurement due to the measurement process itself.
- Quantifies the variability added by the measurement system.
- Applicable to attribute data and variable data.

Special characteristics require Measurement System Analysis (MSA) and these studies will include Gage Repeatability & Reproducibility (GR&R) studies on measurement equipment used during assembly or quality control checks. Calibration records for all gages and measurement equipment must be included.

The Gage R&R values of the measuring system should be less than 10%.

If the Gage R&R values are above 30%, this is not acceptable, and an immediate corrective action plan should be implemented.

Must only be performed by the supplier if Special Characteristics have been defined.

You find a Template in the Siemens Supplier Internet: MSA/ Cm,Cmk/ Pp,Ppk/ Cp,Cpk
PPAP Element #9: Dimensional Results

Supplier shall provide evidence that dimensional verifications required by the design record have been completed and results for each unique manufacturing process, e.g. cells or production lines and all cavities, molds, patterns or tools.

Supplier shall record, with the actual results: all dimensions (except reference dimensions), characteristics, and specifications as noted on the design record and Control Plan.

Dimensional layout of sample parts is required to validate the product meets the print specifications. Each dimension on the drawing is measured to make sure that it falls within specification. The results are recorded in the Results Sheet and included within the PPAP submission.

➢ All design record specifications (notes, referenced specifications, etc.) shall be included in the Dimensional Results
➢ Material and performance specifications results can be reported on the separate Material, Performance Test Results
➢ Results shall include samples from each tool cavity, manufacturing line, etc.
➢ Data points should come from PPAP samples included with PPAP submission
  • The agreed upon # of parts from the production run must be shipped to the customer for verification of form, fit, and function
  • Supplier must clearly identify PPAP samples used for dimensional results
  • Results that do not meet the design specification shall be addressed prior to PPAP submission
  • “Not OK” results typically require changes to the manufacturing process prior to PPAP submission. In some cases, Siemens may agree to engineering changes.

You find a Template in the PPAP Workbook.

PPAP Element #10: Records of Material/Performance Test Results

The supplier shall perform tests for all parts and product materials when chemical, physical, or metallurgical requirements are specified by the design record or Control Plan

• For products with Siemens-developed material specifications and/or a Siemens-approved supplier list, the supplier shall procure materials and/or services from suppliers on that list
• Material inspection report on all material data in the drawing and all by means of applicable specifications, including OK / not OK rating.
• Enclose results from raw material supplier as 3.1 inspection certificate according EN10204 3.1 (if not otherwise agreed).
• Material Data Sheet(s)
• Detailed information on the substances and raw materials in the product acc. to the LoDS "List of declarable substances".
The LoDS statement via BOM-Check (or, exceptionally, in another electronic form) is mandatory: http://www.siemens.com/lods
➔ The confirmation also appears on the PSW cover sheet.

You find a Template in the PPAP Workbook.

**PPAP Element #11: Initial Process Studies**

Initial process studies are carried out on all production processes, which also include graphs or tables for statistical process control (SPC) on the critical properties of the product. These studies show that the critical processes are stable, show normal variation and run close to the intended nominal value. The capability studies are a measure of how well the process meets the specifications.

<C> = (Critical Characteristics) Critical characteristics are classified as 10 in the severity of the risk assessment.

<S> = (Significant Characteristics) Significant characteristics are classified as 9-8 in the severity of the risk assessment.

<P> = (Peruse Characteristics) The characteristics are not classified by the risk assessment; in general, no capability study is required.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Before start of series</th>
<th>In series production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cm/Cmk &amp; Pp/Ppk</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For <C> or <S> Characteristics: "Cm/Cmk and Pp/Ppk" **MUST** be supplied

For <P> Characteristics: "Cm/Cmk and Pp/Ppk" **CAN** be required

Special Characteristics must have a documented and verifiable capability of ≥ 1.67 in the preliminary procedure (before the start of series production)!

