

FIRSTRONIC



ELECTRONICS MANUFACTURING SOLUTIONS

Supplier Quality Manual

PU-001 W1

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NOTE: UPON COMPLETION OF REVIEW OF THIS DOCUMENT, PLEASE FILL OUT THE LAST PAGE OF THIS MANUAL ACKNOWLEDGING YOUR REVIEW AND INTENT TO COMPLY WITH THE FIRSTRONIC STRATEGIC SUPPLIER QUALITY GOALS & REQUIREMENTS AND SEND TO:

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REVISION J



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SECTION 1 – INTRODUCTION

1. INTRODUCTION

1.1. Scope

1.1.1. This manual has been developed to communicate the operating principles, general expectations, requirements, and procedures of Firstronic. Adherence to the guidelines described in this manual is required by all Firstronic suppliers. Acceptance of any and/or all purchase orders constitutes acceptance and commitment on behalf of the recipient to comply with this manual's content. This manual is provided as a supplement to, and does not replace or alter, any purchase agreement the general purchase conditions or requirements included in applicable engineering drawings, specifications and other contractual documents. This manual describes the minimum requirements for which the supplier has responsibility. However, system improvements that exceed the requirements specified within this manual are always encouraged.

*1.1.1.1. The expectations and requirements described in this manual apply to all products and services that affect customer requirements, which fall into these three categories known as **"Strategic Suppliers"**:*

- 1.1.1.1.1. **Kan Ban Partners:** Can be Customer Directed or sourced by Firstronic
- 1.1.1.1.2. **Make to Print :** Can be Customer Directed or sourced by Firstronic
- 1.1.1.1.3. **Labs and Services:** Specifically Outside Calibration Laboratories

1.1.2. Kan Ban and Make to Print Suppliers must meet all applicable requirements specified herein.

1.2. Implementation

1.2.1. Suppliers are responsible for the development, documentation, implementation, and maintenance of a quality system that complies with ISO 9001. Suppliers are encouraged to become certified to the quality management system standard IATF 16949, and comply with all Statutory and Regulatory requirements.

SECTION 2 – FIRSTRONIC EXPECTATIONS

2. FIRSTRONICS EXPECTATIONS

2.1. Engineering / Technical Support

- 2.1.1. Firstronic is dedicated to the manufacture of the highest quality products. In order for this objective to be achieved, all suppliers should offer engineering and technical support to Firstronic when said support is requested.

2.2. Manufacture Capability / Capacity / Location

- 2.2.1. Suppliers are expected to have the resources necessary (people, property, facilities, equipment, and materials) to supply the products required to accommodate Firstronic production schedule. This is a requirement to be able to be a preferred supplier to Firstronic.

2.3. Consistent Quality

- 2.3.1. Zero-defect products should be the goal of all suppliers to Firstronic. This is according to the general automotive industry standard. Payment by Firstronic shall not constitute acceptance. Even after acceptance of a shipment, Firstronic reserves the right to return any material that proves to be defective for full credit. Defective material shall be returned at the supplier's expense and account debited accordingly. Suppliers will be held responsible for any additional charges for sorting, administrative fees and other related costs (extra transport, end customer charges, etc.).

2.4. On-Time Delivery

- 2.4.1. Firstronic requires all suppliers to strive towards 100% on-time delivery performance with the correct quantity, at the agreed upon price, at the agreed upon timing for delivery. Monitoring of performance levels in this area will be ongoing with formal reporting on a quarterly basis. To further clarify this, we consider unauthorized early or late deliveries and partial or over shipments to be unacceptable. The quantity shipped per order or release cannot vary from specified quantity without prior acceptance of the buyer.

2.4.2. If a production line is shut down due to poor quality, late delivery, or incorrect quantity on any shipment, the supplier will be responsible for all costs incurred including expediting shipments or charges from Firstronic customers.

2.5. **Cooperative Management Attitude**

2.5.1. Firstronic expects our supplier's top management to share our commitment to meet or exceed our customer's quality expectations through continuous improvements. It is also expected that they will give their full support to the relationship that exists between our companies and demonstrate flexibility in assisting Firstronic in meeting all of our customer's requirements.

2.5.2. The Supplier is required to maintain a Firstronic plant contact, who can be readily available to assist in solving problems relating to quality, delivery and other issues. Focus should be on continuous improvements.

