

Panasonic

Panasonic Avionics Corporation

“Corporate Quality Management”

SUPPLIER QUALITY ASSURANCE REQUIREMENTS

“SQAR”

Revision: Q

September 14, 2010

Panasonic Avionics Corporation

LF Document Control Released

Rev. Q

Date 09-16-10

Initials _____



WHEN PRINTED, THIS DOCUMENT BECOMES AN UNCONTROLLED COPY

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 2 of 18
---------------------------------	---	---

REV	DATE	DESCRIPTION	SECTION/PAGE	AUTHOR	MANAGER
NEW	7/3/06	Initial Release (Replacing SQAR-2 & -3)	N/A	Peter Shaybani	Sandra Stipp
A	8/11/06	Added EN to AS9100; Added note about suppliers outside of USA.	Sec. 3/P. 4	Peter Shaybani	Sandra Stipp
	8/11/06	Modified Paragraph to include EASA requirements.	Sec. 10/P. 5	Peter Shaybani	Sandra Stipp
	8/11/06	Added paragraph for non-USA seller may provide EASA form1 instead of C of C as long as it contains all required data.	Sec. 20/P. 7	Peter Shaybani	Sandra Stipp
	8/11/06	Added All USA based Panasonic Avionics Suppliers instead of All Panasonic Avionics Suppliers	Sec. 23/P. 8	Peter Shaybani	Sandra Stipp
B	9/29/06	Rewrote Sec. 23 in its entirety.	Sec.23/P. 8	Sandra Stipp	Sandra Stipp
C	1/4/07	Added additional requirements	Sec. 7/P. 5	Peter Shaybani	Sandra Stipp
D	1/31/07	Per request from PAC Bothell Repair Station: Changed 14 CFR Part 121.303 (H) FAA" Fabrication: Inspection Systems Requirements" to 14 CFR Part 121.303 FAA" Operating Requirements: Airplane Instruments & Equipment". Changed 14 CFR Part 145.45 FAA" Repair Stations: Inspection System Requirements" to 14 CFR Part 145.217 FAA" Repair Stations: Contract Maintenance"	Sec. 3/P. 4	Peter Shaybani	Sandra Stipp
E	2/17/07	Added RSACM, Repair Station and Quality Control Manual Added NAA, National Aviation Authority Re-wrote parts of the paragraph.	Sec. 3/P. 4 Sec. 3/P. 4 Sec. 23/P. 8	Peter Shaybani	Sandra Stipp
F	9/12/07	Formatted Scope Revised & added paragraphs 5.3, 5.4, 5.6, 5.7 to Prohibited Practices Formatted Responsibility for product conformance Revised & added paragraph 7.6 to seller's Records Revised Right of Entry & added EASA and NAA Formatted Source Inspection Formatted inspection & calibration system Formatted Age & Shelf Life Sensitive Items Formatted Panasonic Furnished Equipment Formatted Acceptable Signatures Formatted Product realization Formatted First article Inspection Formatted Product Safety Design Requirements Formatted Test Equipment Safety Certification Formatted Certification & Test Reports Formatted Packaging Formatted & upgraded CAPA Added Change of Charges (COC)	Sec. 2/P. 5 Sec. 5/P.6 Sec. 6/P.6 Sec. 7/P.6-7 Sec. 8/P. 7 Sec. 9/P.7 Sec. 10/P.7 Sec. 11/P.7 Sec. 12/P.8 Sec. 13/P.8 Sec. 15/P.8 Sec. 17/P.8 Sec. 18/P.9 Sec. 19/P.9 Sec. 20/P.9 Sec. 21/P.10 Sec. 22/P.10 Sec. 23/P.11 Sec. 24/P.11	Peter Shaybani	Sandra Stipp

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 3 of 18
---------------------------------	---	---

		Added Annual Internal Quality Audit Added Annual Management Review Added Language Moved FAA Drug & Alcohol Program Compliance	Sec. 25/P.11 Sec. 26/P.11 Sec. 27/P.11		
G	1/15/08	Added EN/AS9102 requirements	Sec.17.1/P. 9	Peter Shaybani	Sandra Stipp
H	4/4/08	Added details for clarity	All sections	Peter Shaybani	Sandra Stipp
I		Intentionally Not Used			
J	7/2/08	Revised the Control of Prohibited Substances to be in compliance with "Chemical Substances Management Rank Guidelines, Version 5 (For Products) & added reference to this guideline. Revised Title to Sec. 21 and added Secs. 21.7 & 21.8	Sec. 3/P.6 Sec. 21/P.12 Sec. 30/P.14	Sandra Stipp	Sandra Stipp
K	7/22/08	Added Para. 29.2 regarding the requirement of the MSDS sheet.	Sec.29/P. 24	Sandra Stipp	Peter Shaybani
L	10/17/08	Added "corporate quality management" name, Added 4.2: Quality right to contact Sellers Added 6.6: Advance notice of escape to PAC	Title pages Sec. 4/P. 6 Sec. 6/P. 7	Peter Shaybani	Stefan Suri
M	3/3/09	Added 29.3: Gp-Web Added 23.4: Supplier Green ranking Added Revised table 30	Sec. 29/P. 15 Sec. 29/P. 16 Sec. 30/P. 16	John Hernandez	Peter Shaybani
N	7/23/09	Added 6.7, Special Processes per customer request, CAPA# B-09-777	Sec. 6/P. 7	Chris Pruett	Peter Shaybani
P	2/2/10	Added 6.8, Supplier requirements for reporting safety incidents with definitions	Sec. 6/P. 7	Chris Pruett	Peter Shaybani
Q	9/14/10	Added 29.6 Revised table 30	Sec 29/P. 15 Sec 30/P. 16	John Hernandez	Peter Shaybani