If the planned process does not achieve the required capability, the selected frequency must be 100% (Poka Yoke).

You find a Template in the Siemens Supplier Internet: MSA/ Cm,Cmk/ Pp,Ppk/ Cp,Cpk
PPAP Element #12: Qualified Laboratory Documentation

Inspection and testing for the PPAP is carried out by a qualified laboratory according to Siemens requirements (e.g. an accredited laboratory). The qualified laboratory (internal or external to the supplier) must have a laboratory area and documentation showing that the laboratory is qualified for the type of measurements or tests conducted.

For Suppliers internal laboratory, in minimum ISO 9001 is required
For external laboratory, ISO 17025 is required

If an external/commercial laboratory is selected, the Supplier must submit the test results on the laboratory's letterhead or in the normal laboratory report format. The name of the laboratory that performed the tests, the date(s) of the tests and the standard used to perform the tests.

PPAP Element #13: Appearance Approval Report

The Appearance Approval Report (AAR) is applicable for components affecting appearance only. This report verifies that the customer has inspected the final product and it meets all the required appearance specifications for the design.

The appearance requirements could include information regarding the color, textures, etc.

You find a Template in the PPAP Workbook.

PPAP Element #14: Sample Production Parts

Sample production parts are sent to Siemens for approval and are typically stored at Siemens site after the product development is complete.

• Sample parts should be delivered WITH the PPAP submission
• The sample parts provided should be the same parts measured for the dimensional results
• PPAP sample quantity is based on needs from Siemens Engineering, Manufacturing and Quality
• Sample production parts MUST be properly identified (numbering)
• Include all information on the part/carton label (see PPAP Workbook)
PPAP Element #15: Master Samples

A master sample is a final sample of the product that is inspected and signed off by Siemens. The master sample part is used to train operators and serves as a benchmark for comparison to standard production parts if any part quality questions arise.

• The “perfect” or “golden” sample that subsequent parts can be compared against
• Often the first good part off a new tool for injection molding or stamping
• Is sometimes used to verify testing equipment and measurement systems

At least one reference sample part per cavity should be stored by the supplier for the life of the product, plus one additional year. The allocation to the initial sample inspection report should be ensured by means of clear marking.

PPAP Element #16: Checking Aids

This is a detailed list of checking aids used by production. It should include all tools used to inspect, test or measure parts during the assembly process. The list should describe the tool and have the calibration schedule for the tool. Checking aids may include check fixtures, contour, variable and attribute gages, models or templates. Standard inspection instruments such as bore, ring, pin, plug and thread gages, calipers, micrometers, etc are not included.

➢ Tools, gages, or test equipment, used to inspect production parts
➢ Examples include:
  • Visual standards for color or appearance
  • Shadow boards or templates used to verify general shape or presence of required features
  • Custom gages
➢ MSA is only required for checking aids used for “special characteristics” measurements, see PPAP Workbook.

PPAP Element #17: Part Submission Warrant (PSW)

The Part Submission Warrant (PSW) form is a summary of the entire PPAP submission. A PSW is required for each of part number unless otherwise stated by Siemens. It’s mandatory to use the Siemens specific PSW!

The PSW:
• Must be completely filled out
• Must be signed by the supplier
• P/N must match the PO
• Product family submissions allowed
• Submitted at the correct revision and submission level
• Specify the reason for submission
• Includes LoDS statement

You find the PSW in the PPAP Workbook.
PPAP Element #18: Siemens specific Requirements

Depending on the specific Siemens business, the following may require:

a. **Verification results acc. technical specification (not drawings), e.g. Electric Characteristics**
   - “Ballooned” Characteristics of all technical specifications of Siemens
   - The Verification results are recorded in the Results Sheet and included within the PPAP submission.
   This Element will may be part of Element #1: Design Records in the future.