2.6. **Rights of Verification of Products/Processes**

2.6.1. Firstronic personnel and/or customers or the customer's representative shall be afforded the right to verify at the supplier's premises and at Firstronic's premises that subcontracted product conforms to specified requirements.

2.6.2. A "Supplier Audit" is recommended for all new MTP Suppliers, meaning any supplier who has never before supplied material to any Firstronic facility, was sourced by Firstronic, and who is a supplier of high risk or new/key material used. The first phase of the "Supplier Audit" requires the supplier to complete the Supplier Profile/Self-Risk assessment. Based on the information provided in the Supplier Profile/Self-Risk assessment form, the Firstronic Purchasing and / or Quality Department will then decide whether or not a facility review will also be required (Strategic Supplier designation).

2.6.3. Firstronic has the right to conduct periodic visits at any supplier location that currently does direct and indirect business with Firstronic. These visits will be performed by Supplier Quality Manager or equivalent and / or support staff, they will conduct problem visit resolution reviews, APQP/ launch readiness reviews, supplier capacity and over-all supplier performance reviews.

SECTION 3 – SUPPLIER SELECTION AND PERFORMANCE

3. SUPPLIER SELECTION AND PERFORMANCE

3.1. Supplier Risk Assessment and Selection

3.1.1. Firstronic supply base will consist of organizations supportive of our business needs. Firstronic utilizes controlled methods through which suppliers are evaluated, selected, developed and monitored.

- When specified by the customer, Firstronic shall purchase products, materials, or services from customer-directed sources.

3.1.2. The criteria for risk assessment and selection of suppliers for placement on Firstronic Preferred Suppliers List is based on the supplier's abilities to meet our specific supplier requirements. Firstronic documented supplier selection process. The selection process shall include:

- Relevant quality and delivery performance
- An evaluation of the supplier's quality management system
- Multidisciplinary decision making

3.1.3. Other supplier selection criteria that is considered within the Firstronic Supplier Risk assessment Form include the following:

- Volume of automotive business
- Purchased product, material, or service complexity (EDI, Portal Access, etc.)
- Required technology (product or process)
- Adequacy of available resources (e.g., people, infrastructure)
- Design and development capabilities (including project management)
- Manufacturing capability
- Change management process
- Business continuity planning (e.g., disaster preparedness, contingency planning)
- Logistics process
- Customer service

3.1.4. All Potential New Suppliers will be required to complete and have a "Recommended/PASS" status Firstronic supplier Risk assessment Survey, form PU-001 F2, before sourcing considerations can be completed.

3.1.4.1. Only Kan Ban or Make to Print Suppliers are required to have ISO-9001 and/or IATF-16949. If it is a Laboratory or Service, the ISO-17025 or applicable

certificate is required. This certification information for all Kan Ban and Make to Print Suppliers is maintained within PLEX and drives update requests for near expiration Certificates from those suppliers.

- 3.1.5. Risk assessment and qualification of new suppliers is dependent on the ultimate category designation for the new supplier according to the following table:

STRATEGIC SUPPLIER SELECTION REQUIREMENT SUPPLIER CATEGORY	Firstronic, LLC Supplier Quality Manual Acknowledgment completed and returned with minimum "Recommended / PASS"	Firstronic, LLC Supplier Risk Assessment completed and returned with minimum "Recommended / PASS"	Firstronic, LLC Supplier 2 nd Party Audit conducted with minimum "Recommended / PASS"	ISO-9001, IATF 16949, ISO-17025 and/or other Certs that may apply
Kan Ban Partner	✓	✓	Based on Risk, Safety, and any Statutory and Regulatory Requirements	✓
Make to Print	✓	✓	Based on Risk, Safety, and any Statutory and Regulatory Requirements	✓
Labs and Services	✓	✓	Based on Risk, Safety, and any Statutory and Regulatory Requirements	✓

3.2. Supplier Performance monitoring

- 3.2.1. All vendor claims on suppliers sent from our plants will be reported into the Firstronic ERP System, PLEX. On a quarterly basis Firstronic Purchasing will issue Supplier Scorecards for all Firstronic **Kan Ban and Make to Print suppliers** based on this data and follow up with the suppliers that cannot meet our requirements.
- 3.2.2. Monthly monitoring of Quality PPM and On Time Delivery of the Kan Ban and Make to Print Suppliers occurs per Firstronic site.
- 3.2.3. Escalation of Suppliers not meeting Improvement timelines is defined within the Supplier Scorecard process, Section 3.3.

