



Title: <p style="text-align: center;">QUALITY CLAUSE CODES</p>	Document #: <p style="text-align: center;">QF-04-07</p>	Rev.: <p style="text-align: center;">19</p>	Page #: <p style="text-align: center;">1 of 10</p>
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Instructions to ODIM Spectrum’s Suppliers

The following table lists the Quality Clause Codes (QCC) that are used to communicate specific quality requirements to those who supply products to ODIM Spectrum Limited (OSL).

OSL will add the applicable QCC’s to the purchase order line item to identify quality requirements.

The documentation provided by the supplier will cover the total number of items that are listed in the quantity column of the line item. The supplier is not required to supply separate documents for each individual item; one document may be used to confirm that the requirement has been met for all of the parts inspected.

Unless indicated otherwise, each shipment of parts will be accompanied by the documents required for the parts that are delivered (for example: partially completed orders that are delivered in separate shipments will each contain the documents that apply to the parts shipped).

Where practical, the supplier may provide one document that confirms the fulfillment of different Quality Clause Code requirements.

NOTE: If a specification or (other document) is referred to in a QCC, use the revision of the specification that is in effect at the time the purchase order is issued.

QCC Number	QCC Name	Requirement Description
QCC 01	Minimum Inspection System Requirements	<p>The supplier is responsible for ensuring that all inspections and tests have been performed that are necessary to substantiate that the supplies or services furnished under this purchase order conform to the specification requirements and comply to any quality clause codes called out on the purchase order. Upon acceptance of this purchase order, the supplier agrees to meet all requirements. Parts shall be made of new material only. All repair to out-of - specification conditions or requests for deviation must be submitted to OSL QA or technical contact using form QF-10-06 (supplier request for deviation) prior to shipment. A copy of this form can be located on our website at www.odimspectrum.com/supplier_info.php.</p> <p>During procurement of this order, the vendor's inspection system and manufacturing processes may be subject to review, verification, and analysis by OSL and/or customer representatives. OSL / customer inspection or release of product before shipment is not required, unless otherwise noted. The supplier shall retain all records associated with this PO for a minimum of five years or for the life of the project as requested by OSL.</p>
QCC 02	Inspection System Requirements	<p>The supplier's quality management / inspection system shall comply with ISO 9001:2000. If the supplier is not a registered ISO 9001 company, the supplier is required to provide OSL's Quality Manager with a completed OSL Vendor Survey Form QF-04-02 to be provided by OSL. If a first time supplier, OSL may visit the supplier to perform a Vendor Evaluation.</p>
QCC 03	Source Surveillance	<p>Surveillance by OSL and/or customer personnel is required at the supplier's facility. The supplier shall provide all necessary facilities, inspection data, equipment and personnel to successfully complete the surveillance. OSL shall be notified at least one week before the inspection point denoted in the purchase order, statement of work or inspection and test plan. If the surveillance is waived, a copy of the waiver shall be submitted with the product.</p>



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QCC Number	QCC Name	Requirement Description
QCC 04	Certification of Conformance	<p>A Certificate of Conformance that includes the following shall be included with each shipment :</p> <ul style="list-style-type: none">• OSL purchase order number• Specification or drawing number (including revision)• Item description and quantity of each item furnished• A statement that the material and/or product conform to the applicable po requirements.• Date, signature and title of authorized representative <p>A copy of our blank vendor C of C form can be located on our website at www.odimspectrum.com/supplier_info.php</p>
QCC 05	Acceptance Test Procedures	<p>The supplier shall prepare and submit an Acceptance Test Procedure (ATP) for OSL review and approval before the first shipment of parts. As a minimum the ATP shall include:</p> <ul style="list-style-type: none">• ATP Title and revision• Part name and number of the item to be tested• Test conditions• Issued date and/or revision date• Test equipment to be used (including calibration data)• Indication/description of tests to be performed• Test parameters and limits• Preparation and approval signatures• Page numbers and total number of pages <p>Each test data sheet shall include:</p> <ul style="list-style-type: none">• Objective evidence of compliance• Part name, number, and serial number• Test document paragraph correlation• Date of test, final acceptance, and acceptor identification
QCC 06	Test Reports	<p>Test reports shall contain the results of tests indicating conformance to the requirements detailed in the OSL specifications. These reports shall be traceable to the materials furnished. Copies of the test reports shall be included with each applicable shipment.</p>



