Specification Details: **Date: 12/4/2019**

Specification: MIL-PRF-55110
Title: Printed Wiring Board, Rigid
Federal Supply Class (FSC): 5998
Conventional: Yes
Specification contains quality assurance program: No
MIL-STD-790 Established Reliability & High Reliability: No
MIL-STD-690 Failure Rate Sampling Plans & Procedures: No
Weibull Graded: No
Specification contains space level reliability requirements: No
Specification allows test optimization: No

Contact Information:

Office of Primary Involvement: Electronic Devices Branch, DLA Land and Maritime - VQE
Primary Qualifying Activity Contact: 614-692-0627, e-mail: vqe.ls@dla.mil

Notes:

Effective 31 December 1998, MIL-PRF-55110 has been declared "Inactive for New Design." For new design, use MIL-PRF-31032. This is applicable on all acquisitions to which MIL-PRF-55110 is applied.

Extent of Qualification Qualification of a particular board type shall be extended to cover all conductor patterns of that same board type produced. Qualification of type 3 boards shall be extended to cover type 1 and type 2 boards. Qualification of type 2 boards shall be extended to cover type 1 boards. Qualification with type GF base material shall be extended to cover types GB and GH base materials. Qualification with type GR base material shall be extended to cover type GP base material. Qualification with type GY base material shall be extended to cover types GT and GX base materials. Qualification with type SC base material shall be extended to cover type GC base material. Qualification with type GX base material shall be extended to cover type GT base material. Qualification with types AF, BF, GB, GC, GH, GI, GM, or QI base material shall cover that material only.

a. The last six digits of the Qualification Reference Number (QRN) is the qualification expiration date in "mmddyy" format (e.g. 55110-1234-042211 expires on April 22, 2011).

b. An asterisk (*) adjacent to the QRN denotes that the product was tested for and meets the etchback requirements.

c. An exclamation (!) adjacent to the QRN denotes qualification through Appendix B of MIL-PRF-55110. There is no qualification expiration date. See QML-31032 for detailed information about this company's capabilities.

d. A pound sign (#) adjacent to the QRN denotes that the qualification vehicle was built using foil lamination technology. The specimen was tested for and meets peel strength requirements.

Base Material:
AF - Aramid Fabric, Woven, Majority Polyfunctional Epoxy Resin
BF - Aramid Fabric, Nonwoven, Epoxy Resin
BI - Aramid Fabric, Nonwoven, Polyimide Resin
GB - Glass Base, Woven, Majority Polyfunctional Epoxy Resin, Hot Strength Retention
GC - Glass Base, Woven E, Reinforcement, Majority Cyanate Ester, Flame Resistant
GF - Glass Base, Woven, Majority Difunctional Epoxy Resin, Flame Resistant
GH - Glass Base, Woven, Majority Polyfunctional Epoxy Resin, Hot Strength Retention, Flame Resistant
GI - Glass Base, Woven, Polyimide Resin, Heat Resistant
GM - Glass Base, Woven, Triazine and/or Bismaleimide Modified Epoxy Resin, Flame Resistant
GR - Glass Base, Nonwoven, Polytetrafluoroethylene Resin, Flame Resistant
GX - Glass Base, Woven, Polytetrafluoroethylene Resin, Flame Resistant
GY - Glass Base, Woven, Polytetrafluoroethylene Resin, Flame Resistant, for Microwave Application
QI - Quartz Base, Woven, Polyimide Resin, Heat Resistant
SC - Glass Base, Woven S-2, Fiber, Majority Cyanate Ester, Flame Resistant

Part Configuration:

Listed by classification type and base material.

