



ASSOCIATION CONNECTING
ELECTRONICS INDUSTRIES®

IPC-1720A

Assembly Qualification Profile

Developed by the OEM council of the IPC, IPC-1720A categorized an electronic assembly manufacturer's capabilities and supplies the OEM customer with detailed, substantive information.

IPC-1720A

July 2004

A standard developed by IPC

2215 Sanders Rd, Northbrook, IL 60062-6135
Tel. 847.509.9700 Fax 847.509.9798
www.ipc.org

NOTICE

IPC standards and publications are designed to serve the public interest through eliminating misunderstandings between manufacturers and purchasers, facilitating interchangeability and improvement of products, and assisting the purchaser in selecting and obtaining with minimum delay the proper product for his particular need. Existence of such Standards and Publications shall not in any respect preclude any member or non-member of IPC from manufacturing or selling products not conforming to such Standards and Publications, nor shall the existence of such Standards and Publications preclude their voluntary use by those other than IPC members, whether the standard is to be used either domestically or internationally.

Recommended Standards and Publications are adopted by IPC without regard to whether their adoption may involve patents on articles, materials or processes. By such action, IPC does not assume any liability to any patent owner, nor do they assume any obligation whatever to parties adopting the recommended Standard or Publication. Users are also wholly responsible for protecting themselves against all claims of liabilities for patent infringement.

The material in this standard was developed by the OEM Council of the Institute for Interconnecting and Packaging Electronic Circuits.

© Copyright 2004. IPC, Northbrook, Illinois. All rights reserved under both international and Pan-American copyright conventions.

FOREWORD

It is not intended that this Assembly Qualification Profile (AQP) satisfies all the requirements of the customer, however, conscientious maintenance of this document and or registration to ISO 9000 requirements should satisfy the major concerns. Thus, audits should be simpler, required less frequently, and facilitate less paper work as customers and suppliers work closer to meeting each others needs.

CONTENTS

<u>Sections:</u>	<u>Pages</u>	
1.1	Company Description	1
1.2.	Site Description	2
2.1	Product Type	3-5
2.2.	Processes	6-8
2.3	Testing	9-10
2.4.	Product Complexity	11-13
2.5.	Product Volume	14-15
2.6	Quality Development	16-17
2.7	Services	18
3.0	Master Equipment Listing	19
4.0	Technology Profile Specifics	20-28
5.0	Quality Profile	29-39
6.0	Manufacturing History	40
7.0	Identification of Previous Audits	41
8.0	Financial Review	42
9.0	AQP Electronic Editing and Sample Form	43-50
10.0	Glossary of Terms	51
10.1	Product Type Description	52

HOW TO USE THE AQP

Although the AQP is for a single site or location, information about the overall company is helpful in establishing the relationship of the existing site to the total company and to other sites or divisions. The first page of section 1 is intended to convey the overall company description and is reflected in the optional financial review detailed in section 8. The remainder of the AQP is devoted to information about a single site (see section 9 for examples).

Although intended to be site specific, the AQP may be used to convey total corporate capability. When this practice is preferred, section 1.2 (intended for site description) is modified to reflect total corporate capability, as are all other sections of the AQP.

The Electronic Assembly Manufacturer should keep all sections current. In the initial contact between the manufacturer and a new customer, an abbreviated AQP will suffice (site description from Sections 1 and 2). Access to AQP in electronic media is suggested in order to facilitate the appropriate manufacturer/user information interchange. The remaining sections of the AQP provide details of the site assembly capability and the quality principles that have been incorporated into the systems used to manufacture products. The information is of use to the assembly company in assessing where the organization stands on implementing quality and technology; the same data helps the customer in determining how well the manufacturers' capability matches the customer need.

ACKNOWLEDGMENTS

The IPC is indebted to the members of the OEM council who participated in the development of this document. A note of thanks is also expressed to the members of the Electronic Manufacturing Services Industry (EMSI) for their review and critique and construction recommendations in finalizing the principles developed for the AQP.

Although the IPC is grateful for all the involvement and individual contributions made in completing the AQP, a special acknowledgment is extended to the following individuals. It was their dedication and foresight that made this publication possible.

Donna H. Hodgson
Merix

Emily Nikoo
ESAT, Inc.

Kevin Sheehan
Standard Microsystems Corporation

Sue Jones
Wilcox Electric

Steve Pudles
Ronic Assoc. Inc.

Mario Suarez-Solis
Encore Computer Corp.

SECTION 1.1

DATE COMPLETED

11/2/10

COMPANY DESCRIPTION**GENERAL INFORMATION**

LEGAL NAME AccuSpec Electronics, LLC			
PHYSICAL ADDRESS 8140 Hawthorne Dr.			
CITY Erie	STATE PA	ZIP 16509	
PROVINCE N/A	COUNTRY USA		
TELEPHONE NUMBER 814-464-2000	FAX NUMBER 814-464-2020	TELEX NUMBER N/A	
E-MAIL ADDRESS Mail@accuspecelectronic.com	MODEM NUMBER N/A	DATE FOUNDED 1987 <input type="checkbox"/> PUBLIC <input checked="" type="checkbox"/> PRIVATE	
INTERNET URL http://www.accu-ems.com	FTP SITE N/A		

MANAGEMENT

QUALITY MANAGER Raul Gomez rgomez@accu-ems.com	814-464-2060
CHIEF FINANCIAL OFFICER Mike Jenkins mjenkins@accu-ems.com	814-464-2003
PRODUCTION MANAGER Mike O'Bryon mobryon@accu-ems.com	814-464-2016
MATERIALS MANAGER Tom Rettger trettger@accu-ems.com	814-464-2036
MANUFACTURING ENGINEER MANAGER Mark Mosakowski mark@accu-ems.com	814-464-2031
VP SALES & MARKETING Robert Borgia bborgia@accu-ems.com	814-464-2051
HUMAN RESOURCES MANAGER Gayle Lutgen glutgen@accu-ems.com	814-464-2026

CORPORATE DESCRIPTION		NUMBER OF CORPORATE EMPLOYEES	NUMBER OF SITE EMPLOYEES	COMMENTS
DESIGN AND DEVELOPMENT			0	No dedicated design services
ENGINEERING			7	Process and manufacturing Engineers all full time
MANUFACTURING CONTROL			38	Full time
MANUFACTURING	DIRECT		92	
	INDIRECT		0	NC
QUALITY CONTROL	QUALITY ENGINEERS		2	Full time
	INTERNAL AUDITORS		10	
	GENERAL MANAGEMENT		2	Full time
ADMINISTRATION			14	Full Time
TOTAL			153	

SECTION 1.2**SITE DESCRIPTION**(TO BE COMPLETED
FOR EACH SITE)

ATTACH APPROPRIATE CHARTS (OPTIONAL)

DATE COMPLETED

11/2/10

MANUFACTURING FACILITY

COMPANY NAME	AccuSpec Electronics, LLC		
PHYSICAL ADDRESS	8140 Hawthorne Dr.		
CITY	Erie	STATE	PA
PROVINCE	N/A	COUNTRY	USA
TELEPHONE NUMBER	814-464-2000	FAX NUMBER	814-464-2020
E-MAIL NUMBER	mail@accuspecelectronic.com	MODEM NUMBER	N/A
		YEARS IN BUSINESS	21
PRINCIPLE PRODUCTS/SERVICES/SPECIALTIES	BUSINESS CHARACTERIZATION (HIGH VOLUME, QUICK TURN-AROUND, ETC.)		
Electronic Assemblies IPC Class 2,3	Medium volume, Prototypes, and production		

FACILITY MANAGEMENT**TITLE**

QUALITY MANAGEMENT Raul Gomez rgomez@accu-ems.com (814) 464-2060	Quality Manager	
ENGINEERING Mark Mosakowski mark@accu-ems.com (814) 464-2031	Manufacturing Engineer Manager	
PURCHASING Tom Rettger trettger@accu-ems.com (814) 464-2036	Purchasing Manager	
SALES MANAGER Bob Borgia bborgia@accu-ems.com 814-464-2051	Sales Manager	

BUILDINGS**SYSTEMS (INDICATE % COVERAGE)**

	AGE	AREA (Sq. Ft.)	Construction (Wood/Brick)	Power Conditioning	Heating	Ventilation	Air Conditioning	Sprinklers	Waste Treatment	Humidity Control
Office		10,000	Brick/Metal	100%	100%	100%	100%	No	100%	100%
Manufacturing		50,000	Brick/Metal	100%	100%	100%	100%	No	100%	100%
Storage	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Planned additions	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

SAFETY AND REGULATORY AGENCY REQUIREMENTS

Are fire extinguishers functional and accessible to employees?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	What is the distance to the nearest fire station? (in minutes)	<5 Minutes
Do you conform to local/federal environment protection agency requirements?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	Date of last OSHA visit Date of last EPA visit	2007 2008

Are you currently operating under a waiver or in violation of local government requirements?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO	Other Agency Audits, UL, ISO 9000, CSA Approval and Number	<input checked="" type="checkbox"/> UL # 292881-001 <input checked="" type="checkbox"/> CSA# 1852960 <input checked="" type="checkbox"/> ISO 9001:2008, ISO 13485:2003 Reg#A0000889-5, A0001947-4 Reg Date 5/24/2009 RvAC 147
Do you have a safety program? Describe: Safety Committee meets monthly. We have chemical, fire and health safety training.	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO	Hazardous Waste Number Trade Waste Account Number	

PLANT PERSONNEL (TOTAL EMPLOYEES)

Permanent	Mgmt	Office	Technical/ Engineering	Production	Full-Time QA	Part-Time QA	Union	Non- Union	Union Name	Contract Expires (Date)
153	15	26	7	92	13	0	0	153	N/A	N/A

SECTION 2.1

PRODUCT TYPE

DATE COMPLETED 11/2/10

This section is intended to provide overview information on the product types being fabricated by the manufacturer.

Site Capability Snapshot (Please Check all that apply)

Designators			Remarks
A	Electronic Assembly Type	<input checked="" type="checkbox"/> 1A <input checked="" type="checkbox"/> 1B <input checked="" type="checkbox"/> 1C <input checked="" type="checkbox"/> 1X <input checked="" type="checkbox"/> 2B <input checked="" type="checkbox"/> 2C <input type="checkbox"/> 2X <input type="checkbox"/> 2Y <input type="checkbox"/> 2Z <input type="checkbox"/> Other: n/a	15% 15% 40% 10% 10% 10% n/a n/a n/a IPC-610, 620, 7711 IPC Class II & III
B	Board Construction Type	<input checked="" type="checkbox"/> Rigid Printed Board <input checked="" type="checkbox"/> Flex Printed Board <input checked="" type="checkbox"/> Rigid Flex Board <input checked="" type="checkbox"/> Rigid Back Plane <input type="checkbox"/> Molded Board <input type="checkbox"/> MCM-C Ceramic Modules & Hybrids <input type="checkbox"/> MCM-L Laminated Modules <input type="checkbox"/> MCM-D Deposited Dielectric <input type="checkbox"/> Other: n/a	85% 5% 5% 5% n/a n/a n/a n/a IPC-610, 620, 7711 IPC Class II & III
C	Board Size Diagonal	<input checked="" type="checkbox"/> <250 [10.00] <input checked="" type="checkbox"/> 250 [10.00] <input checked="" type="checkbox"/> 350 [14.00] <input checked="" type="checkbox"/> 450 [17.50] <input checked="" type="checkbox"/> 350 [14.00] <input checked="" type="checkbox"/> 650 [25.50] <input type="checkbox"/> 750 [29.50] <input type="checkbox"/> 850 [33.50] <input checked="" type="checkbox"/> >850 [33.50] <input type="checkbox"/> Other: n/a	Largest 27" X 27" X 0.093" (L X W X Thickness) 27000 x27000 x 93 mils .686 x.686 x .0024 m n/a n/a IPC-610, 620, 7711 IPC Class II & III

SECTION 2.2 PROCESSES

DATE COMPLETED 11/2/10

This section is intended to provide overview information on the assembly processes used by the manufacturer.

