

Merit

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This certificate is granted and awarded by the authority of the Nadcap Management Council to:

Benchmark Electronics, Inc.

*3535 Technology Dr NW
Rochester, MN 55901
United States*

This certificate demonstrates conformance and recognition of accreditation for specific services, as listed in www.eAuditNet.com on the Qualified Manufacturer's List (QML), to the revision in effect at the time of the audit for:

Electronics - Printed Board Assemblies

Certificate Number: 8778223647
Expiration Date: 31 May 2025
Accreditation Length: 18 Months



Jay Solomond
Executive Vice President & Chief Operating Officer

Performance Review Institute (PRI) | 161 Thorn Hill Road | Warrendale, PA 15086-7527

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SCOPE OF ACCREDITATION

Electronics - Printed Board Assemblies

Benchmark Electronics, Inc.
3535 Technology Dr NW
Rochester, MN 55901

This certificate expiration is updated based on periodic audits. The current expiration date and scope of accreditation are listed at: www.eAuditNet.com - Online QML (Qualified Manufacturer Listing).

In recognition of the successful completion of the PRI evaluation process, accreditation is granted to this facility to perform the following:

AC7000 - AUDIT CRITERIA FOR NADCAP ACCREDITATION

AC7120 Rev E - Nadcap Audit Criteria for Printed Board Assemblies (to be used on audits on/after 9 April 2017) (CANNOT BE COMBINED WITH AC7119 or AC7121)

- 03–Company Information (mandatory)
- 04– General (mandatory)
- 05– Outsourced Processes (mandatory)
- 06– Process Control (mandatory)
- 07– Visual Acuity (mandatory)
- 08– Customer Data (mandatory)
- 09– Electrostatic Discharge (ESD) (mandatory)
- 10– Material Management (mandatory)
- 11– Moisture Sensitive Components and Materials
- 12– Kitting
- 13.1– In–Process Verification / Inspection: General (mandatory)
- 13.2– In–Process Verification / Inspection: Visual (mandatory)
- 13.3– In–Process Verification / Inspection: AOI
- 13.4– In–Process Verification / Inspection: X–Ray
- 14.1– Secondary Assembly: Mechanical Part Installation
- 14.2– Secondary Assembly: Wire Cutting & Stripping
- 14.3– Secondary Assembly: Jumper Wire Installation
- 14.5– Secondary Assembly: Compliant Pin (Press Fit) Connector Installation
- 14.6– Secondary Assembly: Bonding
- 15– Cleanliness
- 16– Final Inspection (mandatory)
- 17– Rework (mandatory)

AC7120S Rev NA - Nadcap Supplemental Audit Criteria for Printed Board Assemblies (to be used on/AFTER 10-Jul-2022)

S-U1 Honeywell

AC7120/2 - General Soldering of Printed Board Assemblies (to be used on audits on/after 9 April 2017)

- 03– General (mandatory)
- 04– Electronic Component Preparation for Preassembly Process
- 05.1– Part Placement: General (mandatory)
- 05.2– Part Placement: Manual
- 06– Gold Removal
- 07– Build Through / Build Short
- 08– Hand Soldering

AC7120/3 - Plated Through Hole Technology (to be used on audits on/after 9 April 2017)

- 03.2– Part Placement: Automated Part Placement of PTH Components
- 04– Wave Soldering
- 05– Selective Soldering

AC7120/3S Rev NA - Nadcap Supplemental Audit Criteria for Plated Through Hole Technology (requires AC7120/2) (to be used on/AFTER 10-Jul-2022)

S-U1 Honeywell

AC7120/4 Rev A - Surface Mount Technology (to be used on audits on/after 3 March 2019)

- 03– Preparation
- 04– Stencil Printing (mandatory)
- 05– Automated Part Placement (mandatory)
- 06– Reflow Soldering (mandatory)

AC7120/4S Rev NA - Nadcap Supplemental Audit Criteria for Surface Mount Technology (requires AC7120/2) (to be used on/AFTER 10-Jul-2022)

S-U1 Honeywell

AC7120/5 - Mixed Metallurgy for BGAs (to be used on audits on/after 9 April 2017)

- 03– Lead-Free Control Plan (LFCP) (mandatory)
- 04– Qualification for Assemblies Containing BGAS (mandatory)

AC7120/6 - Lead Free Soldering (to be used on audits on/after 9 April 2017)

- 03– Lead-Free Control Plan (LFCP) (mandatory)
- 04– Process Control (mandatory)
- 05– Training (mandatory)

AC7120/6S Rev NA - Nadcap Supplemental Audit Criteria for Lead Free Soldering (requires

AC7120/2) (to be used on/AFTER 10-Jul-2022)

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AC7120/7 - Conformal Coating of Printed Board Assemblies (to be used on audits BEFORE 05-Nov-2023)

- 04- Material (mandatory)
- 05- Material and Equipment Compatibility (mandatory)
- 06- Preparation / Cleaning (mandatory)
- 07- Application / Drying / Curing (mandatory)
- 08- Thickness (mandatory)
- 09- Inspection (mandatory)
- 10- Rework (mandatory)
- 11- Training (mandatory)

AC7120/7S Rev NA - Nadcap Supplemental Audit Criteria for Conformal Coating of Printed Board Assemblies Nadcap Supplemental Audit Criteria for Conformal Coating of Printed Board Assemblies (to be used on/AFTER 10-Jul-2022)

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AC7120/9 - Programming (to be used on audits on/after 9 April 2017)

- 04- General (mandatory)
- 06- Circuit Card Assembly Programming

AC7120/10 - Final Testing (to be used on audits on/after 9 April 2017)

- 04- General

AC7120/12 - Nadcap Audit Criteria for Depaneling (to be used on audits on/after 30 June 2019)

- 03.1- Inspection (mandatory)
- 04- Mechanical Router Process
- 08- Hand Cutters
- 09- Pizza Cutter ('V' Groove Depanelizer)
- 11- Finishing of cut edges (Rotary, Guillotine, hand cut methods must answer this section)
- 12- Preservation and Packing of Depaneled Images (mandatory)