Approved By: Quality Engineer – John Hernandez 	Date: 9/16/10
Approved by: Supervisor, CQM - Peter Shaybani 	Date: 9/16/10

Panasonic Avionics Corp. provides this information in confidence. Public release of this information could be harmful to Panasonic Avionics. Any intention to disclose such information, or part thereof, must be agreed in advance by the Legal Department of Panasonic Avionics. The information and technical data herein are the exclusive property of Panasonic Avionics, or contain proprietary rights of others and are not to be used or disclosed to others without the written consent of Panasonic Avionics. The recipient of this document, by its retention and use, agrees to hold in confidence the information and technical data contained herein. The foregoing will not apply to persons having proprietary rights to such information and technical data to the extent that such rights exist.

<u>Index</u>	<u>Page</u>
1. Purpose.....	5
2. Scope	5
3. References.....	5
4. Communications.....	6
5. Prohibited Practices.....	6
6. Responsibility for Product Conformance.....	7
7. Seller’s Records.....	7
8. Right of Entry.....	8
9. Source Inspection.....	8
10. Calibration & Inspection System.....	8
11. Age & Environmental Sensitive Materials.....	9
12. PAC Furnished Equipment & Property.....	9
13. Acceptable Signatures.....	10
14. Contamination & Damage Control.....	10
15. Product Serialization.....	10
16. Qualified Parts.....	10
17. First Article Inspection.....	10
18. Product Safety Design Requirements.....	11
19. Test Equipment Safety Certification.....	11
20. Certifications & Test Reports & Certifications.....	12
21. Packaging and Labeling	12
22. Corrective & preventive Action (CAPA).....	13
23. Change of Charges (COC)	14
24. Annual Internal Audit	14
25. Annual Management Review	14
26. Language	15
27. FAA Anti-Drug & Alcohol Misuse Prevention Program.....	15
28. Environmental Management System.....	15
29. Environmental/Chemical Substances Management.....	15
30. Table of Controlled Substances.....	16

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 5 of 18
---------------------------------	--	---

1. PURPOSE

- 1.1 This document establishes “Quality Assurance” requirements for Purchase Orders issued by Panasonic Avionics Corp (PAC), also referred to as Buyer, to all suppliers, also referred to as Seller.
- 1.2 Sellers & their Sub-Tier Suppliers shall comply with all Purchase Order requirements & its referenced documents.
- 1.3 Seller shall flow down the requirements to its sources.

2. SCOPE

- 2.1 All documents including drawings and specifications, whether issued by Panasonic Avionics Corp, Industry, Government or Panasonic Avionics Corp’s Customers, are considered part of the Purchase Order requirements, when specified or referenced.
- 2.2 The revisions of documents are effective as of Purchase Orders issue dates.
- 2.3 Seller is responsible for Certification of all Off-The-Shelf & Catalogue items, including testing equipments, to meet Quality & Safety requirements.

3. REFERENCES

- 3.1 Seller is responsible to obtain all Non-Panasonic Avionics Corp’s documents at own cost, as required to their applicable “Products/Services/Processes”.

3.2 **Associated Documents:**

Document ID#	Document Name
ISO 9000	Quality Management Systems – Fundamentals and Vocabulary
ISO 9001:2000	Quality Management Systems- Requirements
ISO/IEC 17025	General requirements for the Competence of Testing and Calibration Laboratories
ISO 19011	Guidelines for Quality and/or Environmental Management Systems Auditing
	ISO/IEC 9003 Software Engineering – Guidelines for the Application of ISO9001:2000 to Computer Software
ISO 14001	Environmental Management Systems- Requirements
AS9100	Quality Management Systems- Aerospace – Requirements
AS9102	(R) Aerospace- First Article Inspections – Requirement
AS9110	Quality Maintenance Systems- Aerospace - Requirements for Maintenance Organizations
AS9120	Quality Management Systems- Aerospace – Requirements for Stock list Distributors
AS9006	Quality Management Systems – Aerospace – Requirements for Software

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 6 of 18
---------------------------------	--	---