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QCC Number	QCC Name	Requirement Description			
QCC 07	First Article Inspection	<p>The supplier shall perform first article inspection (100%) on the first part produced for all items and subassemblies supplied (including effective thread, basic dimensions and all notes). OSL requires that FAI include a copy of a bubbled drawing referencing item numbers on an inspection report. The inspection report shall include in the title block the name of supplier, drawing number and revision, drawing title, OSL purchase order number, signature of the person performing the inspection and the date. The inspection report shall include columns for item number, dimension required, tolerance, actual measurement, method of inspection and Acc/Rej. If the supplier's inspection report does not include the above requirements, OSL's blank inspection report form can be located on our website at www.odimspectrum.com/supplier_info.php</p> <p>NOTE: If OSL provides a populated inspection report with the PO, a bubbled drawing is not required. First article inspection data shall be provided to OSL with the first shipment from the vendor. All out of specification requirements shall be reported to OSL prior to shipment using form QF-10-06 (supplier waiver form).</p>			
QCC 08	Hazardous Material	The supplier is required to submit Material Safety Data Sheets with each shipment. Shipping containers shall be identified with the appropriate warning labels.			
QCC 09	Configuration of Parts	The supplier shall notify OSL purchasing department of any changes to their original design that will affect component form/fit/function, material or finish. This requirement will apply only if original component number does not change with the design.			
QCC 10	Certified Material Test Report (CMTR)	<p>The supplier shall furnish certified material test reports for each line item identified on the PO and include them with the first shipment. The OSL part number that each CMTR pertains to will be identified on the CMTR. Subsequent shipments from the same lot, manufactured from the same lot of materials, may reference that the certifications were sent with the first shipment, that they are on file and that they are available upon request. Multiple CMTRs may be required if more than one lot of material is used per purchase order. Heat treat certificates are required with the CMTR when material is to be treated as per the applicable part drawing. All CMTRs must be legible.</p> <p>Yield stress, ultimate tensile stress and elongation in a 2" sample must be included in the CMTR for all metallic raw material.</p>			
QCC 11	Special Process (Nuclear)	The supplier shall submit to OSL for approval the personnel qualifications for the individual performing the special process and the company procedures followed to complete the objective. These documents shall be submitted to OSL prior to the commencement of work. The supplier must provide with each shipment certificates of conformance and test data for all processes specified on the drawing/purchase order. The OSL part number that each certificate pertains to will be identified on the cert. The point numbers below indicate the individual process the documentation is required for.			
		11.1-ultrasonic insp.	11.2- liquid penetrant insp.	11.3-magnetic particle insp.	11.4- radiographic testing



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QCC Number	QCC Name	Requirement Description
QCC 12	MIL-STD, AMS/ASTM Specifications/ Revision Status	Unless otherwise specified on the purchase order, MIL-STD and/or AMS/ASTM specifications shall conform to the latest revision of the applicable military specifications at time of manufacture.
QCC 13	In-process Surveillance	Deleted
QCC 14	Final Surveillance	Deleted
QCC 15	Final Tests	Deleted
QCC 16	Identification	<p><u>Package Identification</u>: The supplier shall mark package(s) with part number, revision number if applicable, and supplier identification. A Packing List shall be included with the shipment that identifies OSL's purchase order number and date, shipped item(s) identification and quantity furnished, and any items back ordered.</p> <p><u>Part Identification</u> shall be in accordance with the OSL drawings / specifications.</p>
QCC 17	Vendor Items Used On ODIM Spectrum Assembly Drawings	<p>Unless otherwise specified, the supplier shall procure vendor items listed on the OSL drawings from the sources indicated, or from another OSL authorized distributor. The supplier shall provide evidence with each shipment that the correct parts were used.</p> <p>NOTE: If the OSL drawings denote the manufacturer as a "suggested" source of supply, then any equivalent part meeting the requirements of the original manufacturer's part may be used.</p>
QCC 18	Inspection And Test Plan	The supplier is required to prepare and submit an Inspection and Test Plan to OSL for approval before commencement of the work. The plan will indicate the sequence of work and the relative location of planned inspection and test points, including incoming inspection, in-process inspection, and final inspection. Referenced inspection and test procedures shall be provided upon request. OSL will designate on the ITP, any points for source inspection.
QCC 19	Nuclear Quality Program Requirements	The supplier's quality program must comply with the CSA- Z299 standard indicated.
		19.1- The supplier's quality management / inspection system shall comply with CSA-Z299.1-85.
		19.2- The supplier's quality management / inspection system shall comply with CSA-Z299.2-85.
		19.3- The supplier's quality management / inspection system shall comply with CSA-Z299.3-85.
		19.4- The supplier's quality management / inspection system shall comply with CSA-Z299.4-85.



