



DEFENSE LOGISTICS AGENCY
 LAND AND MARITIME
 POST OFFICE BOX 3990
 COLUMBUS, OH 43218-3990

March 5, 2015

Mr. Jim Smith
 Printed Circuits, Inc. (PCI)
 1200 West 96th Street
 Bloomington, MN 55431-2699

RE: Notification of Qualification, GF and GI Base Materials; MIL-PRF-31032/1, /2; FSC 5998;
 CAGE Code 65114; VQ(VQE-15-029290); CN045891, CN 045892

Dear Mr. Smith:

Qualification of your products is granted under the current issue of the specification as a result of successful add-on qualification testing to Military Performance Specification MIL-PRF-31032, Printed Circuit Board/Printed Wiring Board, and associated specification MIL-PRF-31032/1 and /2. The capabilities qualified for the base material and slash sheet indicated below shall be listed on Qualified Manufacturers List QML-31032 and reciprocal listings on QPL-55110. The effective date of this qualification is March 5, 2015.

<p>MANUFACTURER</p> <p>Printed Circuits, Inc. (PCI) 1200 West 96th Street Bloomington, MN 55431-2699</p>	<p>PLANT LOCATIONS</p> <p>Same Address as Manufacturer</p>	<p>CAGE CODE: 65114</p> <p>PHONE #: 952-886-9333 EMAIL: jsmith@printedcircuits.com</p>
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Specification: MIL-PRF-31032/1, MIL-PRF-31032/2
 Qualification Letter(s): VQ(VQE-15-029290)
 Rigid Base Material: GF: Woven E-Glass, Epoxy Resin, Flame Resistant
 Max. Panel Size: 12"x18", 18" x 24"
 Max. Number of Layers: 16
 Max. Board Thickness: .120"
 Min. Hole Size: .010" Drilled Plated-Through Hole Before Plating
 Aspect Ratio: 10:1 Through-Hole
 Min. Conductor Width/Space: .004 "/.005"
 Hole Preparation: Plasma Desmear, Plasma Etchback
 Hole Wall Conductive Coating: Direct Metallization
 Copper Plating: Direct Current Plate, Pulse Plate
 Solder Resist: Liquid Photoimageable
 Finish System: ENIG, ENEPIG, Electrolytic NI/Hard Au, Electrolytic NI/ soft gold, HASL, Hot Oil Reflow of plated solder.

MANUFACTURER Printed Circuits, Inc. (PCI) 1200 West 96 th Street Bloomington, MN 55431-2699	PLANT LOCATIONS Same Address as Manufacturer	CAGE CODE: 65114 PHONE #: 952-886-9333 EMAIL: jsmith@printedcircuits.com
<p>Specification: MIL-PRF-31032/1, MIL-PRF-31032/2 Qualification Letter(s): VQ(VQE-15-029290) Rigid Base Material: GI: Glass Base, Woven, Polyimide Resin, Heat Resistant Max. Panel Size: 12"x18", 18" x 24" Max. Number of Layers: 16 Max. Board Thickness: .120" Min. Hole Size: .010" Drilled Plated-Through Hole Before Plating Aspect Ratio: 10:1 Through-Hole Min. Conductor Width/Space: .004 "/.005" Hole Preparation: Plasma Desmear, Plasma Etchbck Hole Wall Conductive Coating: Direct Metallization Copper Plating: Direct Current Plate, Pulse Plate Solder Resist: Liquid Photoimageable Finish System: ENIG, ENEPIG, Electrolytic NI/Hard Au, Electrolytic NI/ soft gold, HASL, Hot Oil Reflow of plated solder.</p>		

Test report number 31032-4314-14 has been assigned to your test GF material data and 31032-4315-14 has been assigned to your GI material test data. These qualifications are based on your MIL-PRF-31032 certification and are subject to the conditions stated below:

1. A listing on the Qualified Manufacturers List (QML) does not guarantee acceptance of the product(s) in any future purchase.
2. QML listing does not constitute a waiver of any requirements of the specification or of the provisions of any contract.
3. Advertising of qualification information is permitted. Permission to use such information for advertising or publicity purposes is granted provided that such publicity or advertising does not state or imply that the product(s) is the only product of that type qualified or that the Department of Defense in any way recommends or endorses the manufacturer's product.
4. The listing applies only to products produced in the plant(s) specified in this letter of notification of qualification and applies to future amendments or revisions of the specification, unless otherwise notified.
5. The listing applies only to materials and manufacturing construction techniques identical to or covered by that (those) qualified. The qualifying activity must be advised in

advance of any change to the materials and manufacturing construction techniques. Failure to notify the qualifying activity of any change to the materials and manufacturing construction techniques is cause for removal from the QML.

Because we are held responsible for the accuracy and currency of this QML, please let us know if your company discontinues production utilizing these materials or processes. If you have any questions, please contact Mr. Keith Powell at vqe.kp@dla.mil or 614-692-9508.

DLA Land and Maritime-VQ requests that all correspondences be submitted in electronic format. Examples of this include requests for technical evaluations, qualification and status reports, retention test data and requests for testing authorization (including test plans). In the event that a specific report or document is of very large size (>5 MB) please submit the information via digital media, e.g., cd or dvd. Electronic documents are a more efficient format and will help our office evaluate your questions or testing data in a more efficient and expeditious manner.

Sincerely,

JOSEPH GEMPERLINE
Chief
Sourcing and Qualifications Division