ATA Specification 300	Specification for Packaging of Airline Supplies
14 CFR Part 121.303	FAA "Operating Requirements: Airplane Instruments & Equipment" (FAA Standards & Handbook)
14 CFR Part 145.217	FAA "Repair Stations: Contract Maintenance" (FAA Standards & Handbook)
14 CFR Part 145.223	FAA "Repair Stations: FAA Inspections" (FAA Standards & Handbook)
P-QSM	Panasonic Avionics Corporation PAC AS9100 Quality System Manual
BLO-QOP-06-08	Supplier Quality Management
BLO-QOP-22-01	Panasonic Avionics' Product Safety Design Standard
BLO-QOP-22-02	Panasonic Avionics' Product Safety Checklist
BLO-QOP-22-05	Panasonic Avionics' Handling Process for Failures and Malfunctions Compromising Product Integrity
Matsushita Group	Chemical Substances Management Rank Guidelines, Version 5 (For Products)

3.3 Seller shall have a Quality Management System registered to the ISO 9001 or AS9100 standards or meet the intent & be compliant to the requirements of ISO 9001 or AS9100 standards.

3.4 Sellers located outside of USA, in place of Federal Aviation Administration (FAA) requirements, shall be compliant to European Aviation Safety Agency (EASA) & applicable National Aviation Authority (NAA)/Civil Aviation Authority (CAA) requirements.

4. COMMUNICATIONS

4.1 All communications related to the fulfillment of Purchase Order(s) shall be carried out through the Panasonic Avionics Corp's Procurement office which places the Purchase Order(s).

4.2 PAC's Quality reserves the right to contact Sellers and Sellers' sub-tier Suppliers, per agreement of the Seller, for all quality related questions, issues, request for failure analysis, corrective/preventive actions or any other quality related concerns.

5. PROHIBITED PRACTICES

5.1 Seller shall not make design & product changes, substitutions or repairs, regardless of Design being controlled by Panasonic Avionics or the Seller, unless otherwise approved by Buyer in writing.

5.2 Seller shall not make any changes in facility(s) location(s), size & manufacturing processes unless the Buyer has been informed in writing prior to changes. This does not apply to clerical changes such as correcting errors on documents.

5.3 Seller shall not implement any changes to their Quality Management System, including changes to the Quality Control system that may affect the inspection, conformity or airworthiness of the product, unless the buyer has been notified in writing & approved by Buyer prior to the changes.

5.4 Seller shall not subcontract or relocate any work to outside of USA until a written permission is issued by Buyer. Seller's declaration of intention shall include subcontractor's name, address, telephone number, name of Quality Manager (or designee), part name(s) & part number(s) affected by the change.

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 7 of 18
---------------------------------	--	---

- 5.5 Steel Stamping and Vibro-Engraving identification methods are prohibited except on nameplates or attached metal tags, unless permitted by drawing.
- 5.6 Seller shall not sell or transfer any excess inventory of Panasonic Avionic Corp to a third party without prior written permission of the Buyer. Seller is held responsible for strict control of Buyer's inventory.
- 5.7 Seller shall not procure products & services from unapproved sources.
- 5.8 Inspections & Audits shall not relieve Sellers & their Sub-Tiers of any issues associated with their products/services.

6. RESPONSIBILITY FOR PRODUCT CONFORMANCE

- 6.1 Sellers & their sub-tier supplier(s) shall be responsible for Quality, Reliability & Safety of their products/services to meet all Form, Fit, Function, Industry and Regulatory requirements for PAC's parts/products, without compromising airworthiness safety and reliability of our In-Flight Entertainment (IFE) products & services.
- 6.2 Seller shall establish a "Purchasing" system according to, or as a minimum, compliant to ISO9001 or AS9100, clause 7.4, requirements.
- 6.3 Seller shall establish a "Purchasing Process" according to, or as a minimum, compliant to ISO9001 or AS9100, clause 7.4.1, requirements for management of its suppliers.
- 6.4 Seller shall maintain an updated register of its approved suppliers.
- 6.5 Seller shall have an established procedure with verifiable documents for selection, evaluations (Audits), approvals, periodical performance reviews, corrective and preventive action history, maintenance and disapprovals of its registered suppliers.
- 6.6 Seller shall have an established procedure, and require their sub-tier suppliers as well, for advance notification of PAC for escaped nonconforming products and make arrangements for PAC approval of Seller's nonconforming material.
 - 6.6.1 The advance notification of escape to PAC shall, by Seller &/or its sub-tier, happen immediately upon discovery of the non-conformity.
 - 6.6.2 The advance notification shall include details of product information, nature of nonconformity, certain manufacturing date, lot & part traceability information to the point of Origin, containment plan and actions in all locations & en route.
- 6.7 Seller shall use customer approved sources for any special processes called out or referenced on any specification, drawing, sub-level drawing or other referenced technical data.
- 6.8 Original Equipment Manufactures and Maintenance Service Providers shall inform Panasonic Avionics of safety incidents as defined in **BLO-QOP-22-05 and definitions stated below**, Handling Process for Failures and Malfunctions Compromising Product Integrity, discovered during the repair/maintenance of Panasonic Avionics products.
 - 6.8.1 Repair/Maintenance of any product identified with a safety related failure as defined by the below alert factors shall be stopped and the unit shall be quarantined for root cause analysis and corrective/preventive measures.

