1.0 PURPOSE / SCOPE:

1.1 The process describes the minimum TI Automotive Corporate requirements for the Supplier Production Part Approval Process (PPAP) which is executed in each TI Automotive Division. The process is a sub process to the overall Corporate Purchasing Process.

1.2 The default for TI Automotive is to reference against the latest revision AIAG Production Part Approval Process Manual, but where there are other OEM Customer Specific Requirements to be applied, these will take precedent. Application of the Corporate Supplier PPAP requirements constitutes a TI Automotive - Customer Specific Requirement.

1.3 This process is applicable to all TI Automotive Divisions and Regions and applies to all external suppliers to TI Automotive globally.

2.0 RESPONSIBILITIES:

2.1 The Process Owner is the Global Director Corporate Quality Systems.

2.2 Each Division must identify a clear function lead from Quality and/or Purchasing that is responsible to monitor, check and disposition the supplier Production Part Approval Process Documentation as required per Guideline (No. CW-8-ALL-470) and Checklist (No. CF-8-ALL-4700) and signs the Part Submission Warrant (PSW). The PSW must have only one signature from TI Automotive for final acceptance. In cases where the part is delivered into various plants the PSW will be approved by a representative from the first site that will use the product in production.

2.3 It is the responsibility of the Divisional Quality Director and Divisional Purchasing Director to identify a suitable performance measurable for the process. Examples of key metrics are “Supplier PPAP on time” and “Supplier PPAP first time acceptable”.

3.0 DEFINITIONS:

3.1 AIAG - Automotive Industry Action Group
3.2 APQP - Advanced Product Quality Planning
3.3 GQS - Global Quality System
3.4 OEM – Original Equipment Manufacturer
3.5 PPAP – Production Part Approval Process
3.6 PSW – Part Submission Warrant
3.7 QMS - Quality Management System
3.8 TS – Technical Specification
3.9 SD – Supplier Development

4.0 REFERENCES / ASSOCIATED DOCUMENTS:

4.1 CP-4-ALL-01 Global Quality Systems Procedure
4.2 CP-7-ALL-50 Document Control Process
4.3 CP-8-ALL-40 Purchasing and Supplier Management Process
4.4 CP-8-ALL-41 Global Supplier Requirements Manual
4.5 CP-8-ALL-42 Supplier Sourcing Selection Process
4.6 CP-8-ALL-48 Supplier Advanced Product Quality Planning (APQP) Procedure
4.7 CW-8-ALL-470 Corporate Supplier PPAP Guideline
4.8 CF-8-ALL-4700 Corporate Supplier PPAP Checklist
4.9 CF-8-ALL-4702 Supplier PPAP Dimensional Results
4.10 CF-8-ALL-4703 Performance Report DVP
4.11 CF-8-ALL-4704 Performance Report PVP
4.12 CF-8-ALL-4705 Logistics Agreement
4.13 CF-8-ALL-4706 Run @ Rate
4.14 CF-8-ALL-4707 Run @ Rate Guideline
4.15 CF-8-ALL-4708 Special Characteristic Results
4.16 CF-8-ALL-4709 Material Test Report
4.17 CF-8-ALL-4710 Supplier Deviation Request Sheet
5.0 Key Process Steps:

5.1 Definition of the Component drawings, which includes all technical relevant specifications from TI and customer / OEM specifications. Other relevant part requirements are given in the Purchase order (i.e. Legal requirements and commercial conditions, environmental requirements).

5.2 Supplier selection and nomination as described by TI Automotive Sourcing Selection Process and associated procedures.

5.3 Supplier Production Part Approval purchase order by Purchasing Department / Purchaser. The process description of purchase orders is defined in specific procedures and work instructions.

5.4 Supplier APQP process as described in CP-8-ALL-48 Supplier Advanced Product Quality Planning (APQP) Procedure.

5.5 Monitor, check and approval of supplier PPAP by the responsible TI Automotive employee. The Guideline for Supplier Production Part Approval Process and the related PPAP Checklist shall be used to identify the minimum TI Automotive expectations for the Supplier PPAP. The PPAP checklist shall be filled out and submitted with the supporting PPAP documentation. The PPAPs shall be organized and submitted per the checklist. All checklist items shall to be included unless a written deviation is provided by TI Automotive prior to PPAP submission. Usage of any other form must be approved in writing by TI Automotive prior to submission of the package. The on time delivery performance of the PPAP parts and documentation is registered as a Key Performance Indicator for the process.