3.3. Supplier Scorecard Process

- 3.3.1. A supplier scorecard is updated every Quarter for Kan Ban and Make to Print Suppliers.
- 3.3.1.1. Kan Ban and Make to Print Suppliers are defined as ones that have adopted and are participating in supply to the Firstronic supply strategy.
- 3.3.2. The Strategic Supplier Performance Rating System is based on a scale of 0 to 100%, with the overall Score of 100% being the highest attainable rating. The Overall Goal for a Quarter is 100%. The Overall Score for the Quarter is the sum of the three primary categories point total. The three primary categories are:
- **Delivery (OTD-40 Points Max):** On Time Delivery of a Strategic Supplier is determined using the Quantity of On-Time Receipts/Quantity of Receipt for the month x 100. Late and Early deliveries that fall outside of the pre-defined Firstronic thresholds within PLEX are both considered “Late” for On Time Delivery calculation.
 - **Quality PPM (Part per Million Defective-50 Points Max):** Quality PPM of a Strategic Supplier is determined using the Quantity of Acceptable pieces Received/Total Quantity pieces defective for the month x 1,000,000
 - If a Quality PPM issue is identified as a Firstronic Distribution supplied part, resolution will be driven through the distribution partner to the sub-supplier but will not negatively impact the Distribution partners Quality Yield.
 - **Material Bonding (Four key Criteria-10 Points Max):** Material Bonding and material pipeline ordering is a means of identifying risk, and our Suppliers ability to address the Risk through material Bonding performance. This performance rating is defined by the following four criteria, weighted evenly:
 - Complete Data: Weekly visibility of Supplier On Hand material and orderable part numbers (2.5 points)
 - 12 Weeks: Looking forward coverage (2.5 points)
 - 16 Weeks: Looking forward coverage (2.5 points)
 - GYR: Material Availability and Risk (Red parts) Report (2.5 points)

3.3.3. Below is the matrix that defines the Overall Quarterly Strategic Supplier Scoring and Escalation Plans based on the Quarter Overall Score:

QUARTERLY MEASURE/POINTS	40	30	20	10	0
ON TIME DELIVERY	95-100%	94.9-80%	79.9-70%	69.9-60%	<60%
QUARTERLY MEASURE/POINTS	50	40	30	20	0
INCOMING QUALITY PPM	0-20	21-50	51-75	76-100	>100
QUARTERLY MEASURE/POINTS	10	7.5	5	2.5	0
BONDING REPORT	4-Y	3-Y	2-Y	1-Y	0-Y
QUARTER STATUS	PREFERRED	APPROVED	CONTROL USE	PROBATION	UNACCEPTABLE
OVERALL SCORECARD (POINTS)	100-90	89.9-80	79.9-60	59.9-40	<40
IMPROVEMENT ACTION REQUIREMENT	N/A	N/A	SUPPLIER CORRECTIVE ACTION	DEVELOPMENT PLAN DEFINED	CORPORATE MEETING
IMPROVEMENT ACTION TIMING	N/A	N/A	30 DAYS SCAR COMPLETE FROM ISSUANCE	7 DAYS TO DEFINE PLAN-WEEKLY MEETINGS WITH FST	SENIOR LEVEL IMMEDIATE CONTACT AND DISCUSSIONS

- 3.3.3.1. Although Quarterly Scoring will drive Quarterly reaction plans if necessary, Firstronic may issue Supplier Corrective Action in any month for any Supplier due to OTD or Quality related issues that impact Firstronic or our Customers.
- 3.3.3.2. The Supplier Development Action Plan for “Unacceptable” rated Kan Ban and Make to Print Suppliers is a worksheet within the Quarterly Scorecard.