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 8 of 18
---------------------------------	---	---

6.8.1.1 **Definitions/Alert factors:**

6.8.1.1 Product Integrity – The assurance that PAC product does not compromise personal safety and/or equipment safety

6.8.1.2 Product Incident – In this context means any incident that indicates a product may or could be unsafe. Potential incidents to be reported may be determined by the following alert factors.

- 6.8.1.2.1 Personal injury of any nature or death;
- 6.8.1.2.2 Fire
- 6.8.1.2.3 Smoke emanating from, in, or on a product
- 6.8.1.2.4 Electrical shock
- 6.8.1.2.5 Visible sparking from or in a product
- 6.8.1.2.6 Explosion or implosion of a product
- 6.8.1.2.7 Leakage of any chemical substances from a product
- 6.8.1.2.8 Unusual wearing of, deterioration of, or stress upon a product or any component of a product
- 6.8.1.2.9 Accumulation or circulation of toxic or noxious gases
- 6.8.1.2.10 Emission of X-ray radiation, Ultra Violet Rays, Infrared Rays and Radio Frequency Energy
- 6.8.1.2.11 Evidence of burnt or charred components
- 6.8.1.2.12 A condition which, in the opinion of the person initially receiving a report or learning of the incident or potential defect leads to the belief that there could be an event or defect that could involve a safety problem.

6.8.2 PAC Repair Shop personnel shall be informed of the safety related failure so a Material Defect/Customer Complaint Report (MDCCR) can be issued to the Product Safety Officer (PSO) per WI-22-05-05 Repair Shop Procedure for Safety Related Damage of Customer Units.

6.8.3 A Tear Down Report (TDR) shall be issued to PAC PSO identifying the safety related failure including detailed photos, root cause, corrective and preventive action before the unit is processed for normal repair and return to service.

6.8.4 The Panasonic Avionics' PSO shall disposition the unit after the TDR is issued and deems the incident closed.

7. SELLER'S RECORDS

- 7.1** Unless otherwise approved by Buyer in writing, Seller shall retain all required records for a minimum of Twenty (20) years after completion of the last installation of parts/services or the life of the Aircraft, whichever time period is longer as objective evidence of conformance to Purchase Order requirements.
- 7.2** The record retention requirement applies to all Suppliers that have accepted a Purchase Order from Panasonic Avionics Corp at anytime.
- 7.3** The related documents & records, included but not limited to, are Design, Procurement, Resources, Materials, Manufacturing, Testing, Processing, Inspection, Audits, Preservation of Products, packaging, Shipping Certificates and records of Seller's sub-tier suppliers.
- 7.4** If a seller is no longer holding "Approved" status with the Buyer, all above mentioned documents shall be submitted to Panasonic Avionics' Global Supplier Quality department upon termination of business relationship within Thirty (30) days or sooner, depending on urgency of the request.
- 7.5** Seller's record retention system shall include appropriate controls at Seller's sub-tier sources, showing the date, lot #, serial number, revision letter, or other positive identifications that provide objective evidence of incorporation of all changes in product(s) & process(s). Such records shall be subject to verification by Buyer and shall be available to the Buyer for review upon request.

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 9 of 18
---------------------------------	--	---

- 7.6 Seller's shipping records shall include packing slip, certification of conformance which can be included as part of the packing slip, evidence of Seller's product acceptance and all purchase order requirements.
- 7.7 Based on written mutual agreement, Buyer can maintain the records for Seller, if Seller is unable to hold the records for the minimum requested retention time.

8. RIGHT OF ENTRY

- 8.1 The Seller & its sub-tier suppliers shall allow representatives of Panasonic Avionics Corp, the Federal Aviation Administration (FAA), European Aviation Safety Agency (EASA), National Aviation Authority (NAA), other regulatory agencies approved by PAC and PAC's customers to conduct Audits and also verify the quality of work, records and materials at the Seller & its sub-tier suppliers' location(s).
- 8.2 Use of Buyer specified sub-tier sources does not relieve the Seller of compliance to all applicable technical and quality requirements for products/services provided to PAC.

9. SOURCE INSPECTION

- 9.1 If applicable to product(s) & agreed by Buyer & Seller in advance, Seller shall notify Buyer of the time the product will be ready for in-process &/or final source inspection at Seller's facility.
- 9.2 Seller's measuring, testing or any other required equipment(s)/tool(s), facilities, and personnel shall be made available for use by Buyer's representative when requested during source inspection.