b. **Validation results acc. technical specification (not drawings), e.g. lifetime test results**
   - “Ballooned” Characteristics of all technical specifications of Siemens
   - The validation results are recorded in the Results Sheet and included within the PPAP submission.
   This Element will may be part of Element #1: Design Records in the future.

c. **Functional test report on all function features in the Siemens drawing or specification and by means of applicable specifications including OK / not OK rating**
   - “Ballooned” Characteristics of all drawings and technical specifications of Siemens
   - The functional test results are recorded in the Results Sheet and included within the PPAP submission.
   This Element will may be part of Element #1: Design Records in the future.

d. **Failure Catalogue**

e. **Packaging instruction**
   Either the packaging instruction of Supplier or the packaging instruction of Siemens is needed. You can see the requirement in the tab “PPAP Submission Data” in the PPAP Workbook. If the Suppliers PI is needed, this must be sent to Siemens with PPAP Submission. If the Siemens PI is needed, you find the PI in the Subscriber Package.

f. **Special Characteristics List if applicable**
   If SC are defined by Siemens, you find them in the tab “Special Characteristics List” in the PPAP Workbook. The left section is filled by Siemens, the right section has to be filled by Supplier and be sent to Siemens with PPAP Submission.

g. **Legal requirements (i.e. UL, CE, VDE etc.)**
   If any legal documents (e.g. UL-, VDE-Certificates etc.) are needed, Supplier has to submit it with PPAP

h. **Special requirements**
   according to individual agreement between Siemens and supplier
4 PPAP EXECUTION AND SUBMISSION

PPAP is only carried out on samples that have been manufactured under series production conditions at the production site and at the production rate using the intended normal production tooling, process, equipment, materials, inspection/testing methods, gaging, operators, environment and process settings, e.g. feeds, speeds, cycle times, pressures, temperatures, etc. Nothing special should be done during the PPAP run. The intent of the PPAP run is not to find out if the process is ready; it should be the final validation that it is ready.

A PPAP run must begin only after the Supplier manufacturing process is stable. Once process stability is reached, a PPAP run is executed from which samples are drawn. These samples will be utilized for the dimensional and cosmetic evaluations, capability studies, measurement system studies and testing as specified.

If non-conformances are encountered in the drawn samples, the Supplier shall not submit the PPAP to Siemens. Root cause must be determined, and corrective actions implemented. After confirming the improvements, another PPAP run can be initiated. The Supplier must communicate the issue to Siemens and advise the new target PPAP submission date.

If the Supplier wishes to propose a change to the Siemens design, a Supplier Change Request (see PPAP Workbook) needs to be sent to the appropriate Siemens contact. If Siemens approves the request, the Drawing will be revised. All appropriate Supplier PPAP documents must reflect the new part revision state prior to PPAP Submission.

All required PPAP paperwork should be aggregated, preferably in the order of the PPAP Requirements List, and sent electronically in one PDF file. The samples and the PPAP Documentation should be sent at the same time.
5 PPAP SUBMISSION EVALUATION

The evaluation of a PPAP submission consists of the evaluation of the paperwork and the evaluation of the samples if, and as, required per the PPAP Requirements.

5.1 Evaluation of the PPAP Documentation

An SQE of Siemens will review the submitted documentation as follows:

➢ The PPAP documentation contains all required documentation as prescribed on the PPAP Requirements Sheet
➢ All process documents (Flowchart, PFMEA, Control Plan)
  • demonstrate acceptable depth and comprehensiveness
  • indicate the correct part revision state, which must match the revision state on the drawing/specification etc.
  • have Date/Revision controls of their own
  • match each other in terms of the basic sequence of process steps
➢ The PFMEA shows reasonable risk numbers for Severity, Occurrence and Detection, and preventive actions with estimated new, lower risk numbers shown to the right are provided for the higher RPNs
➢ All data/results in the PPAP documentation demonstrate conformance to requirements (dimensional layout results, Cmk / Ppk, Gage R&R, Material Certificates, Packaging Datasheet, etc.)
➢ The Material Cert is a Certificate of Analysis if required per PPAP Requirements, and not a Certificate of Conformance. In addition, the copy of the Material Cert provided should show evidence that the Supplier reviewed and confirmed that the information on the Material Cert is in fact conforming. This can be done with check marks, signature and date.