3.4. Second Party Audits

3.4.1. We perform second-party audits based on risk, performance indicators, and other requirements deemed necessary.

3.4.1.1. Any new MTP Supplier

3.4.1.2. Suppliers who are supplying safety / critical components as defined by Firstronic or our Customers

3.4.1.3. Suppliers whose metrics do NOT meet those as defined within this document or are on a Quality Improvement Plan

3.4.1.4. Suppliers who lose their Certification or their Certification gets Suspended

3.4.2. Based on the above, we define the criteria for determining the need, type, and scope of the second-party audits during our Quarterly Management Review.

3.4.3. Frequency of Second Party Audits for MTP (Make to Print) Suppliers is on a 3 year rotation unless superseded by Customer Specific Requirements

3.4.4. Based on the Management Review, if a need for second-party audit is identified, this will be added to the 3 Year Audit Master Schedule.

3.4.5. Records of second-party audit reports are retained in Plex.

3.4.6. Note: Second-party audits that assess the suppliers QMS are consistent with the automotive process approach.

3.5. Certificates of Conformance

- 3.5.1. A Certificate of Conformance is required for each shipment for all parts.
- 3.5.2. For Firstronic Customer supplied raw material, a CoC Waiver can be submitted to Firstronic for each Part Number (See CoC Waiver at the end of the manual). If a CoC Waiver is not completed and material is received at Firstronic without a CoC, the material will be rejected and will remain on HOLD until CoC or CoC Waiver for that Part Number is received from the Customer.
- 3.5.3. Specific Make to Print Custom material may be identified as requiring measurement data per Lot to verify product conformance included in the Certificate of Conformance.
- 3.5.4. These suppliers will be identified based on specific Firstronic and Firstronic Customer requirements.
- 3.5.5. The C of C can be embedded within the Packing Slip, which does not require a signature, but must include the following information (See CoC Example on next page):
 - Company Name, Manufacturer's Name, Manufacturing Location, Purchase Order Number, Part/Item Number, Lot Number, Date Codes, Quantity, Supplier Contact Information, Appropriate Supplier Signature

SUPPLIER CERTIFICATE OF CONFORMANCE EXAMPLE

<div style="border: 1px dashed black; padding: 10px; margin: 0 auto; width: 80%;">SUPPLIER NAME / LOGO</div>	
<u>CERTIFICATE OF CONFORMANCE</u>	
DATE:	
CUSTOMER NAME: FIRSTRONIC, LLC	
PRODUCT P/N:	
P.O. #:	
LOT#:	
DATE CODE:	
QTY:	
<p>This Certificate is to assure that the above Part Number meets all Customers specifications and requirements as defined per Drawings and/or P.O.</p>	
_____ Supplier Representative (PRINT NAME)	_____ Supplier Representative (SIGNATURE)

3.6 European ELV Directive and IMDS, REACH and Requirements

- 3.4.1 The European End-of-Life-Vehicle (ELV) Directive 2000/53EC that entered into force on 21st October 2000, imposes specific rules and guidelines for materials used in motor vehicles. Suppliers to Firstronic are responsible to ensure that the ELV Directives are fulfilled and that Firstronic is informed through the International Material Data System (IMDS) of the material and substance composition of all products supplied.
- 3.4.2 In order to ensure regulatory compliance to the ELV-Directive and any other applicable substance regulations over time, it is necessary to document the material and substance composition of the entire vehicle. The IMDS allows the OEM's and suppliers to collect and manage this information.
- 3.4.3 Suppliers are required to report their material and substance composition of all products supplied to Firstronic in the IMDS.
- 3.4.4 Firstronic holds the supplier solely liable in the event product supplied to Firstronic does not conform to regulatory requirements and therefore any and all costs incurred in such instances shall be borne by the supplier.

3.7 Packaging and Labeling Requirements

- 3.7.1 The supplier shall package, label and ship products according to the agreed packaging instruction and shipping agreement.
- 3.7.2 Shipping box may contain multiple packages of a single part number, however, each package will contain only one Date/Lot Code. Quantity and Date/Lot Code must be marked on the package and the box.
- 3.7.3 No Styrofoam, peanuts, chips, or any small particle generating material can be used for dunnage or padding in shipping boxes.
- 3.7.4 Suppliers have the responsibility to provide bar code labels that meet AIAG standards. Bar code labeling is a critical part of the manufacturing process. Firstronic will alert suppliers of any persistent label non-conformances. Firstronic urges suppliers to perform audits of the print quality, data accuracy and placement of labels on a routine basis to ensure zero labeling issues.