10. CALIBRATION & INSPECTION SYSTEM

- 10.1 Seller shall establish a documented calibration procedure in according to, or as a minimum, compliant to ISO9001 or AS9100 requirements, clause 7.6, for "Control of Monitoring and Measuring Devices".
- 10.2 Seller shall maintain a register of its monitoring & measuring devices.
- 10.3 Seller shall define the Calibration process by including the details of equipment type, identification number, locations of usage, frequency of checks, calibration methods, environmental conditions, acceptance criteria, record keeping & retention time.
- 10.4 Seller shall implement an established Inspection system, receiving through final, according to, or as a minimum, compliant to ISO9001 or AS9100 requirements, customer specifications & applicable industry standards without compromising airworthiness safety and reliability of PAC's In-Flight Entertainment (IFE) products & services.
- 10.5 If Seller is certified to EASA / FAA PART 145 &/or EASA / FAA PART 21 &/or similar regulatory agencies, Seller shall establish and maintain an inspection system according to the requirements of its applicable agency.

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 10 of 18
---------------------------------	--	--

- 10.6** Seller shall keep all inspections & calibration records available for evaluation (Audit) by PAC, PAC's customers & PAC's regulatory agencies.

11. AGE & ENVIRONMENTAL SENSITIVE MATERIALS

- 11.1** Seller shall establish a documented & verifiable procedure according to, or as a minimum, compliant to ISO9001 or AS9100 requirements, clause 7.5.5 "Preservation of Product", for identification, handling, packaging, storage & protection of raw materials & products.
- 11.2** As applicable to Seller's products, Seller shall systematically control time, temperature, environmentally sensitive & hazardous Materials within a defined acceptable range that will include any "special" storage or handling conditions, when required.
- 11.3** For materials with limited shelf-life, Seller shall show on each container and also on the certificate, the cure or manufacturing date, expiration date or shelf life & lot's batch number.
- 11.4** It is Seller's responsibility to assure that upon delivery age sensitive materials to Panasonic Avionics Corp, the materials will have 90% of their remaining shelf life as a minimum.

12. PAC FURNISHED EQUIPMENT & PROPERTY

- 12.1** Seller shall be responsible for ascertaining the accuracy and stability of Panasonic Avionics furnished equipment used for product acceptance.
- 12.2** Panasonic Avionics furnished equipment for product acceptance shall be periodically re-inspected and calibrated to assure continued accuracy, at Seller's cost & according to Seller's Quality system.
- 12.3** Seller shall document, identify & protect Panasonic Avionics' property. Seller shall be responsible for loss or damage.
- 12.4** PAC's property also includes, but not limited to, intellectual property, furnished information & data for design, production, testing & inspection.

13. ACCEPTABLE SIGNATURES

- 13.1** Only actual signatures rendered in ink by the signing official, a facsimile of an actual signature, or a machine or computer graphics generated facsimile signature are acceptable to Buyer.
- 13.2** Seller may use a quality inspection stamp in lieu of a signature, providing such stamp(s) identify the Seller and the Seller's authorized individual to whom the stamp is assigned, and that the issue, use and control of such stamp(s) are governed by Seller's documented procedures.
- 13.3** For computer generated certifications, Seller shall establish a documented system for control of certifications that do not bear original signatures or where name(s) of authorized official(s) are computer generated. This system may be verified on-site by Buyer's quality representative.

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 11 of 18
---------------------------------	---	--

14. CONTAMINATION & DAMAGE CONTROL

- 14.1 Seller shall provide materials, parts, and products free of any contamination, damage or objects not listed on the drawings &/or specifications.

15. PRODUCT SERIALIZATION

- 15.1 As applied to Line Replaceable Units (LRU), for items such as Arms, Handsets and Cord Reels, Video Control Centers (VCC), Cradles, Retracts, Keyboards, Floppy Disk Drives, Card Readers and Thermal Printers, there shall be Serial Numbers assigned by Seller, applied on all products, and recorded on all applicable documentation by Seller.
- 15.2 The assigned serial numbers shall not be altered or duplicated or replaced without prior written authorization from Buyer.

16. QUALIFIED PARTS

- 16.1 Unless otherwise approved by Buyer in writing, Seller shall furnish only items specified on the Purchase Order issued by Buyer.

17. FIRST ARTICLE INSPECTION

- 17.1 Concurrent with delivery of first production product(s) and First Article sample(s), seller shall provide a First Article Inspection Report documenting the results of Seller's First Article Inspection &/or Test of the product and each sub-tier component *in* accordance with EN/AS9102, including First Article Inspection results of all sub-tier builds and components.
- 17.2 First Article Inspection results shall also be accompanied (as applicable) with relevant test results of product(s).
- 17.3 Buyer's inspection and acceptance of First Article product is required prior to delivery of First of Model to Buyer or any subsequent change that invalidates the previous first article inspection result.
- 17.4 Buyer reserves the right to accept or reject the First Article Inspection report.
- 17.5 Each First Article product shall be completely processed per Purchase Order and clearly identified as a First Article sample.
- 17.6 As applicable to the product(s), Seller shall notify Buyer sufficiently in advance for source inspection so that inspection of the First Article with proper documentation can be scheduled at Seller's facility prior to the Purchase Orders' specified delivery due date.
- 17.7 Buyer may waive the On-Site participation of First Article Inspection at Seller's facility
- 17.8 Unless prior sampling & inspection plans have been approved by Buyer, Seller shall perform 100% inspection of all characteristics on all products covered by the Purchase Order.
- 17.9 As requested by Buyer, records of Seller's 100% inspection results showing actual values shall accompany each delivery of product(s).