Site Capability Snapshot (Please Check all that apply)

Designators			Remarks
A	Through Hole Insertion	<input checked="" type="checkbox"/> Two Leaded-Axial <input checked="" type="checkbox"/> Two Leaded Radial <input checked="" type="checkbox"/> Multiple Leaded ≤ 6 -Radial <input checked="" type="checkbox"/> Single-In-Line Packages (SIPS) <input checked="" type="checkbox"/> Dual In-Line Pkgs. (DIPS) ≤ 24 PION <input checked="" type="checkbox"/> Dual In-Line Pkgs. > 24 PION <input checked="" type="checkbox"/> Pin Grid Arrays (PGA's) <input checked="" type="checkbox"/> Component Sockets <input checked="" type="checkbox"/> Card Edge/Two Piece Connectors <input type="checkbox"/> Other: n/a	5% 5% 3% 3% 5% 5% 1% 2% 1% IPC-610, 620, 7711 IPC Class II & III
B	Surface Mount Placement	<input checked="" type="checkbox"/> Chip Resistors/Cap. (Reel) <input checked="" type="checkbox"/> Bulk Chip Resistors/Cap. <input checked="" type="checkbox"/> Tantalum Capacitor <input checked="" type="checkbox"/> Metal Faced Components (MELFS) <input checked="" type="checkbox"/> Sm. Outline Diodes (SODS) <input checked="" type="checkbox"/> Sm. Outline Transistors (SOTS) <input checked="" type="checkbox"/> Sm. Outline IC's (SOIC's) <input checked="" type="checkbox"/> Variable Resistor Trim Pots <input checked="" type="checkbox"/> Surface Mount Sockets/Test Pts. Connect <input type="checkbox"/> Other: n/a	20% 1% 3% 3% 4% 5% 10% 2% 2% IPC-610, 620, 7711 IPC Class II & III
C	High Pin Count	<input type="checkbox"/> Chip-on-Tape (Molded ring) > 0.4 mm pitch <input type="checkbox"/> Chip-on-Tape (Molded ring) ≤ 0.3 mm pitch <input checked="" type="checkbox"/> Quad Flat Pack (QFP) ≤ 0.4 mm pitch <input checked="" type="checkbox"/> Quad Flat Pack (QFP) ≤ 0.3 mm pitch <input checked="" type="checkbox"/> Shrink Quad Flat Pack (SQFP) <input checked="" type="checkbox"/> Thin Small Outline Pkg. (TSOP) <input checked="" type="checkbox"/> Ball/Post Grid Array > 1.0 mm pitch <input checked="" type="checkbox"/> Ball/Post Grid Array ≤ 1.0 mm pitch <input checked="" type="checkbox"/> Land Grid Array Any Pitch <input type="checkbox"/> Other: n/a	n/a n/a 3% 2% 2% 5% 3% 3% 2% IPC-610, 620, 7711 IPC Class II & III

D	Bare Chip Attachment	<input type="checkbox"/> Thermal Wire Bonding <input type="checkbox"/> Ball Bonding <input type="checkbox"/> Ultrasonic Wiring Bonding <input type="checkbox"/> Beam Lead Chip Bonding <input type="checkbox"/> Generic Tape Automated Bonding <input type="checkbox"/> Custom Tape Automated Bonding <input type="checkbox"/> Flip Chip on Ceramic or Glass Based <input type="checkbox"/> Flip Chip on Rigid Printed Boards <input type="checkbox"/> Flip Chip on Flex Circuit Boards <input type="checkbox"/> Other: n/a	n/a n/a n/a n/a n/a n/a n/a n/a n/a
E	Attachment Techniques	<input checked="" type="checkbox"/> Hand Soldering <input checked="" type="checkbox"/> Hot Bar Soldering <input checked="" type="checkbox"/> Focused Hot Air Soldering <input checked="" type="checkbox"/> Wave Soldering <input checked="" type="checkbox"/> IR Reflow Soldering <input type="checkbox"/> Vapor Phase Soldering <input checked="" type="checkbox"/> Hot Air Convection Soldering <input type="checkbox"/> Laser Soldering <input type="checkbox"/> Conductive Adhesive Attachment <input type="checkbox"/> Other: n/a	25% 5% 5% 15% 15% n/a 35% n/a n/a IPC-610, 620, 7711 IPC Class II & III
F	Cleaning & Cleanliness Testing	<input checked="" type="checkbox"/> No Clean/Never Clean System <input type="checkbox"/> Aqueous Cleaning In-line Sys. <input checked="" type="checkbox"/> Aqueous Cleaning Static Soak <input type="checkbox"/> Modified Solvent Clean. In-line <input type="checkbox"/> Modified Solvent Clean. Static Soak <input type="checkbox"/> Ultrasonic Agitation Cleaning <input type="checkbox"/> Ionic Salt/Residue Test <input type="checkbox"/> Organic Contaminate Impreg. Test <input type="checkbox"/> Surface Insul. Resist. (SIR) Test <input checked="" type="checkbox"/> Other: Ion chromatography per IPC 650.2.3.28	70% n/a 30% n/a n/a n/a n/a n/a n/a
G	Coating & Encapsulation	<input type="checkbox"/> Bare Die-Glob Top <input type="checkbox"/> Bare Die-Total Assembly <input type="checkbox"/> Assembly (1 or 2 sides) Epoxy Coating <input type="checkbox"/> Assembly (1 or 2 sides) Polyurethane Coating <input checked="" type="checkbox"/> Assembly (1 or 2 sides) Acrylic Coating <input type="checkbox"/> Assembly (1 or 2 sides) Vacuum Dep Coating <input type="checkbox"/> Encapsulation Exterior Access (Test) <input type="checkbox"/> Encap. Ex-access (Tuning) <input type="checkbox"/> Encap. Entire Assembly (Thin Coat) <input checked="" type="checkbox"/> Other:	n/a n/a n/a n/a 20% No minimum spec. n/a n/a n/a n/a n/a 80% Silicone minimum 6.5 mils AES481A Conformal coating machine AES481B Conformal coating machine

H	Inspection	<input checked="" type="checkbox"/> In-coming <input checked="" type="checkbox"/> In-Process <input checked="" type="checkbox"/> Final Inspection <input checked="" type="checkbox"/> 100% Inspection <input checked="" type="checkbox"/> Audit Inspection <input checked="" type="checkbox"/> Manual <input checked="" type="checkbox"/> Semi-Automatic <input checked="" type="checkbox"/> Automatic <input type="checkbox"/> Other: n/a	Sampling and Vendor to stock Sampling plan Sampling plan to 100% SMT Out going In process, Final, out-going N-Spec - AES990 YESTECH(inline AOI) AES588-1 AES588-2 *IPC Class II & III
J	Testing & Repair	<input checked="" type="checkbox"/> Test Equipment Design <input type="checkbox"/> Test Equipment Fabrication <input type="checkbox"/> Test Development <input checked="" type="checkbox"/> Failure Analysis <input checked="" type="checkbox"/> Repair Depot <input checked="" type="checkbox"/> Rework Depot <input checked="" type="checkbox"/> Other: n/a	RF N/A N/A RMA RMA IPC 7711, IPC 610 RMA IPC 7711, IPC 610 IPC Class II & III

SECTION 2.3 TESTING

DATE COMPLETED 11/2/10

This section is intended to provide detailed information on the test, equipment and testing capability of the manufacturer.

Site Capability Snapshot (Please Check all that apply)

Designators			Remarks
A	Test Type	<input type="checkbox"/> Automatic Test Generation <input checked="" type="checkbox"/> X-Ray Joint Evaluation <input checked="" type="checkbox"/> Cleanliness Testing <input type="checkbox"/> Auto in-circuit Electronic Assembly <input type="checkbox"/> Electro-magnetic Interference <input checked="" type="checkbox"/> Auto Function Electronic Assembly <input checked="" type="checkbox"/> System Level Test Electrical <input checked="" type="checkbox"/> System Level Test Function <input checked="" type="checkbox"/> System Level Test Environmental <input checked="" type="checkbox"/> Other:	n/a Ion chromatography per IPC 650.2.3.28 n/a n/a Limited thermal, temperatures and cycles vary per customer Flying Probe (AES065), ICT (AES983)
B	Test Fixture Type	<input checked="" type="checkbox"/> No Fixture <input type="checkbox"/> One-sided Probe Generic Electrical <input type="checkbox"/> Cam Shell Test-Generic Electrical <input checked="" type="checkbox"/> Custom Fixture Electrical <input checked="" type="checkbox"/> Dedicated Test Bed Electrical <input type="checkbox"/> Humidity Test <input checked="" type="checkbox"/> Temperature Test <input type="checkbox"/> Vibration Test <input type="checkbox"/> Shock Test <input type="checkbox"/> Other: n/a	n/a n/a n/a Thermal, Temperatures and cycles vary per customer n/a n/a
C	Probe Point Pitch	<input type="checkbox"/> >1.0 [.040] <input type="checkbox"/> 1.0 [.040] <input type="checkbox"/> 0.8 [.032] <input type="checkbox"/> 0.65 [.025] <input type="checkbox"/> 0.50 [.020] <input type="checkbox"/> 0.40 [.016] <input type="checkbox"/> 0.30 [.012] <input type="checkbox"/> 0.20 [.008] <input checked="" type="checkbox"/> <.20 [.008] <input type="checkbox"/> Other: n/a	n/a n/a n/a n/a n/a n/a n/a n/a .18 mm/ 0.709"/709 mils

D	No. of Probe Points	<input type="checkbox"/> <200 <input type="checkbox"/> 200 <input type="checkbox"/> 500 <input type="checkbox"/> 1000 <input type="checkbox"/> 1500 <input type="checkbox"/> 2000 <input type="checkbox"/> 2500 <input type="checkbox"/> 3000 <input checked="" type="checkbox"/> >3000 <input type="checkbox"/> Other: n/a	n/a n/a n/a n/a n/a n/a n/a n/a n/a >10,000 Flying Probe (AES065) –APT 9401
E	No. of Test Vectors	<input type="checkbox"/> <500 <input type="checkbox"/> 500 <input type="checkbox"/> 1000 <input type="checkbox"/> 2000 <input checked="" type="checkbox"/> 3000 <input type="checkbox"/> 4000 <input type="checkbox"/> 5000 <input type="checkbox"/> 6000 <input type="checkbox"/> >6000 <input type="checkbox"/> Other: n/a	n/a n/a n/a n/a n/a n/a n/a n/a
F	In-Circuit Testing	Max number of test points tested on current products: Max number of test points tester configured for: Max number of test points tester capable of:	
G	Environmental Stress Screening	<input checked="" type="checkbox"/> Burn-in at Temperature <input checked="" type="checkbox"/> Burn-in with Temperature Cycling <input checked="" type="checkbox"/> Burn-in Hi Temperature Cycles <input checked="" type="checkbox"/> Burn-in with Temperature Cycles <input type="checkbox"/> Burn-in with Temperature Cycles Hi-humidity <input checked="" type="checkbox"/> Power Cycling On-Off <input type="checkbox"/> Vibrations Testing <input type="checkbox"/> Shock Test <input type="checkbox"/> Salt Spray Testing <input type="checkbox"/> Other: n/a	Thermal Thermal Thermal Thermal n/a Thermal n/a n/a n/a

SECTION 2.4

PRODUCT COMPLEXITY

DATE COMPLETED
11/2/10

This section is intended to provide overview information on the product complexity being fabricated by the manufacturer. Based on component density.

Site Capability Snapshot (Maximum Component Density*)

*PERCENT COMPONENT AND LAND AREA/AVAILABLE BOARD AREA

(Please Check all that apply)

Designators			Remarks
A	Type 1A	<input type="checkbox"/> <30 <input type="checkbox"/> 30 <input type="checkbox"/> 40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input type="checkbox"/> 70 <input type="checkbox"/> 80 <input type="checkbox"/> 90 <input checked="" type="checkbox"/> >90 <input type="checkbox"/> Other: n/a	n/a n/a n/a n/a n/a n/a n/a n/a n/a n/a
B	Type 1B	<input type="checkbox"/> <30 <input type="checkbox"/> 30 <input type="checkbox"/> 40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input type="checkbox"/> 70 <input type="checkbox"/> 80 <input type="checkbox"/> 90 <input checked="" type="checkbox"/> >90 <input type="checkbox"/> Other: n/a	n/a n/a n/a n/a n/a n/a n/a n/a n/a 98%
C	Type 1C	<input type="checkbox"/> <30 <input type="checkbox"/> 30 <input type="checkbox"/> 40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input type="checkbox"/> 70 <input checked="" type="checkbox"/> 80 <input type="checkbox"/> 90 <input type="checkbox"/> >90 <input checked="" type="checkbox"/> Other:	n/a n/a n/a n/a n/a n/a 80% Varies, depending on placement ,size and amount of SMT components in place n/a n/a

D	Type 1X	<input type="checkbox"/> <30 <input type="checkbox"/> 30 <input type="checkbox"/> 40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input type="checkbox"/> 70 <input checked="" type="checkbox"/> 80 <input type="checkbox"/> 90 <input type="checkbox"/> >90 <input type="checkbox"/> Other: n/a	n/a n/a n/a n/a n/a n/a 70-80% Varies, depending on placement ,size and amount of components already in place n/a
E	Type 2B	<input type="checkbox"/> <30 <input type="checkbox"/> 30 <input type="checkbox"/> 40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input type="checkbox"/> 70 <input checked="" type="checkbox"/> 80 <input type="checkbox"/> 90 <input type="checkbox"/> >90 <input type="checkbox"/> Other: n/a	n/a n/a n/a n/a n/a n/a 80% n/a n/a
F	Type 2C	<input type="checkbox"/> <30 <input type="checkbox"/> 30 <input type="checkbox"/> 40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input type="checkbox"/> 70 <input checked="" type="checkbox"/> 80 <input type="checkbox"/> 90 <input type="checkbox"/> >90 <input type="checkbox"/> Other: n/a	n/a n/a n/a n/a n/a n/a 80% n/a
G	Type 2X	<input type="checkbox"/> <30 <input type="checkbox"/> 30 <input type="checkbox"/> 40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input type="checkbox"/> 70 <input type="checkbox"/> 80 <input type="checkbox"/> 90 <input type="checkbox"/> >90 <input type="checkbox"/> Other: n/a	n/a n/a n/a n/a n/a n/a n/a n/a n/a
H	Type 2Y	<input type="checkbox"/> <30 <input type="checkbox"/> 30 <input type="checkbox"/> 40 <input type="checkbox"/> 50	n/a n/a n/a

		<input type="checkbox"/> 60 <input type="checkbox"/> 70 <input type="checkbox"/> 80 <input type="checkbox"/> 90 <input type="checkbox"/> >90 <input type="checkbox"/> Other: n/a	n/a n/a n/a n/a n/a n/a
J	Type 2Z	<input type="checkbox"/> <30 <input type="checkbox"/> 30 <input type="checkbox"/> 40 <input type="checkbox"/> 50 <input type="checkbox"/> 60 <input type="checkbox"/> 70 <input type="checkbox"/> 80 <input type="checkbox"/> 90 <input type="checkbox"/> >90 <input type="checkbox"/> Other: n/a	n/a n/a n/a n/a n/a n/a n/a n/a n/a

SECTION 2.5

PRODUCT VOLUME

DATE COMPLETED 11/2/10

This section is intended to provide overview information on the volume of product being fabricated by the manufacturer.