3.8 Conflict Mineral Reporting

- 3.8.1 Firstronic expects our suppliers to implement controls on their supply chains, so that they are able to provide us with this information and so that all of the 3TG in

the components, parts and products that we purchase from them is "conflict free".

- 3.8.2 Suppliers who supply components, parts or products containing 3TG are expected to source those minerals from ethically and socially responsible sources that do not directly or indirectly contribute to conflict.

SECTION 4 – QUALITY REQUIREMENTS

4 Quality Requirements

4.1 Quality Management System

4.1.1 Our Kan Ban and Make to Print Suppliers are required to be certified to ISO 9001 and/or IATF-16949 Quality Management System by an accredited 3rd party registration body or have an active plan towards certification.

4.1.2 Supplier Quality System shall be formally documented, implemented and maintained to ensure that supplier's products conform to the identified purchase specifications, engineering or material specifications and/or contract requirements.

4.1.2.1 The system should be defined and documented in the supplier's own Quality Manual. This manual should be made available to Firstronic for review upon request.

4.2 Product Quality

4.2.1 Suppliers are fully responsible for the quality of their products including their sub-suppliers. Both are responsible for providing products that meet all Firstronic requirements, specifications, and drawings as identified on the purchase order and that the products are free from defects as warranted in Firstronic General Purchasing Conditions. Zero-defect products are expected from all suppliers, with the goal of incoming Quality PPM per Quarter of ≤ 20 PPM at Firstronic.

4.3 Quality Planning (QAP/APQP)

4.3.1 All suppliers are required to complete a QAP/APQP on all projects (new or changed parts) according to the provided time schedule, and report on the activity as requested. Any change in the time schedule needs to be approved by Firstronic. This process will be followed up by the responsible Supplier Quality Development Engineer.

4.4 Production Part Approval Process (PPAP)

- 4.4.1 Unless otherwise communicated, a **Level 3 PPAP** is required for all custom components. The PPAP with all requested documentation and samples according to the QAP/APQP process shall be available or submitted on the agreed date before first shipment is made. This documentation shall show that all requirements specified in our drawings and specifications are fulfilled (See required detail below).

PPAP Element Detail Required

Elem.	Requirement	Required Detail
1	Design Record	Latest detailed print reflecting part-number and rev level.
2	Engineering Change Documents	Any ECN that are not yet recorded in latest print
3	Customer Engineering Approval	If required by Firstronic a written statement that approves the component/material to be PPAP'd by Firstronic Engineering
4	Design FMEA	If supplier is design responsible, a dFMEA will be required.
5	Process Flow Diagrams	Process map of the manufacturing process from receiving raw/sub- components to shipping finished product.
6	Process FMEA	Process FMEA identifying all critical process Failure Modes as well as special/critical characteristics. Format expected is per AIAG-FMEA
7	Control Plan	Process Control Plan identifying all critical process controls per pFMEA as well as defined characteristics. Format expected is per AIAG-APQP and Control plan
8	Measurement System Analysis Studies	MSA studies (at a minimum Gage R&R) for all gages associated with measuring characteristics or supplier identified critical checks.
9	Dimensional Results*	Full lay-out of the component to be PPAP'd relative to all print dimensions on a minimum of 5 samples (per tool or cavity)
10	Material, Performance Test Results*	Data submitted needs to prove that component/material meets all material, performance and test requirements identified by RBC and Supplier (internal). A minimum data set of 3 samples is required
11	Initial Process Studies	At a minimum all defined special/critical characteristics will have to demonstrate a process capability with a Cpk \geq 1.33 (minimum 10 sub-groups of 3) based on a stable process
12	Qualified Laboratory Documentation	If utilizing in-house lab for material and or performance test results insert the lab's testing scope in this section. If using an outside lab, include lab certification with scope.
13	Appearance Approval Report*	Is waived unless specifically requested by Firstronic. Enclose approved Appearance Approval Report (AAR)
14	Sample Product	Product samples to be submitted with the PPAP are the same samples used for part layout. Parts will have to be identified so that the data reported can be verified (default 3 parts).
15	Master Sample	Is waived unless specifically requested by Firstronic.
16	Checking Aids	In order to avoid different measurement techniques on key-product features it is in the Supplier's interest to document the method of measurement (i.e. pin-gage, micrometer, height-gage, special gage) by feature with special attention to all special/critical characteristics
17	Records of Customer Compliance	Is waived unless specifically requested by Firstronic.
18	Part Submission Warrant (PSW)*	A completed PSW warranting the product/material meeting all applicable specifications and standards. No product and/or process changes are allowed unless Firstronic has given approval to do so per AIAG-PPAP 4 th edition section 3.