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QCC Number	QCC Name	Requirement Description
QCC 20	Inspection of Critical Dimensions	<p>All drawing dimensions which are designated as critical shall be inspected for all parts. OSL requires that inspection of critical dimensions include a copy of a bubbled drawing referencing item numbers on the inspection report. A completed inspection report detailing these dimensions is to be provided with the shipment. The inspection report shall include in the title block the name of supplier, drawing number and revision, drawing title, purchase order number, signature of the person performing the inspection and the date. The inspection report shall include columns for item number, dimension required, tolerance, actual measurement, method of inspection and Acc/Rej. If the supplier's inspection report does not include the above requirements, OSL's blank inspection report form can be located on our website at www.odimspectrum.com/supplier_info.php</p> <p>Note: If OSL provides a populated inspection report with the PO, a bubbled drawing is not required. All out of specification requirements shall be reported to OSL prior to shipment using form QF-10-06 (supplier waiver form).</p>
QCC 21	Welding Requirements	<p>OSL requires a welding certificate of conformance which indicates that the work performed complies with all drawing weld specifications. The C of C will include the OSL PO number, OSL drawing number, a statement that the weld conforms to the applicable specification, date, signature and the title of the authorized representative.</p> <p>21.0- All welds for the product described on this line item must comply with drawing specifications.</p> <p>21.1- All welds for the product described on this line item must comply with drawing specifications and be performed by qualified welders using qualified procedures to the standard referenced on the drawing.</p> <p>21.2- All welds for the product described on this line item must comply with drawing specifications and be performed by certified welders using certified procedures to the standard referenced on the drawing.</p> <p>21.3- All welds for the product described on this line item must comply with drawing specifications and be performed by qualified welders using qualified procedures to the standard referenced on the drawing. The supplier shall send to OSL all welder qualifications, procedures and relevant data sheets for approval with their RFQ or prior to the commencement of work.</p> <p>21.4- All welds for the product described on this line item must comply with drawing specifications and be performed by certified welders using certified procedures to the standard referenced on the drawing. The supplier shall send to OSL all welder certifications, procedures and relevant data sheets for approval with their RFQ or prior to the commencement of work.</p> <p>21.5- All welds identified as critical must comply with drawing specifications and be performed by certified welders using certified procedures to the standard referenced on the drawing. The supplier shall send to OSL all welder certifications, procedures and relevant data sheets for approval with their RFQ or prior to the commencement of work.</p>



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QCC Number	QCC Name	Requirement Description				
QCC 23	Synthetic Rubber Products	<p>Use the applicable portions of this clause:</p> <p><u>Cure date for synthetic rubber products delivered as end items:</u> The cure date for synthetic rubber products delivered as end items shall be marked on the unit packages in accordance with MIL-STD-1523. At least 75% of the shelf life must remain at time of receipt unless otherwise authorized by OSL.</p> <p><u>O-ring unit packaging:</u> O-rings shall be individually packaged and shall conform to MIL-P-4861, Level A. This requirement supersedes all other requirements (i.e. drawing or specification).</p> <p><u>Cure date for assemblies containing synthetic rubber products:</u> Synthetic rubber products installed in assemblies supplied on this purchase order shall meet the age requirements of MIL-STD-1523 (Age Control of Rubber, General Specification) and shall be installed before their expiration date. In addition, all assemblies shall be marked with the cure date of the oldest synthetic rubber part in the assembly, as well as the date of assembly. Markings may be accomplished by decal, rubber stamp, or metal tag.</p>				
QCC 24	Toxic Substances	<p>Material supplied on this purchase order shall not contain any of the identified toxic substances. This requirement must be passed on to all subcontractors. The supplier shall provide certification (it could be an additional statement on the Certificate of Conformance) stating that material is free from the identified toxic substances with each shipment. Any deviation requests to this requirement must be approved (using QF-10-06) by OSL prior to shipment of the product. The point numbers below indicate the individual substance the documentation is required for.</p>				
	24.1 -Methylene chloride,	24.2 - Carbon Tetrachloride	24.3 - Xylene	24.4 - Benzene	24.5 -Trichloroethylene	
	24.6 - Mercury	24.7 - Beryllium	24.8 - Cadmium	24.9 -Chromium	24.10 - Chloroform	
	24.11 - Asbestos	24.12 - PCBs	24.13 - Lithium	24.14 - Magnesium	24.15 - PVC	
	24.16 – Zinc or Zinc Alloys	24.17 – Ozone Depleting Chemicals (ODCs)				
QCC 25	Qualified Products List Item	<p>It is required that the manufacturer of the product supplied for this purchase order be certified and the product be listed on the Qualified Products List (QPL), or in the case of microcircuits, be listed in MIL-HDBK-103 at time of manufacture. Suppliers shall certify that the item supplied is a certified, QPL item.</p>				
QCC 26	Process Specification – BOPS 1.044	<p>The requirements of the process specification BOPS 1.044 are applicable to this order.</p>				
QCC 27	Shelf Life	<p>The supplier shall be responsible for labelling shelf life items. Each unit package shall be identified with the part number, date of manufacture, storage expiration, and name of manufacturer as applicable. At least 75% of the shelf life must remain at the time of receipt by OSL unless otherwise specified on the Purchase Order.</p>				