Site Capability Snapshot (Please Check all that apply)

	Designators		Remarks
A	Volume of Electrical Assembly	<input checked="" type="checkbox"/> Prototype <input checked="" type="checkbox"/> Low (Under 100) <input checked="" type="checkbox"/> Low-Medium (To 1,000) <input checked="" type="checkbox"/> Medium (To 5,000) <input checked="" type="checkbox"/> Medium (To 10,000) <input checked="" type="checkbox"/> Medium-High (To 20,000) <input checked="" type="checkbox"/> High (To 50,000) <input type="checkbox"/> High (To 500,000) <input type="checkbox"/> Other: n/a <p style="text-align: center;">} Per Year</p>	10% 10% 25% 30% 10% 10% 5% n/a IPC-610, 620, 7711 IPC Class II & III
B	Volume of Discrete Wiring	<input checked="" type="checkbox"/> Prototype <input checked="" type="checkbox"/> Low (Under 100) <input checked="" type="checkbox"/> Low-Medium (To 1,000) <input checked="" type="checkbox"/> Medium (To 5,000) <input checked="" type="checkbox"/> Medium (To 10,000) <input checked="" type="checkbox"/> Medium-High (To 20,000) <input type="checkbox"/> High (To 50,000) <input type="checkbox"/> High To 500,000 <input type="checkbox"/> Other: n/a <p style="text-align: center;">} Per Year</p>	10% 5% 5% 10% 30% 40% n/a n/a IPC-610, 620, 7711 IPC Class II & III
C	Volume Cable/Harness	<input checked="" type="checkbox"/> Prototype <input checked="" type="checkbox"/> Low (Under 100) <input checked="" type="checkbox"/> Low-Medium (To 1,000) <input checked="" type="checkbox"/> Medium (To 5,000) <input checked="" type="checkbox"/> Medium (To 10,000) <input checked="" type="checkbox"/> Medium-High (To 20,000) <input type="checkbox"/> High (To 50,000) <input type="checkbox"/> High To 500,000 <input type="checkbox"/> Other: n/a <p style="text-align: center;">} Per Year</p>	10% 10% 10% 20% 25% 25% n/a n/a IPC-610, 620, 7711 IPC Class II & III
D	Volume Mechanical	<input checked="" type="checkbox"/> Prototype <input checked="" type="checkbox"/> Low (Under 100) <input checked="" type="checkbox"/> Low-Medium (To 1,000) <input checked="" type="checkbox"/> Medium (To 5,000) <input type="checkbox"/> Medium (To 10,000) <input type="checkbox"/> Medium-High (To 20,000) <input type="checkbox"/> High (To 50,000) <input type="checkbox"/> High To 500,000 <input type="checkbox"/> Other: n/a <p style="text-align: center;">} Per Year</p>	10% 10% 10% 70% n/a n/a n/a n/a IPC-610, 620, 7711 IPC Class II & III

E	Volume Full System	<input checked="" type="checkbox"/> Prototype Per Year <input checked="" type="checkbox"/> Low (Under 100) } <input type="checkbox"/> Low-Medium (To 1,000) <input type="checkbox"/> Medium (To 5,000) <input type="checkbox"/> Medium (To 10,000) <input type="checkbox"/> Medium-High (To 20,000) <input type="checkbox"/> High (To 50,000) <input type="checkbox"/> High (To 500,000) <input type="checkbox"/> Other: n/a	5% 95% n/a n/a n/a n/a n/a n/a n/a IPC-610, 6620, 7711 IPC Class II & III
---	--------------------	---	---

SECTION 2.6

QUALITY DEVELOPMENT

DATE COMPLETED
11/2/10

This section is intended to provide overview information on the quality systems in place in the manufacturing facility.

Site Capability Snapshot (Please Check all that apply)

	Designators		Remarks
A	Strategic Plan	<input type="checkbox"/> Functional Steering Committee Formed <input checked="" type="checkbox"/> TQM Plan & Philosophy Established & Published <input type="checkbox"/> Documented Quality Progress Review <input checked="" type="checkbox"/> Implementation & Review of Project Team Recommendations <input checked="" type="checkbox"/> TQM Communicated Throughout Organization <input checked="" type="checkbox"/> Controlled New Process Start-up <input checked="" type="checkbox"/> Management Participates in TQM Audits <input type="checkbox"/> Employee Recognition Program <input type="checkbox"/> Total TQM Plan/Involvement Customer Training <input type="checkbox"/> Other: n/a	n/a Quality Policy/Manual n/a Management Reviews ISO 9001:2008, ISO 13485:2003 policies and procedures Dedicated Process Engineers and New Product Introduction Cell Internal audit program n/a
B	Employee Involvement	<input checked="" type="checkbox"/> Certified Training Available <input checked="" type="checkbox"/> Training of Employee Base <input checked="" type="checkbox"/> TQM Team Trained <input checked="" type="checkbox"/> Design of Experiment Training and Use <input checked="" type="checkbox"/> New Process Implementation Training <input checked="" type="checkbox"/> Support Personnel Training <input type="checkbox"/> Advanced Statistical Training <input checked="" type="checkbox"/> Quality Functional Deployment <input checked="" type="checkbox"/> Ongoing Improvement Program for Employees <input type="checkbox"/> Other: n/a	IPC-610, IPC-620, IPC 7711 Training program managed Training Committee, IPC-610, IPC 620, IPC-7711, Certified IPC Trainer on Staff 10 Certified internal auditors n/a Off-site training
C	Quality Manual	<input checked="" type="checkbox"/> Quality Manual Started <input checked="" type="checkbox"/> Generic Quality manual for Facility <input type="checkbox"/> 10% of Manufacturing Depts. have Process Specifications <input type="checkbox"/> 25% of Manufacturing Depts. have Process Specifications <input type="checkbox"/> 50% of Manufacturing Depts. have Process Specifications <input type="checkbox"/> Non-manufacturing Manuals Developed <input type="checkbox"/> 25% of all Departments have Quality Manuals <input type="checkbox"/> 50% of all Departments have Quality Manuals <input checked="" type="checkbox"/> All Manufacturing and Support Depts. have Controlled Quality Manual <input type="checkbox"/> Other: n/a	Complete Complete n/a n/a n/a n/a n/a n/a *See attached Quality Manual
D	Instructions	<input type="checkbox"/> Work Instructions Started <input type="checkbox"/> Quality Instructions Started <input type="checkbox"/> 10% Work Instructions Completed <input type="checkbox"/> 10% Quality Instructions Completed	

		<input type="checkbox"/> 25% Work Instructions Completed, Controlled <input type="checkbox"/> 25% Quality Instructions Completed, Controlled <input type="checkbox"/> 50% Work Instructions Completed, Controlled <input type="checkbox"/> 50% Quality Instructions Completed, Controlled <input checked="" type="checkbox"/> Quality and Work Instructions Completed, Controlled <input type="checkbox"/> Other: n/a	Implemented DocTraks 1/2009 All work instructions are available to the floor through touchscreen monitors available at workstations. Only documents at the current revision are available – Allows for immediate changes when an ECN demands it.
E	SPC Implementation IPC-91-91	<input checked="" type="checkbox"/> Plan Exists <input checked="" type="checkbox"/> Training Started <input checked="" type="checkbox"/> Process Data Collected & Analyzed <input checked="" type="checkbox"/> All employees Trained <input type="checkbox"/> First Process Stable & Capable <input checked="" type="checkbox"/> Several Major Processes Stable & Capable <input type="checkbox"/> Continued Improvement of Stable Processes <input type="checkbox"/> Additional Mfg Processes Under Control <input type="checkbox"/> All Processes Under Control <input type="checkbox"/> Other:	All Manufacturing employees receive rudimentary SPC training and lean/5 S training. Reflow ovens and Wave Solder operations Screen Printers Pre & Post Print
F	Supplier Programs/Controls	<input checked="" type="checkbox"/> Supplier Rating Program <input type="checkbox"/> Monthly Analysis Program <input type="checkbox"/> Key Problems Identified <input type="checkbox"/> Supplier Reviews Performance Data Provided <input type="checkbox"/> TQM Acceptance by Suppliers <input type="checkbox"/> 10% of Suppliers Using SPC <input type="checkbox"/> 25% of Suppliers Using SPC <input type="checkbox"/> 50% of Suppliers Using SPC <input type="checkbox"/> All Key Suppliers Using Certified Parts Program <input type="checkbox"/> Other: n/a	Quarterly analysis
G	Third Party IPC-QS-95	<input type="checkbox"/> Instrument Controls in Place <input type="checkbox"/> Measurement System in Control IPC-PC-90 <input type="checkbox"/> Document Controls in Place <input type="checkbox"/> Reduced Lot Sampling <input type="checkbox"/> 10% of Processes Under Audit Control <input type="checkbox"/> 50% or Greater of Processes Under Audit Control <input type="checkbox"/> ISO-9003 Certified <input type="checkbox"/> ISO-9002 Certified <input checked="" type="checkbox"/> ISO-9001 Certified <input type="checkbox"/> Other: n/a	ORION REGISTRAR 9001-2008 # A0000889-5 5/24/09 – 5/23/2012

SECTION 2.7 SERVICES

DATE COMPLETED 11/2/10

This section is intended to provide overview information on the customer services offered by the manufacturer in addition to the assembly manufacturing services.

Site Capability Snapshot (Please Check all that apply)

Designators			Remarks
A	Component Procurement	<input checked="" type="checkbox"/> Consignment <input checked="" type="checkbox"/> Passive Thru-Hole <input checked="" type="checkbox"/> Passive SMT <input checked="" type="checkbox"/> I/C SMT <input checked="" type="checkbox"/> I/C Thru-Hole <input checked="" type="checkbox"/> Hi-Pin Count (Peripheral) <input checked="" type="checkbox"/> Hi-Pin Count (Array) <input type="checkbox"/> Bare Die (CHIPS) <input type="checkbox"/> ASIC's <input type="checkbox"/> Other: n/a	10% 10% 25% 25% 10% 10% 10% n/a n/a IPC-610, 620, 7711 IPC Class II & III
B	Board Procurement	<input checked="" type="checkbox"/> Consignment <input checked="" type="checkbox"/> Single Sided <input checked="" type="checkbox"/> Double Sided <input checked="" type="checkbox"/> Multilayer (Rigid) <input checked="" type="checkbox"/> Multilayer (Rigid-Flex) <input type="checkbox"/> Metal Core Boards <input type="checkbox"/> CTE Boards <input type="checkbox"/> MCM's & Hybrids <input type="checkbox"/> PCMCIA's <input type="checkbox"/> Other: n/a	10% 30% 70% 60% 25% n/a n/a n/a n/a IPC-610, 620, 7711 IPC Class II & III
C	Design Services	<input type="checkbox"/> Outsource <input type="checkbox"/> Simulation <input type="checkbox"/> Circuit Analysis <input type="checkbox"/> Placement & Routing <input type="checkbox"/> Design Rule Implementation <input type="checkbox"/> Impedance Control <input type="checkbox"/> High Speed <input type="checkbox"/> MCM's (L) (C) or (D) <input type="checkbox"/> ASIC's <input type="checkbox"/> Other: n/a	n/a n/a n/a n/a n/a n/a n/a n/a n/a

SECTION 3.0

MASTER EQUIPMENT LISTING

FORM AQP 20

DATE COMPLETED 11/2/10

Please complete a Master Equipment List. You may use your own form or the AQP Form 20.

IDENTIFICATION	EQUIPMENT NAME/DESCRIPTION	MANUFACTURER TYPE/MODEL	EQUIPMENT LIMITS	ACCURACY	CALIBRATION FREQUENCY
AES596B	In Line Automated Glue Dispenser	Camelot	n/a	n/a	n/a
AES1030	Solder Paste Inspection	CKD VP5000	n/a	n/a	n/a
AES930	Screener	Dek265GS	105 panels per hour	n/a	Daily PM Monthly
AES929	Screener	Dek Horizon O3i	105 panels per hour	n/a	Daily PM Monthly
AES836	Screener	Dek ELA 101	105 panels per hour	n/a	Daily PM Monthly
AES931	Quad (Pick & Place)	QSV-1	2500/ hr	n/a	Daily PM Monthly
AES932A	Panasonic (Pick & Place)	CM402-L	ACT. 20-25,000 cph	1 micron @ Six sigma	Annually
AES932C	Panasonic (Pick & Place)	CM602-L	ACT. 50 -60,000 cph	+/-40 micron w/ cpk <1	Annually
AES932D	Panasonic (Pick & Place)	CM602-L	ACT. 50 -60,000 cph	+/-40 micron w/ cpk <1	Annually
AESO001	Forced Convection Oven	Conceptronic Concept 60 Air	Single Sided Boards 35 cm/ min	5-10 degrees	Monthly
AESO002	Forced Convection Oven	Conceptronic Concept 60 Air	Single Sided Boards 35cm/ min	5-10 degrees	Monthly
AESO004 AES0005	(2) Forced Convection Oven	Vitronics Soltec XPM2 Lead free	35 cm/ min	n/a	Monthly
AES990	QMT-1500	SMT Tape and Reel Machine		n/a	N/A
AES638	Specialty Screener	Champion	Varies per job	n/a	None Required
AES401	Mini Wave	Air Vac PCB RM	20 Boards/ hr	n/a	Monthly/Weekly PM
AES588	YES Tech	YTV F1 Series AOI	250,000 components per hour	95%	Annually
AES588-1	YES Tech	YTV F1 Series AOI	250,000 components per hour	95%	Annually
AES	Omron	VT-RNS AOI			
AES990	AOI	N-Spec CL18	Optical presence 2000/ min @ max	75%	Not In Use
AES169	X-Ray	Daye XL 6500	X-ray joints for BGA	95%	Annually
AES734 AES	(2) Wave Solder	Technical Devices NU/ERA MP	Single sided or glued double sided/ 30 boards per hour	5-10 degrees	Yearly/Monthly/ Weekly/Daily PM
AES402	Lead Free Wave Solder	Vitronics Delta	Single sided or glued double sided/ 30 boards per hour	5-10 degrees	Yearly/Monthly/ Weekly/Daily PM
AES472 AES472B	(2) Selective Solder 1 Leaded/1 Lead Free	ACE/KISS102	5-10 Boards/ hour	n/a	None/PM Weekly
AES508-B	Lead Free Selective Solder	Pillarhouse Orissa 600	5-10 Boards/ hour	n/a	None/PM Weekly
AES898	Axial Inserter	Amistar AI-6448 Universal Instruments	2000 components/ hour	n/a	None required
AES485	Dip Inserter	Universal Multi-Module 6792	400-500 components/ hour	n/a	None required