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 12 of 18
---------------------------------	---	--

- 17.10** With each delivery of product(s), Seller shall maintain a copy of Seller's final inspection report(s) and/or records showing the actual results (dimensions, values, etc.) obtained by seller during final inspection of the delivered product(s).

18. PRODUCT SAFETY DESIGN REQUIREMENTS

- 18.1** Airborne Equipment (Line Replaceable Unit) shall be installed and maintained under a Panasonic Avionics part number, and must be designed, tested and qualified to the following PAC's documented procedures without compromising airworthiness safety and reliability of our In-Flight Entertainment (IFE) products & services:
- 18.1.1** BLO-QOP-22-01 - Product Safety Design Standard
 - 18.1.2** BLO-QOP-22-02 - Product Safety Checklist
- 18.2** Components defined as "**Safety Parts**" are the ones that will cause significant impact on Product Safety, if failed during the operation.
- 18.3** Electrical component(s) shall be connected on the primary side of the AC power supply and shall be considered as "**Safety Parts**".
- 18.4** Seller whose product fall under this category must provide the following documents to Buyer's Design Engineering:
- 18.4.1** Certificate of Conformance
 - 18.4.2** Product Specification (First of Model Only)
 - 18.4.3** Test Data (First of Model Only)

19. TEST EQUIPMENT SAFETY CERTIFICATION

- 19.1** Seller shall provide evidence of product certification for assuring public safety and protecting the safety of consumers as defined by:
- 19.1.1** UL (USA) Certification or Equipment Tag
 - 19.1.2** CE (EU/EEA) Declaration and Equipment Tag
- 19.2** Seller shall contact the appropriate agency to obtain the documents which will specify proper safety procedures.

20. TEST REPORTS & CERTIFICATIONS

- 20.1** Seller shall furnish all certifications, test reports & samples issued by Seller or Seller's sub-tier sources with the initial delivery of product(s) on the Purchase Order.
- 20.2** Seller is responsible for verifying certifications furnished by Seller's sub-tier sources for their adequacy and compliance to the Purchase Order and the requirements herein.
- 20.3** To assure adequacy and authenticity of all certifications furnished by Seller, the certifications & test reports shall include the name of the issuing organization, and shall be signed by an official of the issuing organization.
- 20.4** Seller shall provide a written statement, Certificate of Conformance (C of C) that all supplied products and/or services comply with all requirements of the purchase order.

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 13 of 18
---------------------------------	--	--

- 20.5 Certificate(s) of conformance shall contain the part number, revision, Change Notices, packing slip shipper number, and Panasonic Avionics Purchase Order Number.
- 20.6 Non-USA seller may provide EASA form 1 in lieu of C of C, as long as all above required data is provided.
- 20.7 Seller shall maintain all certifications of their products/materials for Traceability Audits.
- 20.8 If parts are subject to any special processes, Seller shall furnish appropriate certificates.

21. PACKAGING and LABELING

- 21.1 Seller shall ship according to best commercial packaging practices or ATA-300 requirements, as specified on purchase order.
- 21.2 Seller & Seller's Sub-Tiers are responsible for all packaging related damages & failures.
- 21.3 Use of newspapers for packaging products is prohibited.
- 21.4 If applicable to Seller's products, Seller shall provide protection to prevent physical and Electro-Static Discharge (ESD) damage.
- 21.5 The outside packaging containing ESD sensitive items shall have an ESD warning label. This same label shall be used to seal shielded bags.
- 21.6 Seller shall provide protection to safely maintain leads and terminals in the manufactured condition under handling and transportation environments.
- 21.7 For Sellers whose product is shipped directly to Boeing - Seller's Pack Slip shall contain the following information (when applicable):

SELLERS NAME, ADDRESS AND PHONE NUMBER
SOLD TO AND/OR SHIP TO AS APPLICABLE
CUSTOMER PURCHASE ORDER NUMBER AND LINE NUMBER
DATE PARTS SHIPPED
PART NUMBER SHOWN ON THE PURCHASE ORDER
PART NOMENCLATURE
UNIT OF MEASURE
TOTAL QUANTITY SHIPPED AND THE QUANTITY IN EACH CONTAINER
PACK SLIP NUMBER
WARRANTY DATA AND CERTIFICATION DATA AS APPLICABLE
REJECTION TAG NUMBER IF APPLICABLE

Note:

BILL OF LADING (REQUIRED ON DIRECT SHIPMENTS)
MULTIPLE BOXES WITH SAME PACK SLIP MUST REFERENCE BOX 1 OF 3, BOX 2 OF 3,
BOX 3 OF 3 ETC. (IF APPLICABLE)
PACK SLIP REQUIRED ON THE OUTSIDE OF BOX #1 AND INSIDE EACH ADDITIONAL BOX

- 21.8 For Sellers whose product is shipped directly to Boeing - Seller shall label all units, intermediate and shipping containers as follows (when applicable):
MARK AND/OR LABEL THE UNIT CONTAINER WITH THE FOLLOWING DATA:

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 14 of 18
---------------------------------	---	--

SUPPLIERS NAME
PART NUMBER SHOWN ON THE PURCHASE ORDER
PART NOMENCLATURE
CUSTOMER PURCHASE ORDER NUMBER
QUANTITY OF PARTS IN CONTAINER
UNIT OF MEASURE
SERIAL NUMBER IF APPLICABLE
PRECAUTIONARY HANDLING, LABELING OR MARKING, AS REQUIRED
COUNTRY OF ORIGIN IF NON-U.S. SOURCE

MARK AND/OR LABEL THE SHIPPING CONTAINER WITH THE FOLLOWING DATA:

NAME AND ADDRESS OF CONSIGNEE
NAME AND ADDRESS OF CONSIGNER
CUSTOMER PURCHASE ORDER NUMBER
PART NUMBER AS SHOWN ON THE PURCHASE ORDER
QUANTITY OF PARTS IN CONTAINER
UNIT OF MEASURE
BOX NUMBER
TOTAL BOXES IN SHIPMENT
PRECAUTIONARY HANDLING, LABELING OR MARKING AS REQUIRED
COUNTRY OF ORIGIN IF NON-U.S. SOURCE

22. CORRECTIVE AND PREVENTIVE ACTION (CAPA)

- 22.1** Seller shall not ship any nonconforming product(s) to Buyer.
- 22.2** Per Buyer's prior approval, any product(s) found to be nonconforming to Buyer's Purchase Order or other applicable requirements at Seller's facility, shall be documented by Seller and submitted to Buyer for disposition by Buyer's Material Review Board (MRB).
- 22.3** In case of Buyer receiving non-conforming materials from the Seller, or Buyer's discovery of product field failures, malfunctioning products, or request from Buyer's customer(s), Buyer may request from the Seller to conduct a formal investigation and provide failure analysis reports with objective evidence to identify the root cause(s) of the non-conformities within a time frame approved by Buyer.
- 22.4** When deemed necessary by the Buyer, the Seller shall provide a Corrective and Preventive Action (CAPA) report with verifiable documents that include implementation & target dates, for nonconformities reported by the Buyer to Seller.
- 22.5** Per request of Buyer, Seller shall take immediate action to implement & document below requirements on CAPA report:
 - A)-** Detailed Description of Nonconformity
 - B)-** 100% Containment of suspect parts/products/raw materials at all locations & in-transit
 - C)-** Immediate Recovery Plan
 - D)-** Root Cause Analysis of Non-Conformities / Determination of Failure Modes
 - E)-** Corrective Action Measures
 - F)-** Preventive Action Plans
 - G)-** Verification Method(s)/Technique(s) to Confirm Effectiveness of Corrective & Preventive Action(s).

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 15 of 18
---------------------------------	--	--

22.6 Product(s) rejected by Buyer and resubmitted by Seller shall be clearly identified as re-submitted product(s) and must also be documented on Seller's shipping documents that product(s) delivered are either "replacement" or "reworked" product(s).

22.6.1 Seller's documents shall include reference to Buyer's rejection document number and Seller's copy of corrective & preventive action report.

22.6.2 This is also applicable to any rejections noted by Buyer's source inspector on inspections performed at Seller's facility.

23. CHANGE OF CHARGES (COC)

23.1 If seller is not in agreement with Buyer's determination of root cause(s) of the rejection(s), Seller can submit a request for Change of Charges (COC) to the Buyer's initiator within 20 business days from the date of notification

24. ANNUAL INTERNAL AUDIT

24.1 Seller shall annually conduct at least one Internal Audit as a minimum compliance to ISO9001 or AS9100, clause (8.2.2) Internal Audits, requirements.

25. ANNUAL MANAGEMENT REVIEW

25.1 Seller shall annually conduct at least one Management Review as a minimum compliance to ISO9001 or AS9100, clause (5.6) Management Review, requirements.

26. LANGUAGE

26.1 The seller shall have an English language translation of their Quality Manual and top level Procedures, as a minimum, and any other document or work instruction that implies Quality requirements.

26.2 Panasonic Avionics Corp reserves the right to request from Seller to translate additional documents & records as deemed necessary by PAC, PAC's customers & PAC's regulatory agencies.

27. FAA Anti-Drug & Alcohol-Misuse Prevention Program

27.1 FAA approved Anti-Drug & Alcohol Misuse Prevention program is required for those groups/companies located in USA that perform maintenance on aircraft and aircraft parts/LRU's.