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QCC Number	QCC Name	Requirement Description
QCC 28	Process Specification – BOPS 1.040	The requirements of the process specification BOPS 1.040 are applicable to this order.
QCC 29	Printed Wiring Boards/ Multiwire Boards	<p><u>Printed Wiring Boards (PWBs)</u> – Each lot of PWBs shall meet the requirements of MIL-PRF-31032 or MIL-P-50884, as applicable. PWBs shall be forwarded to OSL with microsection reports and other quality reports as applicable.</p> <p><u>Multiwire Boards</u> – Multiwire boards shall be manufactured and tested in accordance with IPC-DW-425. Boards shall be forwarded to OSL with microsection reports and other quality reports as applicable.</p> <p><u>Shelf Life</u> – Shelf life shall be established as one (1) year from date of manufacture (date code). At least ¾ (nine months) of the shelf life must remain at the time of receipt by OSL. Suppliers releasing boards to OSL that are over three months old will restore them by reflowing or alternative method (prior to shipment) to assure their solerability and to re-establish their shelf life. Boards with re-established shelf life shall be identified on certification papers by serial number, lot number, or other traceable identification.</p> <p><u>PWB Material For Type I And Type II Boards</u> – Where epoxy resin construction is used (e.g. GF material) on Type I and Type II boards, the requirements of Ocean Systems material specification, BOMS 5062 apply.</p> <p><u>Metal Core Boards</u> – For metal core boards, the requirements of Ocean Systems material specification, BOMS 1.031 applies.</p> <p><u>Packaging</u> – All boards shall be packaged in Type II or Type III material in accordance with MIL-B-81705 before being placed in their shipping containers.</p>
QCC 30	J-STD-001	Parts supplied on this purchase order shall conform to the applicable requirements of J-STD-001 as specified by the drawing, specification, or purchase order. If the class is not specified, Class 3 will apply. Suppliers may use a higher standard, such as MIL-STD-2000 if appropriate. OSL shall receive a deliverable (may be a statement on the C of C) that this requirement has been fulfilled.
QCC 31	Electrostatic Discharge (ESD) Protection	ESD sensitive devices shall be packaged and marked in accordance with the applicable requirements of Electronics Industries Association EIA-625, and handled in a manner that will prevent mechanical or electrical damage and maintain the leads and terminals in the manufactured condition. The ESD sensitive devices shall be packaged in static shielding materials. The intermediate and exterior packages shall be identified.
QCC 32	Solderability	Parts that are to be soldered to surfaces at the next assembly level, shall be solderable upon receipt at OSL, and meet the solderability requirements of the governing specification. Where possible, the supplier shall provide solderability test results with the shipment. For connectors with solderable pins, sample pins shall be provided when possible.