PPAP LEVEL SUPPLIER SUBMISSION REQUIREMENTS

 = Required (unless not applicable)

 = Submit upon request from Firstronic

		PPAP Level				
		1	2	3	4	5
1	Design Record		✓	✓	☑	✓
2	Engineering Change Documents			✓	☑	✓
3	Customer Engineering Approval			✓	☑	✓
4	Design FMEA			✓	☑	✓
5	Process Flow Diagram			✓	☑	✓
6	Proces FMEA			✓	☑	✓
7	Control Plan			✓	☑	✓
8	Measurement System Analysis Studies			✓	☑	✓
9	Dimensional Results		✓	✓	☑	✓
10	Material, Performance Test Results		✓	✓	☑	✓
11	Initial Process Studies			✓	☑	✓
12	Qualified Laboratory Documentation		✓	✓	☑	✓
13	Appearance Approval Report (AAR)		✓	✓	☑	✓
14	Sample Product		✓	✓	☑	✓
15	Master Sample				☑	
16	Checking Aids			✓	☑	✓
17	Records of Compliance			✓	☑	✓
18	Part Submission Warrant	✓	✓	✓	✓	✓

- 4.4.2 The supplier can apply for an Interim approval if the part or documentation cannot conform to all specified requirements. The supplier must apply for this as soon as they see that they cannot present a complete PPAP on the agreed date. The Interim approval shall specify what requirement the supplier cannot fulfill and an action plan showing how and when the part (e.g.: 100% sorting before shipping to Firstronic) or documentation will be according to specification. An interim approval is always restricted for a limited number of parts or time period.
- 4.4.3 Firstronic reserves the right to inspect these samples for conformance and will return a signed Warrant indicating whether it is approved to produce parts for serial production purposes. This report will be submitted to the Supplier. Shipping of serial production material is only allowed with an approved PSW (Part submission Warrant) by Firstronic.

4.5 PPAP Re-Validations

- 4.5.1 Firstronic is required to submit a PPAP re-validations to their customers, Re-certification of applicable Firstronic Supplier PPAP(s) will be required every year as minimum level 4 PPAP + dimensional report and will be driven through the PLEX notification system. Any change that requires PPAP prior to the year expiration will automatically re-start the year cycle from the new PPAP date.

4.6 Continuous Improvements and Statistical Process Control (SPC)

- 4.6.1 Continuous improvements in the quality of products and/or processes are important to be a preferred supplier to Firstronic. The supplier should maintain documented evidence of continuous improvement for review upon request by Firstronic representative. One portion of any continuous improvement program should be the proper use of statistical methodologies. Statistical data shall be provided as required by the Firstronic representative, as identified by the respective engineering drawing, applicable specifications or standards, and/or the purchase order.

4.7 Statutory/Regulatory/Critical Characteristics:

- 4.7.1 Designated Statutory, Regulatory or critical characteristics shall be subject to continuous ongoing Statistical Process Control. Other characteristics may be called out for initial or continued ongoing SPC control.
- 4.7.2 Customers generally select special/critical/key characteristics (dimensions, material) impacted by safety standards, Statutory, Regulatory and/or critical to fit or function. Those are identified by symbols.
 - 4.7.2.1 Specific Make to Print Custom material may be identified as requiring measurement data per Lot to verify product conformance included in the Certificate of Conformance to the special/critical/key characteristics.
 - 4.7.2.2. There are some customer specific requirements that need to comply. Here are some examples: Flammability TL 1010 for Volkswagen and FMVSS-32 for the rest of the customers.

4.7.3 Capability Studies and Statistical Process Control shall be performed in accordance with the rules defined in the latest edition of the AIAG PPAP and SPC manuals.