AES662	Lead Cutter	Q-corporation Q26	Varies per job	n/a	None required
AES1005-B	Component Locator/Ultra Clinch	Contact CS-201	6 components/ min	n/a	None required
AES1005-A	Component Locator/Ultra Clinch	Contact CS-201	6 components/ min	n/a	None required
AES550	Stripper Crimper	AMP 320895-1	Semi-automatic, varies by job and operator	n/a	Annually
AES247	Stripper Crimper	AMP 320895-1	Semi-automatic, varies by job and operator	n/a	None required
AES261	Omni Stripper	Schleuniger OS9400	1.68m / sec Max.	n/a	None required
AES471	Omni Stripper	Schleuniger OS9400	1.68m / sec Max.	n/a	None required
AES247	Schleuniger Stripper	Schleuniger	Insulation stripper	n/a	None required
AES189	Schleuniger Wire Cutter	Schleuniger	Wire cutter only	n/a	None required
AES461	Automatic Crimper	Amp/Tyco 122387-1	Semi-automatic, varies by job and operator	n/a	None required
AES 464	G-Press Crimper	G-AMP Tyco	Varies per job Semi-automatic, varies by job and operator	n/a	None required
AES461	K press Crimper	Amp-o-lectric	Semi-automatic, varies by job and operator	n/a	None required
AES581	Automatic Stripper/Crimper	Komax Gamma 333 PC	4000 pcs/ hour	95%	None required
AES468	Flat Cable Cutter	Eubanks 4600	Semi-automatic, varies by job and operator	n/a	None required
AES199	Wire Back Plane assembly	JDV-SWB 40	n/a	90-95%	None required
AES186	Aqueous Cleaning system	Model ABC-2002	Cleaning Boards	n/a	Monthly/daily monitoring
AES517	Aqueous Contamination Tester	n/a	Varies per job	n/a	Monthly
AES481-A	Conformal Coating Machine	Automated conformal coating	Varies per job	n/a	Daily PM
AES481-B	Conformal Coating Machine	Automated conformal coating	Varies per job	n/a	Daily PM
AES065	Flying Probe	Takaya APT-9401cj	Open & closed circuit 600 components/ min	95%	Annually
AES983	4 Module In-Circuit System	Agilent Technologies Model 1307			Annually
AES294	Non-Contact Optical Inspection machine	OGP Avant Video Measuring Systems			Bi-Annually
AES458	ThermoChamber	RT9C-7.5-6-WC	60° per minute change	n/a	None required
AES978-A	Foot/Wrist tester				Annually
AES978-B	Foot/Wrist tester				Annually
AES944	Pick and Place	Morae MPS-1025P			
AES440	Pick and Place	Meridian 1030 Chip Shooter			
AES638	Screener	Dek 260	n/a	n/a	n/a
AES511	Environment Chamber	ESZ-Z8	n/a	n/a	n/a
	Test Equipment	Mark 5	n/a	n/a	n/a
AES1005-C	Locator/Clinch	CS400-E	6 components/min	n/a	n/a

SECTION 4DATE COMPLETED
11/2/10**TECHNOLOGY PROFILE SPECIFICS****4.1 ADMINISTRATION**

4.1.1 CAPACITY PROFILE	EST %	COMMENTS
A) Total Capacity in units per month (based on best quarter)	200000	n/a
B) Presently running at _40_ % of total unit capacity.	40%	1.5 shifts
C) Revenue from manufacturing services. Revenue from non-manufacturing activities.	100% 0 Total 100%	All manufacturing services
D) Work dedicated to consignment. Work dedicated to turnkey.	30% 70% Total 100%	Kan-Ban and Consolidated shipments

4.1.2 PERCENTAGE OF DOLLAR VOLUME	EST %	COMMENTS
* 1) Type 1A electronic assembly	15%	IPC Class II and/or III IPC 610, 620, 7711
2) Type 1B electronic assembly	15%	IPC Class II and/or III IPC 610, 620, 7711
3) Type 1C electronic assembly	40%	IPC Class II and/or III IPC 610, 620, 7711
4) Type 1X electronic assembly	10%	IPC Class II and/or III IPC 610, 620, 7711
5) Type 2B electronic assembly	10%	IPC Class II and/or III IPC 610, 620, 7711
6) Type 2C electronic assembly	10%	IPC Class II and/or III IPC 610, 620, 7711
7) Type 2X electronic assembly	n/a	n/a
8) Type 2Y electronic assembly	n/a	n/a
9) Type 2Z electronic assembly	n/a	n/a
10) Wire wrap assembly	1%	IPC Class II and/or III IPC 610, 7711
11) Cable/harness assembly	15%	IPC Class II and/or III IPC 620, 7711
12) Mechanical assembly	2%	IPC Class II and/or III IPC 610, 7711
13) Full system assembly	5%	IPC Class II and/or III IPC 610, 620, 7711

* For description of product types, see glossary, Section 10.1

4.1.3 UNIT PRODUCTION PROFILE	UNITS PER MONTH
A) What do you consider, in number of units per month the definition of the following (units=units per month)?	
1) High Production	5-10,000 Board type 1C, 1B
2) Medium Production	1,000 – 5,000 Board type 1A, 1X
3) Low Production	100 - 1000 Board type 2B, 2C
4) Prototype Production	5 - 100
B) What is your average lead-time (delivery) as defined in (A)?	
1) High Production	Based on material and complexity 4-16 weeks
2) Medium Production	Based on material and complexity 4-16 weeks
3) Low Production	Based on material and complexity 4-16 weeks
4) Prototype Production Quick turn - No. of days _____	Based on material and complexity 4-16 weeks Based on material and complexity 5 days – 6 weeks

4.1.4 MARKETS SERVED	YES	NO	COMMENTS
A) Consumer Products	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2%
B) General Purpose Computers	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
C) Telecommunications Products	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
D) Commercial Aircraft	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
E) Industrial Products & Automotive	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5%
F) High Performance Military	<input type="checkbox"/>	<input checked="" type="checkbox"/>	1%
G) Outer Space LEO & GEO	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
H) Military Avionics	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
I) Automotive (Under the Hood)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3%
J) Other	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Medical 62% Transportation 27% GE (IPC Class III)

4.1.5 APPROVAL & CERTIFICATION PROFILE	YES	NO	COMMENTS
What company approvals do you have?			
A) J-STD-001	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Technical Trainer is certified IPC 610 Instructor
B) IPC-A-610	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Revision D
C) MIL-STD-2000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
D) UL Approval	<input checked="" type="checkbox"/>	<input type="checkbox"/>	n/a Manufacturing site# 292881-001
E) UL Level 94V0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a

F) UL Level 94V1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
G) UL Level 94V2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
H) Canadian Standards	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
J) MIL-P-55110	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
K) MIL-P-50884	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
L) ISO-9003	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
M) ISO-9002	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
N) ISO-9001	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Orion Registrar RvAC 147 ISO 9001:2008 #A0000889-5 5/24/09 – 5/23/12
P) BABT	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
Q) QC9000	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
R) EEC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
S) Customer Evaluation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a
T) Other			ISO 13485:2003- Orion Registrar, IPC-A-620 IPC-7711, IPC-7721, ITAR, CSA (Class 5852 01 HARNESSSES – Wiring), ESD training, Solder training (Leaded and Lead-free Wave solder and hand-soldering)

4.1.6	CUSTOMER INTERFACE PROFILE	YES	NO	EQUIPMENT	COMMENTS
A)	Modem capability/BAUD rate	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
B)	Ethernet capability	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
C)	Data verification	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
D)	Manufacturing data requirements:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	GE Extranet	n/a
E)	Engineering change order process:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	ECN Process	Controlled procedure involving Customer Service, Engineers, Quality and Documentation
F)	Method for job status reporting to customers:	<input checked="" type="checkbox"/>	<input type="checkbox"/>		Dedicated Customer Service reps available by phone, e-mail or they may access the customers' web portal.

4.1.7	ADMINISTRATIVE PROFILE	YES	NO	QUANTITY	DEGREES	COMMENTS
A)	Does the facility have a separate research and development dept.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a	n/a
B)	Is there an (automated) on-line shop floor control/MRP system	<input checked="" type="checkbox"/>	<input type="checkbox"/>	25%	Syteline APS	Syteline has an auto-bar code system, a job's status can be tracked to exact operation and operator through Syteline.
C)	Quantity of engineers dedicated to supporting the following areas			5	n/a	n/a
1)	NPI	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	1 - BSME	n/a *3 Engineering Techs also part of NPI
2)	Manufacturing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3	2 - BSME 1 - BSEET	n/a
3)	Test	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1	1 - BSEET	n/a

4.2 PROCESS ORIENTATION

4.2.1	PLANT LAYOUT CHARACTERISTICS	YES	NO	COMMENTS
A)	In-line Assembly Process	<input checked="" type="checkbox"/>	<input type="checkbox"/>	SMT – Pick n Place line= Panasonic (AES932A), Meridian(AES440), Morae(AES944) (Screeners(AES930,929,946), Quads(AES931, 637), Ovens(AESO001, O002), Wave(AES734), Mini-wave(AES401), Selective solder(AES472), Contact Thru-Hole Slide Line(non-automatic)
B)	Islands of Automation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	SMT & AI
C)	Placement Equipment Technology			n/a
1)	In-line	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wave Solder (AES734)
2)	Sequential	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Axial & Dip Inserter (AES898, 485)
3)	Simultaneous	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a

4.2.2	PROCESS PRECISION SPECIFICS	YES	NO	DIAMETER IN MM	COMMENTS
	Please indicate the following standard tooling preferences for your mfg. equipment.				
A)	Vision alignment targets	<input checked="" type="checkbox"/>	<input type="checkbox"/>	.039"/ 39mils/ 1mm	Required on most boards
1)	Solder coated	<input checked="" type="checkbox"/>	<input type="checkbox"/>	.039"/ 39mils/ 1mm	Applies to some boards
2)	SMOBC	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
B)	Protective coating	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
C)	Placement equipment alignment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	n/a	n/a
1)	Tooling holes required	<input type="checkbox"/>	<input checked="" type="checkbox"/>	** Not required but if used- .12"/ 120mils/ 3mm	n/a
D)	Electrical test tooling alignment holes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	n/a	Required on boards that call for electrical testing

4.2.3	NEW PROCESS QUALIFICATION	YES	NO	RESPONSIBLE PERSONNEL	COMMENTS
A)	Instruction manual for new process introduction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Engineers, Production Managers, Quality, Documentation	n/a
B)	New process qualification procedure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Engineering/Quality	n/a
C)	Responsible personnel:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Engineering	n/a

4.3 PRODUCT DESCRIPTION

*Include average percentage defects/ assembly for units which utilize the following device types.

