



Communication Systems-West

Workmanship and Specifications Manual (WSM) Level I Document

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Revision	Release Date	Summary of Changes	Name
[A]	10-6-2014	Initial release	Workmanship, Specifications Manual
[B]	2-12-2019	Integrate standalone part marking spec and IS-015. Update terms and definitions throughout.	Workmanship and Specifications Manual for L3T, Communication Systems - West

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1. Scope/Purpose

The Workmanship and Specifications Manual (WSM) invokes CSW Workmanship Standards (WS), Internal Specifications (IS), and miscellaneous Engineering Specifications as required design, manufacturing, and acceptance criteria when identified on the Purchase Order, Product Definition Data Set (Drawing, Parts List, CAD model, etc.), or Statement of Work. This manual may be identified as the Workmanship and Specifications Manual, WSM or S01, within a Product Definition Data Set. The WSM is also applicable to all CSW procurements unless otherwise specified in the Purchase Order, Drawing, or Subcontractor Statement of Work (SSOW). The only exception to this requirement are Commercial Off the Shelf (COTS) parts purchased on a CSW Vendor Item Control Drawing (VICD) or Procurement Control Drawing (PCD), or other parts with a CSW approved Assertion of Commerciality.

This WSM is to support Communication Systems- West (CSW) products and associated processes. This manual is a comprehensive set of Internal Specifications, Workmanship Standards, and Specifications that support business needs and products through their lifecycle.

This document is to be used at L3 Technologies Inc., Communication Systems – West (CSW), Salt Lake City facility, and is applicable to internal manufacture of product and product delivered to CSW when identified in Purchase Order documentation. This includes demonstration equipment that is deliverable. The Workmanship and Specifications Manual is a Level I document and considered policy.

2. Internal Specification (IS) Definition

Internal Specifications (IS) are internally generated documents that include design and manufacturing requirements, permissions, or allowable technical variations and alternatives to drawing requirements which are global in nature. The specifications are a Level I document that define acceptable workmanship practices and substitutions to processes or the Bill of Materials, while still maintaining compliance to

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workmanship requirements. Designs that take exception to any IS allowance shall include a comment in the Product Definition Data Set (commonly a note on the drawing). Notes that disallow an IS permission shall take precedence and serve to maintain unique customer or contractual requirements.

Internal Specifications (IS) direct and govern in the Level 1 hierarchy over CSW drawings, BOM (Parts List), Workmanship Standards and Specifications by default until tailored out by exception on the drawing or Quality Assurance Program Plan (QAPP).

Internal Specifications are maintained and approved through a formal Product Configuration Control Board (PCCB) comprised of representatives of applicable functions/organizations. The PCCB, chaired by the Manager of Configuration Management, is responsible to assemble the necessary representatives (including DCMA customer representatives, for notification only) for review and approval.

3. Workmanship Standard (WS) Definition

The intent for Workmanship Standards is to establish minimum quality requirements by which product should be built, inspected and tested for manufacture of electronic and mechanical assemblies. Workmanship Standards have been established as separate documents to provide minimum acceptance criteria when CSW design authority drawings are silent on unique characteristics. Some examples of silent characteristics are: A drawing calls out paint with no visual or cosmetic accept/reject criteria. Wire is noted on a BOM; however, wire routing or securing criteria are not called out on the drawing. Fastening hardware, such as flat/split washers, are noted on the BOM and Drawing without explicit washer placement/hardware stacking shown.

The acceptance criteria established in the WS are not intended to define design intent, nor are they intended to authorize repair/modification or design change. The WS is a collection of visual acceptability requirements for product designed by CSW.

Users of this standard should be knowledgeable of the applicable requirements of this document and how to apply them to CSW design authority drawings. If a conflict occurs between an IS, Drawings and a WS, the IS and drawings take precedence over the WS.

The graphic illustrations and dimensions shown may not be exact, but general acceptance criteria are provided. In case of conflict between the Workmanship Standard written text criteria and graphic illustrations, the written text criteria shall take precedence over the graphic illustrations.

NOTE

Workmanship criteria should be used as a supplement to IPC-A-610, Acceptability of Electronic Assemblies and IPC-A-620, Requirements and Acceptance for Cable and Wire Harness Assemblies.

Quality Engineering, Design Engineering, and Operations Engineering Committees will be responsible for creating and updating existing Workmanship Standards. Workmanship Standards require approval through a formal Product Configuration Control Board (PCCB) comprised of representatives of applicable functions/organizations. The PCCB, chaired by the Manager of Configuration Management, is responsible to assemble the necessary representatives (including DCMA customer representatives, for notification only) for review and approval.

4. Engineering Specifications Definition

Engineering Specifications define the types of documents and engineering artifacts to be used as design processes, documentation, description, performance specifications, interfaces, and/or characteristics of such items as part marking, torque retention, Molded Connector Backshells, etc. Specifications require approval through a formal Product Configuration Control Board (PCCB) comprised of representatives of applicable functions/organizations. The PCCB, chaired by the Manager of Configuration Management, is responsible to assemble the necessary representatives (including DCMA customer representatives, for notification only) for review and approval.

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5. Inspection Terms and Definitions

This paragraph and the following subparagraphs provide terms and definitions to guide inspection on the configuration hierarchy of the following documents. Inspection shall use the following documents in the order listed to accept and reject product subject to CSW design authority:

- Internal Specifications, Specifications, Drawings
- IPC-A-610
- IPC/WHMA-620
- J-STD-001
- Workmanship Standards (WS)
- Quality Assurance Program Plan (QAPP) and Quality Bulletins (QB)

6. Terms and Definitions

COTS	Commercial-Off-The-Shelf, See FAR 2.101
CSW	L3 Technologies Inc., Communication Systems - West
DCMA	Defense Contract Management Agency
FAR	Federal Acquisition Regulation
MOTS	Modified-Off-The-Shelf
PCD	Procurement Control Drawing
QAPP	Quality Assurance Program Plan
QB	Quality Bulletin
VICD	Vendor Item Control Drawing

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Governing Document: Y-001, Quality Management System

Related Documents:

IS-001, Use of Non-Specified Hardware/Material and Drawing Notes

IS-002, Alternate Piece Marking Method

IS-003, Workmanship Acceptability of Electronic Assemblies

IS-004, Base Materials for Rigid and Multilayer Printed Wiring Boards

IS-005, Printed Wiring Board Workmanship & Design Criteria

IS-006, Drawing Standards

IS-007, Elimination and Replacement of Obsolete and Cancelled Specifications

IS-008, Part Number/Suffix Configuration

IS-009, Immersion Gold – Electroless Nickel Specification

IS-010, Unique Identification Number (UID)

IS-011, Elimination and Replacement of Primer and Paint Part Numbers

IS-012, Minimizing the Use of Hexavalent Chromium Conversion Coatings

IS-013, Substitution of Alternate Size and Shape Materials

IS-014, Contract Number Required on Identification Plate

IS-015, Acceptance of Product from Vendors due to Name Change/Acquisition/Merger

60083155, Specification of Torque and Retention Requirements for Threaded Hardware

1000154383, Specification of Part Marking Requirements

WS-000, Workmanship Standards Introduction