27.2 The Drug & Alcohol testing program rule applies to Sellers that are under contract to supply work or services or parts to Panasonic Avionics Corp. It is also the supplier's responsibility to pass down the same requirements to their sub-tier supplier(s).

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 16 of 18
---------------------------------	---	--

- 27.3 Ref:** “The certificate holder (FAA Air Agency) certifies that it will comply with the requirements of 14 CFR Part 121 appendices I and J and 49 CFR Part 40 for its Anti-drug and Alcohol Misuse Prevention Program”.

28. ENVIRONMENTAL MANAGEMENT SYSTEM (EMS)

- 28.1** Seller shall have an Environmental Management System (EMS) according to, or as a minimum, to be in compliance with **ISO 14001** requirements.

29. ENVIRONMENTAL/CHEMICAL SUBSTANCES MANAGEMENT

- 29.1** Seller & its sub-tier suppliers shall adhere to Environmental Policies and implement control of Chemical Substances, as listed on Table 30 of this document, that comply with global & PAC requirements without compromising airworthiness safety and reliability of our In-Flight Entertainment (IFE) products & services.
- 29.2** Sellers and Contractors shall comply with 29 CFR 1910.1200 and 1926.59. Contractor shall provide Material Safety Data Sheet (MSDS) to the Safety Department prior to first shipment for each chemical, flammable and compressed gas brought into the facility. Upon review and approval the MSDS shall be given to the Safety Manager to scan into the intranet file for MSDS's.
- 29.3** Sellers shall electronically register to Panasonic's "Gp-web", Green Products Website, data base to receive a password ID.
- 29.4** Upon receipt of the password ID, sellers are responsible to register all materials & products that are furnished by them to any of the Panasonic Corp's facilities at: <https://eww.gpscmmn.panasonic.co.jp/gpeas/QDZVZ10A.do>
- 29.5** Sellers will be evaluated based on their adherence to PAC's environmental requirements.
- 29.6** Sellers can access the latest Version of Panasonic's Chemical Substances Management Rank Guidelines at: <http://panasonic.net/eco/topics/suppliers/>

30. TABLE OF CONTROLLED SUBSTANCES

Substance Group name		Regulated Value by Panasonic		
Polychlorinated biphenyls (PCBs)		Intentional use prohibited		
Asbestos		Intentional use prohibited and less than 1000 ppm		
Specified organic tin compounds		Intentional use prohibited and less than 1000 ppm		
Short-chain paraffin chloride (C10-13)		Intentional use prohibited		
Specified brominated flame-retardants (PBB's, PBDEs)		Intentional use prohibited and less than 1000 ppm		
Azo Dye and pigment forming specified amines		Less than 30 mg/kg (30 ppm) (as specified amine)		
Polychloronaphthalene (number of chlorine 3 or more)		Intentional use prohibited		
Cadmium and its compounds	Resin(incl. rubber, film),paint, ink, pigment, dye	Intentional use prohibited and less than 40 ppm (resin)		
	Packaging material	Intentional use prohibited and less than 100 ppm		
	Lead free Solder	● Bar solder	Less than 40 ppm	
		● wire solder		
		● Resin flux cored solder		
		● Solder paste		
		● Solder ball		
Soldered sections of purchased Pc boards	less than 40 ppm			
Component solder				
Other than above	Intentional use prohibited and less than 1000 ppm			
Lead and its compounds	Resin(incl. rubber, film),paint, ink, pigment, dye	Intentional use prohibited and less than 400 ppm (resin)		
	Packaging material	Intentional use prohibited and less than 100 ppm		

Panasonic Avionics Corp.	Corporate Quality Management SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)	Number: SQAR Revision Q Page: 18 of 18
---------------------------------	---	--

	Lead free Solder	<ul style="list-style-type: none"> ● Bar solder ● wire solder ● Resin flux cored solder ● Solder paste ● Solder ball ● Soldered sections of purchased Pc boards ● Component solder 	Less than 500 ppm
	Other than above	Intentional use prohibited and less than 1000 ppm	
Hexavalent chromium compounds	Resin(incl. rubber, film),paint, ink, pigment, dye	400 ppm	
	Packaging material	Intentional use prohibited and less than 100 ppm	
Mercury and its compounds	Resin(incl. rubber, film),paint, ink, pigment, dye	400 ppm	
	Packaging material	Intentional use prohibited and less than 100 ppm Intentional	
	Other than above	use prohibited and less than 1000 ppm	
Ozone-depleting substances (excluding HCFC)	Intentional use prohibited		
Formaldehyde	Aerial concentration: Less than 0.1 ppm		
Perfluorooctance Sulfonate (PFOS) and its salts	Intentional use prohibited		
Specified Benzotriazole 2-(2H-1,2,3-benzotriazole-2-yl)-4,6-di-tert-butylphenol	Intentional use prohibited		
Dimethylfumarate	Intentional use prohibited and less then 1000ppm		