4.3.1.	THROUGH HOLE INSERTION	YES	NO	PERCENT	MAX./MIN PACKAGE SIZE	COMMENTS
A)	Axial Leads	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5%	All	Board type IPC Class II and/or III per IPC-610
B)	Radial Leads	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5%	All	Board type IPC Class II and/or III per IPC-610
C)	DIP	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10%	All	Board type IPC Class II and/or III per IPC-610
D)	Pin Grid Arrays	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1%	All	Board type IPC Class II and/or III per IPC-610

4.3.2	SURFACE MOUNT COMPONENTS	YES	NO	PERCENT	MAX/MIN PACKAGE SIZE	MAX PIN COUNT	MIN. PITCH
A)	Chip Capacitors/Resistors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	20%	2512 Max 020 Min	n/a	n/a
B)	Small Outline Diodes (SODs)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4%	All	n/a	n/a
C)	Small Outline Transistors (SOTs)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5%	All	n/a	n/a
D)	Small Outline IC's (SOICs)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10%	44 Max 6 Min	44 pin	n/a
E)	Chip-on-tape (molded carrier ring)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a	n/a	n/a
F)	COB	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a	n/a	n/a
G)	Quad Flat Packs (QFPs)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2%	12 mil min	204	n/a
H)	Thin Small Outline Package (TSOP)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5%	12 mil min	n/a	n/a
J)	Ball/Post Grid Array	<input checked="" type="checkbox"/>	<input type="checkbox"/>	6%	All	n/a	n/a
K)	TAB	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a	n/a	n/a

4.3.3	PERCENTAGE OF UNITS PRODUCED IN YOUR MAIN BUSINESS CATEGORIES	YES	NO	PERCENT	PRODUCT DESCRIPTION	COMMENTS
A)	Electronic assembly type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	66%	Majority of PCB	IPC Class II and/or III IPC 610, 620, 7711
B)	Board construction type	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a	n/a
C)	Board size, diagonal	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a	n/a
D)	SMT working area	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5%	n/a	IPC Class II and/or III IPC 610, 620, 7711
E)	THT working area	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10%	n/a	IPC Class II and/or III IPC 610, 620, 7711
F)	Discrete wire	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2%	n/a	IPC Class II and/or III IPC 610, 620, 7711
G)	Cable & Harness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10%	n/a	IPC Class II and/or III IPC 610, 620, 7711
H)	Mechanical assemblies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5%	n/a	IPC Class II and/or III IPC 610, 620, 7711
J)	Completed end product	<input checked="" type="checkbox"/>	<input type="checkbox"/>	2%	n/a	IPC Class II and/or III IPC 610, 620, 7711

4.3.4	TOTAL BUSINESS DISTRIBUTION BY ASSEMBLY TYPES	YES	NO	PERCENT	COMMENTS
A)	1A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15%	IPC Class II and/or III IPC 610, 620, 7711
B)	1B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15%	IPC Class II and/or III IPC 610, 620, 7711
C)	1C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	40%	IPC Class II and/or III IPC 610, 620, 7711
D)	1X	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10%	IPC Class II and/or III IPC 610, 620, 7711
E)	2B	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10%	IPC Class II and/or III IPC 610, 620, 7711
F)	2C	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10%	IPC Class II and/or III IPC 610, 620, 7711
G)	2X	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
H)	2Y	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
J)	2Z	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a

4.3.5	TOTAL BUSINESS DISTRIBUTION BY BOARD ASSEMBLY TYPES	YES	NO	PERCENT	COMMENTS
A)	Rigid	<input checked="" type="checkbox"/>	<input type="checkbox"/>	85%	IPC-6012 IPC Class II and/or III
B)	Flex	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5%	IPC-6013 IPC Class II and/or III
C)	Rigid/Flex	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5%	n/a IPC Class II and/or III
D)	Molded Board	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5%	n/a IPC Class II and/or III
E)	Rigid Backplane	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
F)	Ceramic MCM's	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
G)	Laminated MCM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
H)	Deposited dielectric MCM	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
J)	Discrete Wire Boards	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a

4.3.6	TOTAL BUSINESS DISTRIBUTION (REMAINING AREAS)	YES	NO	PERCENT	COMMENTS
A)	Multi-wire Assemblies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	15%	n/a
B)	Cables and Harness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	70%	n/a
C)	Mechanical Assemblies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	10%	n/a
D)	Full System Assembly	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5%	n/a

4.4. TESTING CAPABILITY

4.4.1	ELECTRICAL TEST SMT CENTERLINE PITCH MINIMUM	YES	NO	COMMENTS
A)	0.63mm [.025]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Flying Probe (AES065)
B)	0.5mm [.020]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Flying Probe (AES065)
C)	0.4mm [.016]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Flying Probe (AES065)
D)	0.3mm [.012]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Flying Probe (AES065)
E)	0.25mm [.010]	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Flying Probe (AES065)
F)	Other	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Flying Probe (AES065) <.010mm

4.4.2	PERFORM DOUBLE SIDED SIMULTANEOUS ELECTRICAL TESTING	YES	NO	EQUIPMENT	EQUIPMENT LIMITS
A)	Can you perform double sided simultaneous electrical testing?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a

4.4.3	BOUNDARY SCAN TESTING CAPABILITY	YES	NO	EQUIPMENT	EQUIPMENT LIMITS
A)	Boundary scan testing capability?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a

4.4.4	AUTOMATED OPTICAL INSPECTION USAGE?	YES	NO	EQUIPMENT	COMMENTS
A)	Post paste application	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Solder paste inspector (AES)	n/a
B)	Pre-placement	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
C)	Post placement	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
D)	Post reflow	<input checked="" type="checkbox"/>	<input type="checkbox"/>	N-Spec (Aes665,990) , YesTech (AES588,AES588-2)	

4.4.5	FULL SYSTEM LEVEL TESTING	YES	NO	COMMENTS
A)	Full system level testing?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Each board tested per requirements specified by customer.
B)	Can you develop these test systems in-house?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	We have the ability but MOST are customer supplied

4.4.6	DIRECT CAD DOWNLOAD TO TEST EQUIPMENT IN USE	YES	NO	COMMENTS
A)	Direct CAD download to test equipment in use?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a

4.4.7	RELIABILITY TESTING	YES	NO	EQUIPMENT	COMMENTS
A)	Thermal (temperature/humidity)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	AES458-Thermal Chamber RT9C-7.5-6-WC	Absolute -70°- 200°C Actual -40°- 70°C
B)	Vibration	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
C)	Shock	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
D)	Salt spray	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a

4.5 MATERIALS MANAGEMENT

4.5.1	MATERIAL SYSTEMS	YES	NO	SYSTEM	COMMENTS
A)	MRP System	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Syteline - MRP	All materials are controlled and tracked in the system and have cross reference capability with customer material numbers.
B)	Electronic data interface (EDI)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	n/a	n/a
C)	Kitting capability	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Syteline	Pick lists and routers are all controlled in the system by the Master Scheduler and Documentation.
D)	Turn-key system	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Syteline	n/a

SECTION 5

QUALITY PROFILE

DATE COMPLETED 11/2/10

GENERAL INFORMATION

COMPANY NAME AccuSpec Electronics, LLC	
CONTACT Raul Gomez	
TELEPHONE NUMBER 814-464-2060	FAX NUMBER 814-464-2020

This section of the Manufacturer's Qualification Profile is intended to describe the Total Quality Management (TQM) activity in place or being implemented at the manufacturing facility identified in the site description of this AQP.

To ease in the task of identifying the TQM program being planned or underway at the manufacturing site, the activities have been divided into twenty sections which, when completed, provide the total picture of the posture toward managing quality issues. Each section contains a number of questions with regard to the topic under review.

It is not the intent to have the questions be all encompassing, nor is every question applicable to all manufacturers. However, identification of the status, related to each questions, when considered as a whole will convey an impression of the progress that the company has achieved in adopting the principles of total quality management.

The twenty sections, in order of the occurrence are:

- | | | | |
|------|-----------------------------------|------|---|
| 5.1 | General Quality Programs | 5.11 | Internal Audits |
| 5.2 | Receiving Inspection | 5.12 | Statistical Process Control |
| 5.3 | Customer Satisfaction | 5.13 | Problem Solving |
| 5.4 | Computer Integrated Manufacturing | 5.14 | In-Process Control |
| 5.5 | Process Documentation | 5.15 | Material Handling |
| 5.6 | Quality Records | 5.16 | Non-Conforming Material Control |
| 5.7 | Skill, Training & Certification | 5.17 | Inspection and Test Plan |
| 5.8 | Subcontractor Control | 5.18 | Product Inspection/Final Audit |
| 5.9 | New Products/Technical Services | 5.19 | Tooling Inspection, Handling, & Storage |
| 5.10 | Calibration Control | 5.20 | Corrective Action |

Each section provides a status report related to each question. The question may not be applicable, no activity has started as yet, or the company may have developed an approach to the issues raised by the questions. An (X) is indicated in the appropriate column. If deployment/implementation has started, the status is reported as percent deployment; this is indicated in column 4. The percentage number closely approximates the status of deployment. If deployment exists, the percentage results that have been achieved is indicated in column 5. Results are based on expected goals. Not providing percent information in either the deployment or results column implies a lack of activity in the particular area.

The quality descriptions requested are completed on the following pages by checking (X) the appropriate column to reflect the status of the manufacturing facility TQM program. Additional information may be provided as comments shown below, or on individual sections, or additional sheets as necessary.

COMMENTS
n/a

5.1 GENERAL QUALITY PROGRAMS		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM						
1.	Are quality objectives and responsibilities clearly stated, widely distributed and understood through the company? ISO 9001-2008, Sections 5.1, 5.4.1, 5.5.1 and 5.5.2			X	100	100
2.	Is there a quality function or well defined organization which provides customer advocate guidance to the total organization and is this position fully supported by management? ISO 9001-2008, Sections 5.2 and 5.5.2			X	100	100
3.	Does a quality measurement system exist with clearly defined metrics and is it utilized as a management tool? ISO 9001-2008, Sections 5.6 and 8.4.			X	100	100
4.	Are work instructions approved and controlled; and are they under revision control? ISO 9001-2008, Sections 4.2.1 and 4.2.3.			X	100	100
5.	Are the quality procedures and policies current and available at the point of application; and are they under revision control? ISO 9001-2008, Sections 4.2.1 and 4.2.3.			X	100	100
6.	Are benchmark and customer satisfaction studies done to determine best in class for all products, services, and administrative functions; and are goals set so that quality is a competitive weapon? ISO 9001-2008, Sections 5.2, 7.2.1, 8.2.1, and 8.4			X	100	100
7.	Are Statistical Process Control (SPC) principles understood by all levels of management? ISO 9001-2008, Sections 8.1, 8.2.3., 8.2.4 and 8.4.			X	70%	70%
8.	Are there programs with sufficient resources assigned to support corrective actions and prevention? ISO 9001-2008, Sections 8.5.2 and 8.5.3.			X	100	100
9.	Does management solicit and accept feedback from the work force? ISO 9001-2008, Section 5.5.3.			X	100	100
10.	Is there management support of ongoing training (including quality training), and is it documented by an organizational training plan? ISO 9001-2008, Sections 6.2.1 and 6.2.2.			X	100	100
11.	Are there regular management reviews of elements of the quality improvement process, including feedback for corrective action, and are the results acted upon? ISO 9001-2008, Sections 5.6.1, 5.6.2 and 5.6.3.			X	100	100
12.	Are the quality and reliability goals aggressive relative to customer expectations and targeted at continuous improvement? ISO 9001-2008, Sections 5.6.1 and 5.6.3.			X	100	100
13.	Are the people who are responsible for administering the quality assurance function technically informed? ISO 9001-2008, Sections 6.2.1 and 6.2.2.			X	100	100
14.	Does Management have a "defect prevention" attitude to achieve continuous quality improvement? ISO 9001-2008, Section 5.6.2.			X	100	100

5.2 RECEIVING INSPECTION		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM						
1.	Are receiving inspection facilities and equipment adequately and properly maintained? ISO 9001-2008, Section 7.4.3.			X	100%	100%
2.	Are receiving inspection procedures documented and followed? ISO 9001-2008, Sections 4.2.1 and 4.2.3			X	100	100
3.	Are receiving inspection results used for corrective and preventive action? ISO 9001-2008, Sections 8.5.2 and 8.5.3.			X	100	100
4.	Are the procedures for storage and timely disposition of discrepant material in place and followed? ISO 9001-2008, Section 8.3			X	100	100

COMMENTS

5.1.1 The objectives are reviewed at quarterly management reviews.

5.1.2 The Quality Manager is the Management representative, supported by the President

5.1.4 There are written processes regarding all document control. Revisions & ECN's are controlled by Documentation Dept. All changes are approved by the appropriate Engineer and/or the customer if warranted.

****Regarding work instructions, the facility has gone paperless as of 1/30/09. Production accesses only the most current documents required to build through touch screens located at the work stations- DocTrak program is integrated with Syteline.**

5.3 CUSTOMER SATISFACTION		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM						
1.	Is there a measurement system in place to assess the customer's perception of complete performance? ISO 9001-2008, Sections 5.2, 7.2.1, 8.2.1 and 8.4.			X	100	100
2.	Is an independent (unbiased) customer survey routinely conducted? ISO 9001-2008, Sections 5.2, 7.2.1, 8.2.1 and 8.4.			X	100	100
3.	Is there an internal measurement system within the organization which correlates to the level of customer satisfaction? ISO 9001-2008, Sections 5.2, 7.2.1, 8.2.1 and 8.4			X	100	100
4.	Are there specific goals for achieving Total Customer Satisfaction, both internal and external? ISO 9001-2008, Sections 5.2, 7.2.1, 8.2.1 and 8.4.			X	100	100
5.	To what extent are customer satisfaction goals disseminated and understood by everyone in the organization? ISO 9001-2008, Sections 5.2, 7.2.1, 8.2.1 and 8.4.			X	100	100
6.	Does management regularly review and assess all operating systems to determine if barriers to customer satisfaction exist and are appropriate action plans then implemented? ISO 9001-2008, Sections 5.6.2, and 5.6.3.			X	100	100
7.	Is there a method in place to obtain future customer requirements? ISO 9001-2008, Section 7.2.1.			X	100	100
8.	Are all findings of customer dissatisfaction reported back to the proper organization for analysis and corrective action? ISO 9001-2008, Sections 5.2, 7.2.1, 8.2.1 and 8.4.			X	100	100
9.	Are customer satisfaction requirements formally defined and documented, and are they based on customer input? ISO 9001-2008, Sections 5.2, 7.2.1, 8.2.1 and 8.4.			X	100	100
10.	Do all support organizations understand their role in achieving total customer satisfaction? ISO 9001-2008, Sections 5.2, 7.2.1, 8.2.1 and 8.4.			X	100	100