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QCC Number	QCC Name	Requirement Description				
QCC 33	Documentation for Processing (non-nuclear)	The supplier must provide certificates of conformance and test data for all processes specified on the drawing/purchase order. The OSL part number that each certificate pertains to will be identified on the cert. The supplier shall furnish this documentation with the first shipment. Subsequent shipments from the same processing lots may reference the documents shipped with the first lot. The point numbers below indicate the individual process the documentation is required for.				
	33.1 -anodizing	33.2 -passivation	33.3 -conversion coating	33.4 -nickel plate	33.5 -chrome plate	33.6 -ion nitrite
	33.7 -acid treat	33.8 -ultrasonic inspection	33.9 – liquid penetrant insp.	33.10 - magnetic particle insp.	33.11 -heat treatment	33.12 -runout tolerance
	33.13 -carburize	33.14 -pitch tolerance	33.15 -lead tolerance	33.16 -tooth profile	33.17 -tooth surface	33.18 -paint
	33.19 -surface temper inspection	33.20 -case hardening	33.21 -core hardening	33.22 -acid etching	33.23 - brazing	33.24 - zinc plating
	33.25 - powder coating	33.26 - radiographic insp.	33.27 -stress relief			
QCC 34	Machining and/or cutting method restrictions	Machining and/or cutting methods, using heat or thermal energy for metal removal such as laser, electrodischarge machining (EDM), or plasma are prohibited. This restriction also applies to marking methods using heat or thermal energy.				
QCC 35	Control of OSL Drawings	The supplier must destroy all copies of OSL drawings or return to OSL upon completion of work. A letter must be sent with the product stating that drawings have been destroyed or the drawings may be returned with the final shipment.				
QCC 36	Source Control Drawings Provided with Products	Suppliers must provide an As-Built drawing/parts list of the product supplied that specifies overall dimensions and any interface dimensions. The drawing will include material coating and hardware specifications.				
QCC 37	Subcontractor Approval	The supplier shall obtain OSL approval for any subcontractors for any processes they intend to source throughout production. This will be completed at the RFQ stage.				
QCC 38	Phytosanitary	The supplier must certify with a statement included in the C of C or a separate document that the product supplied is in accordance with the U.N. Food and Agriculture Organizations, International Plant Protection convention document (International Standards for Phytosanitary Measures No. 15-ISPM No. 15)				
QCC 39	Travellers	The issued OSL travellers shall be initialled, dated as complete and returned to ODIM with the product. If there is a QA hold point within the traveller, assembly work will stop and an OSL QA representative will be contacted to complete a source inspection.				
QCC 40	Certificate of Origin	A Certificate of Origin (or NAFTA Certificate of Origin) must accompany all shipments to ODIM where the parts originate outside of Canada. The Certificate must identify all parts specified on the purchase order. Instructions can be found at the following link: http://www.canadabusiness.ca/servlet/ContentServer?cid=1081944203567&pageName=CBSC_ON%2Fdisplay&lang=en&c=Regs . Sample Certificate of Origin forms or NAFTA Certificate of Origin forms can be provided by contacting the ODIM purchaser.				



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QCC Number	QCC Name	Requirement Description
QCC 41	HS&G Toxic Substances	<p>Material supplied on this purchase order shall not contain any of the identified toxic substances. This requirement must be passed on to all subcontractors. The supplier shall provide certification (it could be an additional statement on the Certificate of Conformance) stating that material is free from the identified toxic substances with each shipment. Any deviation requests to this requirement must be approved (using QF-10-06) by OSL prior to shipment of the product.</p> <ul style="list-style-type: none"> • Asbestos, asbestos compounds, and asbestos-filled molding compounds • Cadmium • Carcinogens • Chlorofluorocarbons (CFC) • Flammable materials • Lithium and lithium compounds • Magnesium or magnesium alloys • Mercury or its compounds and amalgams • Polychlorinated biphenyl (PCB) • Polyvinyl chloride (PVC), except when used for component leads • Radioactive material • Zinc or zinc alloys unless otherwise specified • Materials listed in OSHA 29 CFR 1910.1001 to 1910.1101
QCC 42	ROHS Compliant	<p>Certification must be forwarded with the product (may be a statement on a C of C) that the product is ROHS compliant.</p>
QCC 43	ORCA Toxic Substances	<p>The supplier must declare that to the best of their knowledge the product delivered does not contain any of the toxic substances listed</p> <ul style="list-style-type: none"> • Methylene Chloride • Carbon tetrachloride • Xylene • Benzene • Trichloroethylene • Mercury • Beryllium • Cadmium • Chromium • Chloroform



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QCC Number	QCC Name	Requirement Description
QCC 44	AWD Toxic Substances	<p>The material supplied on this purchase order shall not contain asbestos. This requirement must be passed on to all subcontractors. The supplier must also declare that to the best of their knowledge the product delivered does not contain any of the toxic substances listed below:</p> <ul style="list-style-type: none"> • Ozone depleting substances <ul style="list-style-type: none"> • CFC's (chlorofluorocarbons) • Halon 1211, 1301, and 2402 • Carbon tetrachloride • Methyl chloroform • HBFC's (hydrobromofluorocarbons) • Methyl bromide • Trichloroethane • Synthetic greenhouse gases (where they are used as a replacement for ozone depleting substances) • HFC's (hydrofluorocarbons) • PFC's (perfluorocarbons) • Cadmium and cadmium plated materials • Flammable materials • Lithium and lithium compounds • Magnesium or magnesium alloys • Mercury or its compounds and amalgams • PVC (polyvinyl chloride), except when used for components leads • Zinc or zinc alloys <p>The supplier shall provide certification (it could be an additional statement on the Certificate of Conformance) stating that material is free from the identified toxic substances with each shipment. ROHS compliance should be specified if appropriate.</p>