4.8 Initial Capability:

4.8.1 Products are taken from pre-production at the manufacturing location(s) and analyzed statistically. Parts from each unique production process e.g. duplicate assembly line and/or work cell, each position of a multiple cavity die, mold or pattern, shall be measured and representative parts tested. Firstronic requirement on initial capability studies are Min 1.67 Ppk. A Pp of minimum 2.0 can also be required.

4.8.2 For non-critical dimensions a minimum Ppk. of 1.33 might be required.

4.9 On-going Control:

4.9.1 For critical or agreed characteristics where the process can be adjusted during the production run, SPC will be used to control the process output. If nothing else is agreed the Firstronic requirement on serial production capability is Min 1.33 Cpk.

4.9.2 In the event of non-compliance with the capability requirements, the supplier is required to perform 100% sorting (visual sorting is not accepted) and/or to implement a mechanical poke-yoke on the corresponding characteristics until the agreed action plan is completed and the capability results fully comply with the requirements. These actions (100% sorting or addition of mechanical poke-yoke) will have to be fully documented in the Control Plan and the process FMEA.

4.10 Process Records

4.10.1 Process records shall be maintained and be available for Firstronic upon request. All records shall be retained for a time period of minimum 3 years after production end or for an agreed period of time. For Medical records, retention is life of product plus 5 years.

4.10.2 As a minimum, during the production, the supplier shall maintain:

- Process change record
- Ongoing quality control records
- Production Record

4.11 Non-Conforming Product Control

- 4.11.1 **Corrective Action:** If a supplier's performance warrants Supplier Corrective Action for any quarter or parts are found to be defective there are delivery issues at any time and impact Firstronic or the Customer the supplier will be notified by Firstronic personnel to provide immediate containment (if applicable) and support to resolve the problem using the 8D format and Root Cause Analysis tools.
- 4.11.2 Certified Stock Identification methods need to be communicated to Firstronic to determine clean break point of Quality Issues.
- 4.11.2.1 Containment results should be communicated if applicable.
 - 4.11.2.2 Exit criteria for Containment will be defined as 10 consecutive clean shipments of "Certified" identified material from the supplier. If any shipment is rejected for the original issue found before 10 clean shipments, the "Clean Shipment" starts back at "0" at Firstronic Incoming Inspection. Once the exit criteria has been met, Firstronic will notify the supplier.
- 4.11.3 Any rework or repairs to suspect material must be conducted in a controlled manner that assures that the reworked or repaired product meets Firstronic specifications.
- 4.11.3.1 Written instructions should detail the rework or repair, the re-inspection of reworked product and the return of this product to normal production flow.
 - 4.11.3.1 A formal deviation request from the supplier must be sent to Firstronic, and an approval must be received from the user plant before any reworked material is shipped to Firstronic.

<p>24 Hours from notification</p>	<p><u>SUPPLIER DELIVERABLE</u></p> <ul style="list-style-type: none"> - Containment Plan (Internal, In transit, and Firstronic inventory) - Clean breakpoint communicated - Certified Material identification method communicated - Containment Results
<p>7 Calendar Days</p>	<p><u>SUPPLIER DELIVERABLE</u></p> <ul style="list-style-type: none"> - Root Cause Determined - Long Term Permanent Corrective Action(s) Defined - Timing for implementation communicated
<p>30 Calendar Days</p>	<p><u>SUPPLIER DELIVERABLE</u></p> <ul style="list-style-type: none"> - Long term CA(s) Implemented - Final 8D Submitted to Firstronic - Verification plan Communicated

- 4.11.4 A copy of the vendor complaint will be distributed to the supplier when defective material has been found, the following deliverables are required from the supplier regarding containment and corrective action:
- 4.11.5 Initial response with initial containment must be completed and returned within 24 hours. Long-term actions must be defined and reported within 7 calendar days unless otherwise agreed. The supplier is expected to implement all necessary actions to close the 8D within 30 calendar days unless otherwise agreed. The supplier will be notified if any aspect of the 8D report is not acceptable and will be required to resubmit the updated report in a timely fashion.
- 4.11.6 A vendor complaint may also be issued for other reasons.
- 4.11.7 Some examples include, but are not limited to;
- 4.11.8 Repeated early or late delivery, or late delivery without prior notification
- 4.11.9 Repeated over/under shipments
- 4.11.10 Incorrect items sent
- 4.11.11 Inadequate or incorrect containers/packaging received without authorization from Firstronic.
- 4.11.12 Lack of shipping and/or certification paperwork
- 4.11.13 Lack of timely response to vendor complaints

4.12 Supplier Request for Change Approval

- 4.12.1 No change on the product, process (including production location) or sub-supplier is allowed without written Firstronic approval. The supplier must send a notification specifying the change to Firstronic. Firstronic will then investigate the possibility to implement the change and will inform the supplier when a decision has been taken. A PPAP re-validation of the part and process will be requested if the change is accepted.
- 4.12.2 The notification and request has to comply with the latest edition of AIAG PPAP manual.