5.4 COMPUTER INTEGRATED MANUFACTURING		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM						
1.	Are systems integrated to allow electronic transfer of information between multiple systems to eliminate redundant data entry?			X	90	90
2.	Can customers electronically transfer CAD/CAM directly into manufacturing?			X	40	40
3.	Can customers electronically transfer order information directly into the business system?			X	60	60
4.	Is data electronically shared between shop floor control and process control systems (i.e., CNC, SPC, Electrical Test, AOI, etc.)?			X	100	100
5.	Are planning systems (MRP, forecasting, capacity planning, financial planning, etc.) electronically integrated with operation systems (order processing, purchasing, inventory management, shop floor control, financial/cost control, etc.)?			X	100	100
6.	Is information available from system processes in real time (vs. batch processing)?			X	100	100
7.	Are processes and procedures documented and available on-line? ISO 9001-2008, Section 4.2.1 and 4.2.3.			X	100	100
8.	Do all functional departments have system access to key financial, manufacturing, sales, and operational data, as it relates to their functional objectives? ISO 9001-2008, Section 5.4.1, 8.1, 8.4 and 8.5.1.			X	80	90

COMMENTS
<p>5.4</p> <p>1. System integration is expanding through new modules within Syteline such as DocTrak and LaborTrak which will enable paperless routing and work instruction access.</p> <p>3. Customer portal using AccuSpec website is pending.</p> <p>8. Some departments may have to go through Documentation to retrieve information, as access is limited to areas containing to controlled information</p>

5.5 PROCESS DOCUMENTATION		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM						
1.	Are manufacturing product, process, and configuration documents under issue control? ISO 9001-2008, Sections 4.2.1 and 4.2.3.			X	100	100
2.	Are "preliminary" and "special product" specifications controlled? ISO 9001-2008, Sections 4.2.1 and 4.2.3.			X	100	100
3.	Does the system ensure that the most current customer specifications are available to the manufacturing personnel? ISO 9001-2008, Section 4.2.3.			X	100	100
4.	Does the system ensure that the most current material specifications are available to the procurement function? ISO 9001-2008, Sections 7.4.1 and 7.4.2.			X	100	100
5.	Are incoming orders reviewed for revisions and issue changes? ISO 9001-2008, Section 7.2.2.			X	100	100
6.	Is conformance to customer specifications assured before an order is accepted? ISO 9001-2008, Sections 7.2.1 and 7.2.2.			X	100	100
7.	Is customer feedback provided when designs do not meet manufacturability requirements? ISO 9001-2008, Section 7.2.3.			X	100	100
8.	Are critical characteristics classified relative to impact on product performance? ISO 9001-2008, Section 7.1.			X	100	100
9.	Are customers informed of changes made to products controlled by customer drawings or specifications? ISO 9001-2008, Sections 7.2.3 and 7.3.			X	100	100
10.	Is there an effective internal deviation control procedure and, are customer requested deviations documented and followed? ISO 9001-2008, Sections 7.2.3 and 7.3.			X	100	100
11.	Do new product development procedures exist and are they followed in the design development process? ISO 9001-2008, Section 7.3.		X		n/a	n/a

5.6 QUALITY RECORDS		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM						
1.	Are records of inspection and process control maintained and available for review? ISO 9001-2008, Section 4.2.4.			X	100	100
2.	Are records of equipment and equipment maintenance kept? ISO 9001-2008, Section 4.2.4.			X	100	100
3.	Is the record and sample retention program defined? ISO 9001-2008, Sections 4.2.4, 7.4.3, 7.5.1 and 7.5.2.			X	100	100
4.	Are quality data used as a basis for corrective action? ISO 9001-2008, Sections 8.4, 8.5.1 and 8.5.2.			X	100	100
5.	Are quality data used in reporting performance and trends to management? ISO 9001-2008, Sections 5.6.2 and 8.4.			X	100	100
6.	Are quality data used in supporting certifications of quality furnished to customers? ISO 9001-2008, Section 8.4.			X	100	100
7.	Is field information used for corrective action? ISO 9001-2008, Sections 8.5.1.			X	100	100
8.	Does a cost of quality measurement system exist?		X		n/a	n/a
9.	Are customer reported quality problems responded to, and resolved in the time period requested?			X	100	100
10.	Is quality information on production material rejects provided to sub-suppliers with required corrective action? ISO 9001-2008, Section 8.5.2.			X	100	100
11.	Is quality data collected, summarized and analyzed using automated techniques?			X	80	80

COMMENTS

5.5 A prototype cell with a dedicated team is in process at this time. It consists of two Engineering Technicians under the direct guidance of an Engineer working to develop work instructions and build procedures for all prototypes.

5.7 SKILLS, TRAINING, & CERTIFICATION		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM						
1.	Does management ensure that all personnel are trained in their role for achieving Total Customer Satisfaction? ISO 9001-2008, Sections 6.2.1 and 6.2.2.			X	100	100
2.	Do all personnel understand how their performance impacts internal and external customer satisfaction? ISO 9001-2008, Section 6.2.2.			X	100	100
3.	Do all personnel who contact external customers reflect quality improvement programs? ISO 9001-2008, Section 6.2.2.			X	100	100
4.	Do personnel participate in professional societies and growth programs?			X	40	40
5.	Are all personnel trained in sufficient detail to support key initiatives? ISO 9001-2008, Section 6.2.1 and 6.2.2.			X	80	80
6.	Are the results of training evaluated and indicated program changes made? ISO 9001-2008, Section 6.2.2.			X	90	90
7.	Does a policy exist which encourages the cross training and rotation of personnel, and is this policy used as the basis of job progression? ISO 9001-2008, Sections 6.2.1 and 6.2.2.			X	100	100
8.	Are performance standards participatively developed, and regularly applied for all personnel? ISO 9001-2008, Section 6.2.2.			X	100	100
9.	Are Total Customer Satisfaction programs and resulting successes publicized to all personnel? ISO 9001-2008, Section 5.3.			X	80	80
10.	Do goal setting and reward/incentive programs support the quality improvement process? ISO 9001-2008, Section 5.3.			X	100	100

5.8 SUBCONTRACTOR CONTROL		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM						
1.	Are requirements defined, communicated, and updated to ensure that the supplier understands expectations? ISO 9001-2008, Sections 7.4.1 and 7.4.2.			X	90	90
2.	Does a system exist which measures the performance of the supplier and communicates such information to the supplier? (i.e., supplier rating system) ISO 9001-2008, Section 7.4.1.			X	100	100
3.	Have the organization's processes been characterized to identify the critical requirements for the suppliers products? ISO 9001-2008, Sections 7.4.1 and 7.4.2.			X	100	100
4.	Have the capabilities of the supplier's processes been assessed and considered in the establishment of the requirements? ISO 9001-2008, Section 7.4.1.			X	70	70
5.	Have partnerships been established with suppliers, and is assistance provided to ensure that each supplier has the capability to consistently supply conforming products? ISO 9001-2008, Section 7.4.1.			X	80	80
6.	Have quality and cycle time metrics and improvement goals been established participative with the supplier? ISO 9001-2008, Section 7.4.1.			X	100	100
7.	Has a system been established with the supplier for identification and verification of corrective action? ISO 9001-2008, Sections 7.4.1, 7.4.2 and 7.4.3.			X	100	100
8.	Have the requirements for supplier materials been properly characterized and specified to ensure conformance of the product/service to the customer satisfaction requirements? ISO 9001-2008, Sections 7.4.1 and 7.4.2.			X	100	100
9.	Is there a supplier certification program or equivalent procured material/service continuous quality improvement program? ISO 9001-2008, Section 7.4.1.			X	70	70
10.	Can all personnel who contract suppliers properly reflect appropriate quality improvement programs and status to them? ISO 9001-2008, Sections 7.4.1 and 7.4.2.			X	50	50

COMMENTS

5.7

4. Some employees belong to professional societies such as SMTA and ASQ, which AccuSpec supports.
10. A bonus system is in place based on Overall Quality and On Time Delivery.

- 5.8
2. Quarterly performance report cards containing scores based on OTD and Quality issues are in place.

5.9 NEW PRODUCTS/TECHNICAL SERVICES		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
1.	Do new product/technology/service development policies and procedures exist, and do they result in clearly defined project plans with appropriate measureables and approvals? ISO 9001-2008, Section 7.3.1.			X	100	100
2.	Is quantitative benchmarking used to evaluate all new products/technologies/services in comparison to best-in-class offerings? ISO 9001-2008, Section 7.3.2.	X			n/a	n/a
3.	Does a roadmap exist to ensure continued development of leading edge, best-in-class products/technology/services? ISO 9001-2008, Sections 7.3.			X	70	70
4.	Is the capability of each operation which controls critical-to-function characteristics for new products, fully certified? ISO 9001-2008, Sections 7.3.3.			X	60	40
5.	Are statistical tools used in the development of robust (high yield) new processes, products, and services? ISO 9001-2008, Sections 7.3.1 and 7.3.6.			X	70	50
6.	When new product/technology/service requires a new process, is it developed jointly and concurrently with the customer and/or suppliers? ISO 9001-2008, Sections 7.3.4.			X	100	100
7.	Are computer simulations and design tools used to the maximum extent practicable in the design of new products/technologies/services? ISO 9001-2008, Sections 7.3.2.	X			n/a	n/a
8.	Are design reviews conducted on a scheduled basis, and do they properly address the process capability indices of critical-to-function characteristics, and of the product/service characteristics? ISO 9001-2008, Sections 7.3.4.	X			n/a	n/a
9.	Is the new product/technology/service, as produced by the process, verified to meet all customer satisfaction requirements? ISO 9001-2008, Sections 7.3.6.			X	100	100

5.10 CALIBRATION CONTROL		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
1.	Are calibration and preventative maintenance programs in place and documented? ISO 9001-2008, Section 7.6.			X	100	100
2.	Are calibration and maintenance personnel trained? ISO 9001-2008, Section 6.2.2.			X	100	100
3.	Is traceability to NIST maintained? ISO 9001-2008, Section 7.6.			X	100	100
4.	Is quality measurement and control equipment current, effective, and sufficiently integrated with production equipment? ISO 9001-2008, Section 7.6.			X	100	100
5.	Is the history of quality measurement and control equipment documented? ISO 9001-2008, Section 7.6.			X	100	100
6.	Has repeatability of measuring devices and inspection or testing processes been established and monitored? Note: are gauge capability studies conducted and GR&R ratios acceptable (<10%)? ISO 9001-2008, Section 7.6.			X	20	20
7.	Are calibration and preventative maintenance cycles on schedule? ISO 9001-2008, Section 7.6.			X	100	100
8.	Is the use of non-calibrated equipment for design and production purposes prohibited? ISO 9001-2008, Section 7.6.			X	100	100
9.	Are tools and fixtures used as criteria or acceptability of product/work fully qualified and identified? ISO 9001-2008, Section 7.6.			X	100	100
10.	Are calibration intervals defined in accordance with industry standards or manufacturer's recommendations and the calibration history of the equipment? ISO 9001-2008, Section 7.6.			X	100	100

COMMENTS

5.10 All calibration with the exception of rules and scales, is performed by an outside source. The PM Coordinator controls the PM and Calibration schedule.

5.11 INTERNAL AUDITS		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM						
1.	Are regular reviews of the product/process conducted and are goals/plans established to continually improve? ISO 9001-2008, Section 8.2.2.			X	100	100
2.	Are the processes/products properly documented and controlled? Do they include appropriate customer requirements and are they executed in conformance to the documentation? ISO 9001-2008, Section 8.2.2.			X	100	100
3.	Are the required quality checks built into the operations within the manufacturing, field installation, and service process, and is the resulting data maintained and promptly acted upon? ISO 9001-2008, Section 8.2.3.			X	100	100
4.	Are there specific goals for achieving Total Customer Satisfaction, both internal and external? ISO 9001-2008, Sections 5.2, 7.2.1 and 8.2.1.			X	100	80
5.	Does a process change control system exist, and are customers informed of changes made to products and processes with customer approval prior to the change, when required? ISO 9001-2008, Sections 7.2.2 and 7.2.3.			X	100	100
6.	Are the operators within the process provided with written work instructions and are they trained? ISO 9001-2008, Sections 4.2.1 and 6.2.2.			X	100	100
7.	Is the receipt, handling, storage, packaging and release of all material, including customer provided items, at all stages, specified and controlled to prevent damage or deterioration, and to address obsolete material? ISO 9001-2008, Sections 7.5.3 and 7.5.4.			X	100	100
8.	Is there a first in/first out (FIFO) system in place, and is it followed? ISO 9001-2008, Section 7.5.3.			X	100	100

5.12 STATISTICAL PROCESS CONTROL		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM						
1.	Have the personnel who will be responsible for guiding the implementation of SPC been designated?			X	70	70
2.	Are statistical techniques used to reduce variation in the engineering process before the start of production? ISO 9001-2008, Sections 8.1, 8.2.3, 8.4 and 8.5.1.		X		n/a	n/a
3.	Is the quality system dependent upon process rather than product controls? ISO 9001-2008, Section 8.4.			X	80	60
4.	Is the capability of critical processes and machines measured and monitored with CPK's >1.5, and targeted with CP of 2.0? ISO 9001-2008, Sections 8.1 and 8.4.		X		n/a	n/a
5.	Are incapable processes or machines targeted for improvement or replacement? ISO 9001-2008, Section 8.5.1.			X	100	80
6.	Is SPC implemented for all critical processes? ISO 9001-2008, Section 8.1.			X	90	70
7.	Are procedures that control the reaction to out-of-control situations adequate and effective? ISO 9001-2008, Section 8.5.2.			X	100	100
8.	Are operators trained in the use of appropriate statistical techniques, and are they properly applying them? ISO 9001-2008, Section 6.2.2.		X		n/a	n/a
9.	Are advanced problem solving techniques used by engineers to solve problems? (Design of Experiments, planned experimentation, advanced diagnostic tools, etc.) ISO 9001-2008, Section 7.3.1.			X	50	50
10.	Are control charts and other process controls properly implemented? ISO 9001-2008, Section 8.1.			X	50	50
11.	Is statistical process control being practiced in work centers and are yields being recorded and plotted on a scheduled basis, with respect to upper and lower control limits? ISO 9001-2008, Section 8.1.			X	60	20

COMMENTS

5.11 We are phasing into a more process-based internal auditing model. It will consist of higher level process audits along with lower level audits of areas, departments and systems.