5.2 Evaluation of the PPAP Samples

An appropriate associate of the Siemens team will evaluate the submitted samples as follows:

➢ The correct number of samples were received
➢ The samples are appropriately identified/numbered
➢ The samples are in acceptable condition cosmetically
➢ Measure selected dimensions on selected samples as deemed appropriate
➢ Perform appropriate tests on selected samples as applicable
➢ Distribute samples to other associates for evaluation as appropriate
6 PPAP STATUS
Suppliers will be notified of the PPAP status. There are three possible outcomes: Approved, Interim Approval and Rejected.

6.1 Approved
The part, including all sub-components, and the PPAP documentation meets all Siemens specifications and requirements
Supplier is authorized to ship production quantities (acc. Siemens PO) of the part

6.2 Interim Approval
The PPAP submission, because of an issue with the samples or with the documentation or both, does not meet all Siemens specifications and requirements. PPAP Conditional Approval permits shipment of product for a specified period of time, quantity of parts or some other condition. If the condition is about to expire, it may be extended by the appropriate Siemens SQE. Once the conditional has expired, the Supplier is not authorized to ship production lots of this specific Part Number Revision state. Interim approval status is not meant to be a permanent status; it must eventually be brought to conclusion, either as Approved or Closed.

6.3 Rejected
The PPAP submission, because of an issue with the samples or with the documentation or both, does not meet all Siemens specifications and requirements. The Supplier must determine root cause and implement correction action to address the non-conformities. The Supplier is not authorized to build and ship production parts until PPAP Approval is achieved.
7 APPENDICES

7.1 Appendix A: PPAP Process Flow Chart: Siemens <-> Supplier

**Process Step**

**Activities/Requirements/Expectations**

Refer to section 1.4

Issue the PPAP Workbook

- Execute PPAP Requirements
- Submit PPAP to Siemens electronically (in one PDF File)

- The PPAP paperwork file contains all required documentation acc. to PPAP Requirements
- The process documents are comprehensive, indicate the correct part revision level, are themselves date/rev controlled, and match each other in terms of the basic process steps
- The PFMEA shows reasonable risk numbers and preventive actions for the higher RPNs
- All data/results in the PPAP file demonstrate conformance to requirements
- The Material Cert is appropriate and clearly shows conformance to requirements
- Correct number of samples received
- Samples are appropriately identified/numbered
- Samples are in acceptable condition
- Measure select dims/samples as appropriate
- Perform tests on select samples, if applicable
- Distribute samples to other Associates for evaluation as appropriate

- Approve, interim approve or reject per PPAP Manual
- Update PPAP status and store files and samples

### STEP 1
Issue PPAP Workbook

Siemens

### STEP 2
Execute PPAP and Submit

Supplier

### STEP 3
Evaluate PPAP

Siemens

### STEP 4
Disposition and Store PPAP

Siemens

### Step 3A
Evaluate PPAP Paperwork

### Step 3B
Evaluate PPAP Samples
7.2 Appendix B: PPAP Process Flow Chart Supplier

The Supplier get the process ready to make consistently conforming product, ensuring that it is repeatable and sustainable

When process stability is achieved, execute the PPAP run

All results conforming? (dimensionals, test results, Cmk/Ppk, GR&R)

Yes

Complete and compile all required documentation according to the PPAP requirements

Submit the PPAP documentation and samples to Siemens

No

Determin root cause(s), implement corrective action(s), validate the effectiveness of the actions and notify Siemens.
## Document live cycle

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<th>Originator</th>
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