4.13 Product Traceability

- 4.13.1 All Suppliers to Firstronic must have an identification system that distinguishes one lot/batch/part from another when shipping finished product.
- 4.13.2 Each lot/batch/part of material should be clearly identified on the product (where applicable) according to the part drawing or as agreed if not specified on the drawing, and on the product packaging.
- 4.13.3 The traceability system must comply with the FIFO (First In – First Out) principles for incoming and outgoing material.
- 4.13.4 All labels must be complaint with AIAG.
- 4.13.5 Suppliers to Firstronic are required to segregate product by Date Code. Mixing of Date Codes in one container, package or box is prohibited.
- 4.13.6 If suppliers have any questions regarding this document they should contact their Firstronic Buyer, Materials Manager or Quality Director.

CERTIFICATE OF CONFORMANCE WAIVER TEMPLATE**CERTIFICATE OF CONFORMANCE****WAIVER**

Date: _____

Firstronic Customer Name: _____

Customer Name: Firstronic, LLC

Product Part Number: _____

This Certificate of Conformance Waiver is to assure that the above Part Number supplied by Firstronic, LLC Customer meets all Customers specifications and requirements as defined per Drawings and/or P.O. The Customer hereby waives all requirements of Firstronic, LLC to identify C of C with each shipment of this Part Number and subsequent retention of C of C.

Customer Representative
(PRINT NAME)

Customer Representative
(SIGNATURE)

SUPPLIER ACKNOWLEDGEMENT SHEET

Please retain this sheet and return a signed copy to the Firstronic Materials Department (Fax No. 616-456-9230 ATTN: Wally Johnson or e-mail scanned copy to wjohnson@firstronic.com) indicating that you have received, reviewed and accepted in principle the contents of this Strategic Supplier Manual. All communications with respect to the contents of this Manual are to be addressed initially in writing to the Firstronic Purchasing Department. Please note your comments or concerns prior to submitting the acknowledgement form.

By signing this Acknowledgement, the Strategic Supplier agrees to the Firstronic Strategic Supplier Quality Manual Requirements, to include agreed upon Strategic Supplier Performance Standards reported quarterly

QUARTERLY MEASURE/POINTS	40	30	20	10	0
ON TIME DELIVERY	95-100%	94.9-80%	79.9-70%	69.9-60%	<60%
QUARTERLY MEASURE/POINTS	50	40	30	20	0
INCOMING QUALITY PPM	0-20	21-50	51-75	76-100	>100
QUARTERLY MEASURE/POINTS	10	7.5	5	2.5	0
BONDING REPORT	4-Y	3-Y	2-Y	1-Y	0-Y
QUARTER STATUS	PREFERRED	APPROVED	CONTROL USE	PROBATION	UNACCEPTABLE
OVERALL SCORECARD (POINTS)	100-90	89.9-80	79.9-60	59.9-40	<40
IMPROVEMENT ACTION REQUIREMENT	N/A	N/A	SUPPLIER CORRECTIVE ACTION	DEVELOPMENT PLAN DEFINED	CORPORATE MEETING
IMPROVEMENT ACTION TIMING	N/A	N/A	30 DAYS SCAR COMPLETE FROM ISSUANCE	7 DAYS TO DEFINE PLAN-WEEKLY MEETINGS WITHFST	SENIOR LEVEL IMMEDIATE CONTACT AND DISCUSSIONS

COMMENTS:	
SUPPLIER NAME:	
SUPPLIER ADDRESS:	
SUPPLIER CONTACT NUMBER:	
SUPPLIER CONTACT NAME/TITLE:	
SUPPLIER CONTACT SIGNATURE:	
DATE OF AGREEMENT:	