5.6 It is the supplier’s responsibility to maintain the original PPAP documentation and samples. All PPAP’s shall be stored electronically so the documentation is available for all other using TI Automotive facilities. PPAP documentation must be retained per TI Automotive, industry and OEM Customer Specific Requirements relating to record
retention. Each division must randomly review the storage system for security and retrievability of data.

5.7 Serial production performance monitoring of the supplier components is done through the Corporate KPI measurables Supplier on time delivery and supplier PPM performance.

5.8 Every Process or product change must be indicated by the supplier and may require a new Production Part Approval Process (PPAP).

5.9 Supplier Requests for Engineering Change (SRCA) / Deviation Sheet must be approved by TI Automotive prior to PPAP submission and must be included in the submission package.

5.10 Recertification PPAP documentation must be submitted as agreed between Supplier, TI Automotive and OEM.
6.0 PPAP PROCESS FLOWCHART:

SUPPLIER PPAP PROCESS

Definition of the Component drawings, which includes all technical relevant specifications from TI and customer / OEM specifications. Other relevant part requirements are given in the Purchase order (i.e. Legal requirements and commercial conditions, environmental requirements).

Supplier selection and nomination as described by Corporate Procedures CP – 8 ALL–42.

Supplier Production Part Approval purchase order by Purchasing Department / Purchaser. The process description of purchase orders is defined in specific procedures and work instructions.

Supplier APQP process as described by Corporate / Divisional Procedures (CP-8-ALL-48)

Check of the supplier PPAP Documentation and Parts.

Recording: Updating PPAP ontime right records

Approval of the Supplier PPAP

KPI on time delivery is documented and monitored

It is the supplier’s responsibility to maintain the original PPAP documentation. The TI Automotive approving facility will have the documentation available for all other using TI Automotive facilities.

Serial production performance monitoring of the supplier components is done through the Corporate KPI measurables Supplier on time delivery and supplier ppm performance (CW-5-ALL-510 Key Performance Indicator Manual) by the TI manufacturing plant.

Product / Process change

Revalidation documentation as defined between Supplier / TI Automotive / OEM

YES

NO

YES
Supplier Production Part Approval Process (PPAP)

**With What?**
*(Materials/Equipment)*
- TI Customer & TI Supplier specific documentation
- TI Automotive PSW Document
- Paperwork / Hardcopies / Electronic Files
- Gages – Measurement Equipment
- Laboratory

**With Who?**
*(Competence/Skills/Training)*
- AIAG and TI Customer specific PPAP documentation requirements
- TI Automotive Product & Process competence
- Automotive Engineering Industry Education
- Auditing Competence (ISO 9001 & TS 16949)
- Supplier and TI APQP Team

**Inputs**
- Supplier nomination & purchase order
- TI Automotive & OEM engineering specifications and drawings
- TI Automotive customer specific PPAP requirements

**Process**
TI AUTOMOTIVE SUPPLIER PRODUCTION PART APPROVAL PROCESS

**Outputs**
- Approved supplier PPAP
- Supplier parts fit for manufacturing
- Supplier parts fit for TI product function

**How?**
*(Methods/Procedures/Techniques)*
- TI Automotive Customer specific PPAP requirements
- TI Automotive Global Supplier Requirements Manual
- AIAG PPAP Documentation
- TI Automotive Corporate Supplier PPAP Guideline & Checklist

**With What Key Criteria?**
*(Measurement Assessment)*
- Supplier PPAP on time (Efficiency)
- Supplier PPAP first time right (Effectiveness)
- Supplier PPM (Efficiency)
6.1 PROCESS RISK ASSESSMENT TABLE