5.12 SPC processes have begun and are fully functional in some areas such as SMT, Process Engineers have been hired.

5.13 PROBLEM SOLVING		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM						
1.	Are employees trained in problem solving techniques, in comparison to the needs of the organization? ISO 9001-2008, Section 6.2.2.			X	100	100
2.	Does the organization utilize participative problem solving techniques to identify, measure and resolve internal and external problems? ISO 9001-2008, Section 8.1.			X	100	100
3.	Are problem solving efforts timely and effective? ISO 9001-2008, Section 8.1.			X	100	100
4.	Are applied resources sufficient to remove problem solving constraints?			X	100	100
5.	Are statistical techniques used for problem solving? ISO 9001-2008, Section 8.1.			X	60	30
6.	Is quality data used to identify barriers, and to determine the priority of problems? ISO 9001-2008, Section 8.1.			X	100	100
7.	Is there a policy/procedure that includes the use of problem solving techniques to systematically drive reduction in variability? ISO 9001-2008, Section 8.1.		X		n/a	n/a

5.14 IN-PROCESS CONTROL		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM						
1.	Are process capabilities established and maintained on all major processes? (critical parameters) ISO 9001-2008, Section 7.5.2.			X	80	80
2.	Are in-process inspections, test operations, and processes properly specified and performed? ISO 9001-2008, Section 7.5.2.			X	100	100
3.	Are in-process inspection facilities and equipment adequate? ISO 9001-2008, Sections 8.1 and 8.2.3 and 8.2.4.			X	100	100
4.	Are the results of in-process inspections used in the promotion of effective preventative action and corrective action? ISO 9001-2008, Sections 8.5.2 and 8.5.3.			X	100	100
5.	Is preventative maintenance performed on the equipment and facilities? ISO 9001-2008, Section 6.3.			X	100	100
6.	Are housekeeping procedures adequate and how well are they followed? ISO 9001-2008, Section 6.3.			X	100	100
7.	Are process management plans established, and are critical parameters followed? ISO 9001-2008, Section 7.1.			X	100	100
8.	Are work areas uncluttered and free of excess work-in-process, supplies, debris, etc? Is the environment conducive to producing quality work? Is proprietary information adequately protected? ISO 9001-2008, Section 6.3.			X	100	100
9.	Are certifications and in-process inspection results used in making final acceptance decisions? ISO 9001-2008, Section 8.2.4.			X	100	100
10.	Are methods and procedures for the control of metallurgical, chemical, and other special processes established and followed? ISO 9001-2008, Section 7.1.			X	100	100

COMMENTS

--

5.15 MATERIAL HANDLING		STATUS				
DESCRIPTION OF PROGRAM		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
1.	Are procured material releases from receiving inspection clearly identified, as to acceptance status? ISO 9001-2008, Sections 8.1 and 8.2.4.			X	100	100
2.	Are procedures to facilitate limited life materials, such as prepreg, in place, properly controlled, and monitored? ISO 9001-2008, Section 7.5.5.			X	100	100
3.	Are procured items identified with some means of traceability (serial number, lot number, date code, etc.)? ISO 9001-2008, Section 7.5.3.			X	100	100
4.	Are procedures and facilities adequate for storage, release and control of materials? ISO 9001-2008, Section 7.5.5.			X	100	100
5.	Are in-store and in-process materials properly identified and controlled? ISO 9001-2008, Section 7.5.3.			X	100	100
6.	Is in-process material protected from corrosion, deterioration, and damage? ISO 9001-2008, Section 7.5.5.			X	100	100
7.	Are ESD Policies and Procedures in place for handling electronic components? ISO 9001-2008, Section 7.5.5.			X	100	100

5.16 NON-CONFORMING MATERIAL CONTROL		STATUS				
DESCRIPTION OF PROGRAM		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
1.	Is non-conforming material identified, segregated from regular production material, and properly dispositioned? ISO 9001-2008, Section 8.3.			X	100	100
2.	Are non-conforming materials properly identified and controlled to prevent inadvertent use? ISO 9001-2008, Section 8.3.			X	100	100
3.	Is the review and disposition of non-conforming materials defined, and are provisions made for inclusion of the customer in disposition decision? ISO 9001-2008, Section 8.3.			X	80	80
4.	Are procedures for controlling non-conforming materials, and for ensuing corrective action, in place and followed? ISO 9001-2008, Section 8.3.			X	100	100
5.	Do procedures provide for material review by a committee consisting of Quality and Engineering (as a minimum), to determine the disposition of non-conforming materials? (deviating from drawings or specification) ISO 9001-2008, Section 8.3.			X	100	100
6.	Do supplier's procedures and controls for corrective action prevent recurrence of non-conformances? ISO 9001-2008, Section 7.4.			X	100	80
7.	Is there a system for coordinating necessary corrective action with purchasing personnel? ISO 9001-2008, Sections 7.4 and 8.5.2.			X	100	100
8.	Does the corrective action extend to all applicable causes of non-conformance (e.g., design, workmanship, procedures, equipment, etc.)? ISO 9001-2008, Section 7.4 and 8.5.2.			X	100	100

COMMENTS
5.17 2. Chemical Shelf Life Procedure in place, Supervisors perform monthly audit of expiration dates. 6. Employees are trained in Moisture Sensitive Device handling and the process is covered in the SMT SOP and the Stockroom Procedure. 7. ANSI/ESD S20.20-2007 is followed regarding ESD procedures. 5.16 1. Procedures for controlling non-conforming materials allow that Quality, Engineering and Purchasing to disposition material when required. 3. Dependant upon level of nonconformance and customer requirements regarding deviations.

5.17 INSPECTION AND TEST PLAN	STATUS				
--------------------------------------	---------------	--	--	--	--

DESCRIPTION OF PROGRAM		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
1.	Are statistical techniques used in determining the acceptability of finished goods to customer requirements? ISO 9001-2008, Section 8.1.			X	70	70
2.	Are periodic tests conducted to audit reliability and environmental performance of the final product? ISO 9001-2008, Section 8.1.			X	100	100
3.	Is CPK tracking performed for critical characteristics, with plans to achieve CPL = 1.5 with a target of CP of 2.0? ISO 9001-2008, Section 8.1.		X		n/a	n/a
4.	Is root cause failure analysis performed for internal and external failures, and is appropriate corrective action implemented? ISO 9001-2008, Section 8.5.2.			X	100	100
5.	Are test and inspection personnel trained in the procedures of their operations, and are those procedures being followed? ISO 9001-2008, Section 6.2.2.			X	100	100
6.	Is the new product/technology/service, as produced by the processes, verified to meet all customer satisfaction requirements? ISO 9001-2008, Section 7.2.1.			X	100	100

5.18 PRODUCT INSPECTION/FINAL AUDIT		STATUS				
DESCRIPTION OF PROGRAM		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
1.	Are final product acceptance procedures documented and followed? ISO 9001-2008, Section 8.2.4.			X	100	100
2.	Are all specific customer product audits conducted, as required? ISO 9001-2008, Section 8.2.4.			X	100	100
3.	Are inspectors trained for the tasks performed? ISO 9001-2008, Section 6.2.2.			X	100	100
4.	Are flow charts or milestones developed with checkpoints readily available? ISO 9001-2008, Section 8.1.			X	100	100
5.	Is a system in place which denotes inspection performed; e.g., use of initials, stamps, labels, bar codes, etc., affixed to production documentation? ISO 9001-2008, Section 8.2.4.		X		n/a	n/a
6.	Is a quality system established and maintained for control of product/production documentation? ISO 9001-2008, Section 4.2.3.			X	100	100
7.	Is "accept/reject" criteria defined and available for use? ISO 9001-2008, Section 8.2.4.			X	100	100
8.	Is a final audit performed to ensure that all required verifications and tests, from receipt of materials through point of product completion, have been accomplished? ISO 9001-2008, Section 8.2.4.			X	100	100
9.	Are packing and order checking procedures documented and followed? ISO 9001-2008, Sections 4.2.3 and 7.5.5.			X	100	100

COMMENTS
5.18 3. All inspectors are certified in IPC-A- 610D 5. Inspectors stamp product and/or documentation. 7. IPC standard is available to all employees. 8. A final inspection of all product is performed.

5.19 TOOLING INSPECTION, HANDLING, & STORAGE		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM						
1.	Are temperature, humidity, laminar flow controls in place to prevent contamination, and to assure dimensional stability? ISO 9001-2008, Section 7.5.1.			X	100	80
2.	Do operators use hairnets, gloves & lab coats in all sensitive assembly areas? ISO 9001-2008, Section 7.5.1.			X	100	100
3.	Are work instructions and related forms in place to control all applicable tooling requirements, as stated in the customer's purchase order? ISO 9001-2008, Section 4.2.3.			X	100	100
4.	Is customer provided tooling controlled with regard to handling, storage, and revision control? ISO 9001-2008, Section 7.5.4.			X	100	100
5.	Are production fixtures controlled with regard to handling, storage, use life, and relationship to customer purchase order? ISO 9001-2008, Section 7.5.1.			X	100	100
6.	Are customer-provided consignment materials inspected? ISO 9001-2008, Section 7.5.4.	X			n/a	n/a
7.	Are customer-provided consignment materials controlled with regard to handling, storage and MRP? ISO 9001-2008, Section 7.5.4.			X	100	100
8.	Are all tools, fixtures, and other devices, used for tooling inspection and control, maintained under the calibration control procedure? ISO 9001-2008, Section 7.6.			X	100	100
9.	Are records showing initial acceptance, periodic checks, and any needs for rework and/or modification available? ISO 9001-2008, Section 7.6.			X	100	100

5.20 CORRECTIVE ACTION		STATUS				
		Not Applicable	Not Started	Approach Developed	Percent Deployed	Percent Results
DESCRIPTION OF PROGRAM						
1.	Are final acceptance inspection results used for corrective and preventative action? ISO 9001-2008, Sections 8.5.2 and 8.5.3.			X	100	80
2.	Is root-cause analysis performed for non-conformances? This includes, but is not limited to, non-conformances (problems) caused by suppliers, found/caused "in-house" during processing, or those reported by the customer. ISO 9001-2008, Sections 8.3, 8.5.2 and 8.5.3.			X	100	100
3.	Is positive action taken to prevent recurrence of problems, and are there documented reports/records of each occasion? ISO 9001-2008, Section 8.5.3.			X	100	100
4.	Do procedures and systems provide for ensuring that replies are made to customer requests for correction action within the time limit specified? ISO 9001-2008, Section 8.5.2.			X	100	100
5.	Is corrective action controlled and documented for all applicable work centers? ISO 9001-2008, Section 8.5.2.			X	100	100
6.	When corrections are made, is their effectiveness subsequently reviewed and monitored? ISO 9001-2008, Section 8.5.2.			X	100	100

COMMENTS
<p>5.19</p> <p>1. Environmental controls such as full building air conditioning and heating is in place.</p> <p>2. Production floors are dissipative. ESD jackets are in 100% use as well as heel and wrist straps which are tested regularly. Gloves and finger cots are used when necessary.</p> <p>5.20</p> <p>2. The system captures all nonconformances and root cause analysis is performed when warranted as determined by Quality.</p> <p>6. Corrective actions are verified before officially closed by Quality.</p>

SECTION 6

DATE COMPLETED 11/2/10	HISTORY # 1
---------------------------	----------------

MANUFACTURING HISTORY (See Section 2 Site Capability)(Should represent 70% of your business)

Please complete as many history profiles so that the total descriptions of products you manufacture account for production orders that reflect 70% of your business. History profiles are for assembly type families (assembly types may be grouped together if they are similar).