<table>
<thead>
<tr>
<th>RISK / OPPORTUNITY</th>
<th>POTENTIAL IMPACT</th>
<th>CONTROL &amp; ACTIVITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>TI Automotive responsible personal does not understand the PPAP requirement. (Example: Checklist, PSW, supporting documents)</td>
<td>PPAP issues (PPAP not correct, late samples), quality issues</td>
<td>Addressed through updated PPAP approval process, Guideline and PPAP checklist. Monitoring of PPAP activity per metrics. Completion and submission of the checklist and supporting documents are a mandatory part of the PPAP process. Conduct Risk Assessment</td>
</tr>
<tr>
<td>Supplier does not understand PPAP requirements. (Example: Checklist, PSW, supporting documents)</td>
<td>PPAP issues (PPAP not correct, late samples), quality issues</td>
<td>PO defines PPAP Requirements and commits supplier to T&amp;Cs, GSRM to protect TI. Monitoring of PPAP activity per metrics. Completion and submission of the checklist and supporting documents are a mandatory part of the PPAP process. Conduct Risk Assessment</td>
</tr>
<tr>
<td>Supplier cannot meet technical or quality requirements. (Example: Checklist, Drawing Requirements, Capability)</td>
<td>PPAP issues (PPAP not correct, late samples), quality issues</td>
<td>Technical Review, Sourcing Process, SRCA/Deviation Form approval prior to PPAP submission. Conduct Risk Assessment</td>
</tr>
<tr>
<td>Late PPAP</td>
<td>Part / Sample availability to support internal and customer timing</td>
<td>APQP monitoring and milestone disciplines. PO defines PPAP Requirements and commits supplier to T&amp;Cs, GSRM to protect TI. Conduct Risk Assessment</td>
</tr>
</tbody>
</table>

7.0 REASON FOR CHANGE TABLE:

<table>
<thead>
<tr>
<th>REVISION LETTER</th>
<th>REVISION DATE</th>
<th>DESCRIPTION OF CHANGE</th>
<th>APPROVAL HISTORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>11Nov2010</td>
<td>Initial Release into the Corporate Quality System</td>
<td>J. Phillion</td>
</tr>
<tr>
<td>B</td>
<td>30May2011</td>
<td>Modified to match GSRM, Guidelines and approved Checklist</td>
<td>D. Butler</td>
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<td></td>
<td></td>
<td>2.3- “approval to acceptance”</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>2.4- Changed “recommendation” to “key metrics”</td>
<td>D. Butler</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.9- Changed “needs” to “may require”</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>5.10- “Revalidation” to “Recertification”</td>
<td></td>
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<tr>
<td>B</td>
<td>03Jun2011</td>
<td>Modified:</td>
<td></td>
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<td>2.3- “approval to acceptance”</td>
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<td>2.4- Changed “recommendation” to “key metrics”</td>
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<td>5.10- “Revalidation” to “Recertification”</td>
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<tr>
<td>C</td>
<td>14JUN2011</td>
<td>Format per QMS procedure and Core Team review.</td>
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<tr>
<td>D</td>
<td>10th February 2012</td>
<td>Change of Corporate numbering system. Document number is changed from GPQS-30-22 to CP-30-ALL-22.</td>
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<tr>
<td>E</td>
<td>12DEC2014</td>
<td>Title Change due to reorganisation</td>
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<tr>
<td>F</td>
<td>7th March 2018</td>
<td>Modified and new document number to align with IATF 16949 (CP-30-ALL-22 to CP-8-ALL-47)</td>
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<tr>
<td>G</td>
<td>19 July 2018</td>
<td>1.1- Removed reference to division specific requirements.</td>
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<td>1.3- Removed references to internal, inter-company and directed sources.</td>
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<td>2.2 Changed to Clear functional lead from Quality and/pr Purchasing</td>
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<td>3.0 Added APQP and SD to definition list</td>
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<td>4.0- Added CP-8-ALL-42, CP-8-AL-48, and the</td>
<td></td>
</tr>
</tbody>
</table>
5.2 Removed “Committee”, added “Selection Process”.

5.4- Added CP-8-ALL-48 as the reference for Supplier APQP.

5.5- Removed the word “corporate” and all references to division’s specific processes. Added “Checklist shall be used to identify the minimum TI Automotive expectations for the Supplier PPAP. The PPAP checklist shall be filled out and submitted with the supporting PPAP documentation. The PPAPs shall be organized and submitted per the checklist. All checklist items shall to be included unless a written deviation is provided by TI Automotive prior to PPAP submission.”

5.6- Added note for record retention for PPAP and CSRs. Added “and Samples”. Added “All PPAP’s shall be stored electronically and”. Added “Each division must randomly review the storage system for security and retrievability of data”.

5.7- Removed the old note pertaining to the signatures. Not needed

5.9- Added note for SRCA requirement for PPAP.

6.0 – Added Efficiency and effectiveness to Turtle for Measurement Assessment

6.1- Added Risk Assessment Table