ASSEMBLY TYPE IC	DATE OF ORDER 2000	COMPONENT DENSITY 75%
BOARD TYPE Rigid	PRODUCTION QUANTITY 30,000	TOTAL YEARLY PRODUCTION % 30K 5%

LEGEND	
A = BOARD/PANEL	C = ASSEMBLY
B = COMPONENTS	D = TEST

CHECK ALL THAT APPLY (Dimensions are in millimeters, inches are in brackets)

A	BOARD SIZE (ACROSS DIAGONAL)	<input checked="" type="checkbox"/> <250 [10.00]	<input checked="" type="checkbox"/> 250 [10.00]	<input checked="" type="checkbox"/> 350 [14.00]	<input checked="" type="checkbox"/> 450 [17.50]	<input checked="" type="checkbox"/> 550 [21.50]	<input checked="" type="checkbox"/> 650 [22.50]	<input type="checkbox"/> 750 [29.50]	<input type="checkbox"/> 850 [33.50]	<input checked="" type="checkbox"/> >850 [33.50]
	SURFACE MOUNT MAXIMUM WORKING AREA	<input type="checkbox"/> <300 CM ² [50 IN ²]	<input type="checkbox"/> 300 CM ² [50 IN ²]	<input type="checkbox"/> 600 CM ² [100 IN ²]	<input checked="" type="checkbox"/> 1000 CM ² [160 IN ²]	<input type="checkbox"/> 1500 CM ² [230 IN ²]	<input type="checkbox"/> 2100 CM ² [330 IN ²]	<input type="checkbox"/> 2800 CM ² [430 IN ²]	<input type="checkbox"/> 3600 CM ² [550 IN ²]	<input type="checkbox"/> >3600 CM ² [550 IN ²]
	MAXIMUM THROUGH-HOLE WORKING AREA	<input type="checkbox"/> <300 CM ² [50 IN ²]	<input type="checkbox"/> 300 CM ² [50 IN ²]	<input type="checkbox"/> 600 CM ² [100 IN ²]	<input checked="" type="checkbox"/> 1000 CM ² [160 IN ²]	<input type="checkbox"/> 1500 CM ² [230 IN ²]	<input type="checkbox"/> 2100 CM ² [330 IN ²]	<input type="checkbox"/> 2800 CM ² [430 IN ²]	<input type="checkbox"/> 3600 CM ² [550 IN ²]	<input type="checkbox"/> >3600 CM ² [550 IN ²]
B	THROUGH HOLE INSERTION	<input checked="" type="checkbox"/> Two Leaded-Axial	<input checked="" type="checkbox"/> Two Leaded-Radial	<input checked="" type="checkbox"/> Multiple Leaded ≤6 - Radial	<input checked="" type="checkbox"/> Single-In-Line Packages-SIPS	<input checked="" type="checkbox"/> Dual In-line pkgs (DIPS) ≤24 PION	<input checked="" type="checkbox"/> Dual In-line pkgs (DIPS) >24 PION	<input checked="" type="checkbox"/> Pin Grid Arrays (PGA's)	<input checked="" type="checkbox"/> Component Sockets	<input checked="" type="checkbox"/> Card Edge/Two Piece Connect.
	SURFACE MOUNT PLACEMENT	<input checked="" type="checkbox"/> Chip Resistors/ Cap. (Reel)	<input checked="" type="checkbox"/> Chip Resistors/ Cap. (Bulk)	<input checked="" type="checkbox"/> Tantalum Capacitor	<input checked="" type="checkbox"/> Metal Faced Comp. (MELFS)	<input checked="" type="checkbox"/> Sm. Outline Diodes (SODS)	<input checked="" type="checkbox"/> Sm. Outline Transistors-SOTS	<input checked="" type="checkbox"/> Sm. Outline IC's (SOIC's)	<input checked="" type="checkbox"/> Var. Resistor Trim Pots	<input checked="" type="checkbox"/> Surf. Mt. Sockets /Test Pts.Con.
	HIGH PIN COUNT	<input type="checkbox"/> Chip-on-Tape (Molded ring) >0.4mm pitch	<input type="checkbox"/> Chip-on-Tape (Molded ring) ≤0.3mm pitch	<input checked="" type="checkbox"/> Quad Flat Pack (QFP) ≤0.4mm pitch	<input checked="" type="checkbox"/> Quad Flat Pack (QFP) ≤0.3mm pitch	<input checked="" type="checkbox"/> Shrink Quad Flat Pack (SQFP)	<input checked="" type="checkbox"/> Thin Small Out-line Pkg. (TSOP)	<input checked="" type="checkbox"/> Ball/Post Grid Array >1.0mm pitch	<input checked="" type="checkbox"/> Ball/Post Grid Array ≤1.0mm pitch	<input checked="" type="checkbox"/> Land Grid Array Any Pitch
	BARE CHIP ATTACHMENT	<input type="checkbox"/> Thermal Wire Bonding	<input type="checkbox"/> Ball Bonding	<input type="checkbox"/> Ultrasonic Wire Bonding	<input type="checkbox"/> Beam Lead Chip Bonding	<input type="checkbox"/> Generic Tape Automated Bond.	<input type="checkbox"/> Custom Tape Automated Bond.	<input checked="" type="checkbox"/> Flip Chip Ceramic /Glass Based	<input checked="" type="checkbox"/> Flip Chip on Rigid Printed Boards	<input type="checkbox"/> Flip Chip on Flex Circuit Boards
C	ATTACHMENT TECHNIQUES	<input checked="" type="checkbox"/> Hand Soldering	<input checked="" type="checkbox"/> Hot Bar Soldering	<input checked="" type="checkbox"/> Focused Hot Air Soldering	<input checked="" type="checkbox"/> Wave Soldering	<input checked="" type="checkbox"/> IR Reflow Soldering	<input type="checkbox"/> Vapor Phase Soldering	<input checked="" type="checkbox"/> Hot Air Con-vection Soldering	<input type="checkbox"/> Laser Soldering	<input type="checkbox"/> Conductive Adhesive Attach.
	CLEANING AND CLEANLINESS TESTING	<input checked="" type="checkbox"/> No Clean/Never Clean System	<input type="checkbox"/> Aqueous Clean. In-line System	<input checked="" type="checkbox"/> Aqueous Clean. Static Soak	<input type="checkbox"/> Modified Solvent clean. In-line	<input type="checkbox"/> Modified Solvent clean. static soak	<input type="checkbox"/> Ultrasonic agitation cleaning	<input type="checkbox"/> Ionic Salt /ResidueTest	<input type="checkbox"/> Organic Contami-nate Impreg. test	<input type="checkbox"/> Surface Insul. Resist. (SIR) Test
	COATING AND ENCAPSULATION	<input type="checkbox"/> Bare Die-Glob Top	<input type="checkbox"/> Bare Die-Total Assembly	<input type="checkbox"/> Asbly (1-2 sides) Epoxy coat	<input type="checkbox"/> Asbly (1- 2 sides) Polyurethane coat	<input checked="" type="checkbox"/> Asbly (1-2 sides) Acrylic coating	<input type="checkbox"/> Asbly (1- 2sides) vacuum Dep coat	<input type="checkbox"/> Encap. Exterior Access (Test)	<input type="checkbox"/> Encap. Ex-access (Tuning)	<input type="checkbox"/> Encapl. Entire asbly. (Thin Coat)
D	TEST TYPE	<input type="checkbox"/> Automatic Test Generation	<input checked="" type="checkbox"/> X-Ray Joint Evaluation	<input checked="" type="checkbox"/> Cleanliness Testing	<input type="checkbox"/> Auto in-circuit Electronic Asbly	<input type="checkbox"/> Electromagnetic Interference	<input checked="" type="checkbox"/> Auto function Electronic Asbly	<input checked="" type="checkbox"/> System Level Test Electrical	<input checked="" type="checkbox"/> System Level Test Function	<input checked="" type="checkbox"/> System Level test environmental
	NO. TEST VECTORS	<input type="checkbox"/> <500	<input type="checkbox"/> 500	<input type="checkbox"/> 1000	<input type="checkbox"/> 2000	<input checked="" type="checkbox"/> 3000	<input type="checkbox"/> 4000	<input type="checkbox"/> 5000	<input type="checkbox"/> 6000	<input type="checkbox"/> >6000
	ENVIRONMENTAL STRESS SCREENING	<input checked="" type="checkbox"/> Burn-in at Temperature	<input checked="" type="checkbox"/> Burn-in with Temp. Cycling	<input checked="" type="checkbox"/> Burn-in Hi Temp. Cycles	<input type="checkbox"/> Burn-in w/temp. cycles hi-hum	<input checked="" type="checkbox"/> Power Cycling On-Off	<input type="checkbox"/> Vibrations Testing	<input type="checkbox"/> Shock Test	<input type="checkbox"/> Salt Spray Testing	

SECTION 7

DATE COMPLETED

11/2/10

IDENTIFICATION OF PREVIOUS AUDITS (Optional)

COMPANY AUDITORS Orion Registrar	DATE OF AUDIT Nov. 4 th & 5 th 2010
AUDIT TEAM MEMBERS Dave Bennett	AUDITOR REMARKS 2 minors, 1 Major (escalated from a minor)
	SPECIFICATIONS USED IN AUDIT ISO 9001:2008, ISO 13485:2003
LENGHT OF AUDIT 2 Days	
TEAM MEMBERS MAY BE CONTACTED AT dbennett@orion4value.com	
COMPANY AUDITORS NYAB	DATE OF AUDIT Oct 6 th & 7 th
AUDIT TEAM MEMBERS Rick Berry	AUDITOR REMARKS Various improvement opportunities
	SPECIFICATIONS USED IN AUDIT IRIS, ISO 9001:2008
LENGHT OF AUDIT 2 days	
TEAM MEMBERS MAY BE CONTACTED AT	
COMPANY AUDITORS NetApp/ ATTO	DATE OF AUDIT May 13 th , 2010
AUDIT TEAM MEMBERS William Jones	AUDITOR REMARKS Opportunities for Improvements & Remarks
	SPECIFICATIONS USED IN AUDIT ISO 9001:2008
LENGHT OF AUDIT 1 day	
TEAM MEMBERS MAY BE CONTACT AT 716.691.1999 ext.132	
COMPANY AUDITORS Phoenix Contact	DATE OF AUDIT April 13 th & 14 th , 2010
AUDIT TEAM MEMBERS Peter Muller, Jeremy Newell	AUDITOR REMARKS 1 minor nonconformance
	SPECIFICATIONS USED IN AUDIT ISO 9001:2008
LENGHT OF AUDIT 2 days	
TEAM MEMBERS MAY BE CONTACT AT 717-944-1300 ext. 3632	

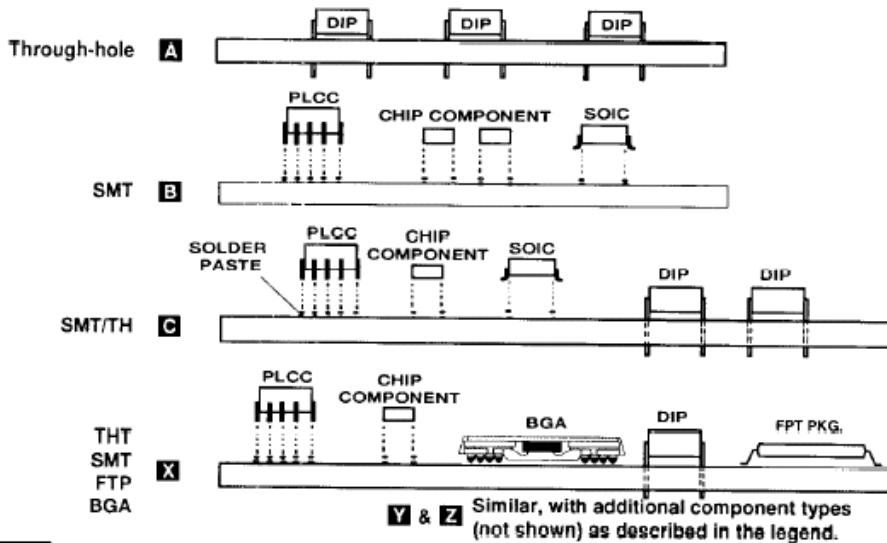
Please complete as many forms as you feel reflect the intensity of your customer visits.

*REPEAT THIS FORM AS NECESSARY

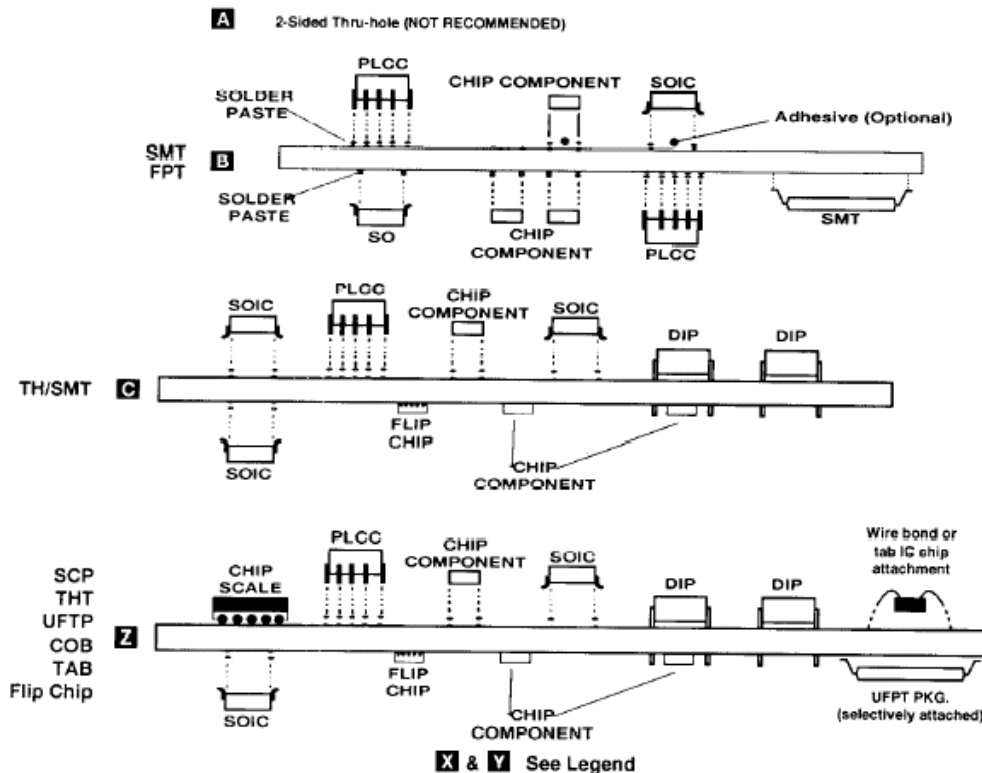
SECTION 10.1

PRODUCT TYPE DESCRIPTION

Type 1 Components (mounted) on only one side of the board



Type 2 Components (mounted) on both sides of the board



Legend:

- Class A = Through-hole component mounting only
- Class B = Surface mounted components only
- Class C = Simplistic through-hole and surface mounting intermixed assembly
- Class X = Complex intermixed assembly, through-hole, surface mount, fine pitch BGA
- Class Y = Complex intermixed assembly, through-hole, surface mount, ultra fine pitch, chip scale
- Class Z = Complex intermixed assembly, through-hole, ultra fine pitch, COB, flip chip, TAB