PART LISTINGS

SUPPLIER'S NAME (ADDRESS ON LAST PAGE)	QUALIFICATION REFERENCE NUMBER AND EXPIRATION DATE (MM/DD/YY)
AF TYPE 3	
Lockheed Martin Mission Systems and Training	55110-31032!*
TTM Technologies, Inc. (Stafford)	55110-31032!
BF TYPE 3	
TTM Technologies, Inc. (Santa Clara)	55110-31032!*
BI TYPE 3	
Firan Technology Group Circuits	55110-31032!*
FTG Circuits, Inc. - Chatsworth	55110-31032!*#
Lockheed Martin Mission Systems and Training	55110-31032!
Sanmina-SCI (San Jose)	55110-31032*
TTM Technologies, Inc. (Santa Clara)	55110-31032!*

PART LISTINGS

SUPPLIER'S NAME (ADDRESS ON LAST PAGE)	QUALIFICATION REFERENCE NUMBER AND EXPIRATION DATE (MM/DD/YY)
BI TYPE 3	
TTM Technologies, Inc. (Stafford)	55110-31032!*
GF TYPE 3	
Accurate Circuit Engineering	55110-31032!*
Advanced Circuits - Tempe Division	55110-31032*#
Advanced Circuits Minnesota	55110-31032!*#
American Standard Circuits	55110-31032!*#
Amphenol Printed Circuits	55110-31032!*#
Calumet Electronics Corp.	55110-31032!*
Circuit-Tech Inc.	55110-31032!*#
Cirexx International, Inc.	55110-31032!*#
Cirtech, Inc.	55110-31032!#
Coast to Coast Circuits, Inc.	55110-31032!*#
Colonial Circuits, Inc.	55110-31032!*#
Compunetics Inc.	55110-31032!
Electro Plate Circuitry, Inc.	55110-31032!*#
Electrotek Corp.	55110-31032!
Firan Technology Group Circuits	55110-31032!*
FTG Circuits, Inc. - Chatsworth	55110-31032!*#
Gorilla Circuits	55110-31032!#
Hamby Corp.	55110-31032*
Hans Brockstedt GmbH	55110-31032!*
Holaday Circuits, Inc.	55110-31032!*#
Hughes Circuits	55110-31032!
IMI, Inc.	55110-31032!
Integrated Technolgy Limited (ITL) Circuit	55110-31032!*#
ISU Petasys	55110-31032*#
KCA Electronics, Inc	55110-31032!*#
Lockheed Martin Mission Systems and Training	55110-31032!*
Lone Star Circuits	55110-31032!*#
Metaplast Circuits, Ltd.	55110-31032!#
Micropack, Ltd.	55110-31032*#
Midwest Printed Circuits Services	55110-31032!*#
Multicircuits, Inc.	55110-31032!*#
Murrietta Circuits, Inc.	55110-31032!*#
Pioneer Circuits, Inc.	55110-31032!*#
PNC, Inc.	55110-31032!#
Printed Circuits, Inc	55110-31032*
Pro-Tech Interconnect Solutions LLC	55110-31032!*#
Prototron Circuits, Inc.	55110-31032!*#
Sanmina-SCI (Costa Mesa)	55110-31032!*#
Sanmina-SCI, San Jose	55110-31032!*#
Sierra Circuits, Inc.	55110-31032*
Streamline Circuits	55110-31032!*#
Thales Nederland B.V.	55110-31032#

SUPPLIER'S NAME (ADDRESS ON LAST PAGE)	QUALIFICATION REFERENCE NUMBER AND EXPIRATION DATE (MM/DD/YY)
GF TYPE 3	
TTM Technologies, Inc. (Anaheim)	55110-31032!*#
TTM Technologies, Inc. (Denver)	55110-31032!*#
TTM Technologies, Inc. (Forest Grove)	55110-31032#
TTM Technologies, Inc. (North Jackson)	55110-31032!*#
TTM Technologies, Inc. (Santa Ana)	55110-31032!*#
TTM Technologies, Inc. (Santa Clara)	55110-31032!*#
TTM Technologies, Inc. (Stafford)	55110-31032!*
TTM Technologies, Inc. (Sterling)	55110-31032!*
Unicircuit, Inc.	55110-31032*
US Circuit	55110-31032!#
Viasystems Technologies Corp., LLC - Toronto	55110-31032!
Westak of Oregon	55110-31032*#
GI TYPE 3	
Advanced Circuits - Tempe Division	55110-31032*#
Advanced Circuits Minnesota	55110-31032!*#
American Standard Circuits	55110-31032!*
Amphenol Printed Circuits	55110-31032!*#
Calumet Electronics Corp.	55110-31032*#
Cirexx International, Inc.	55110-31032!*#
Cirtech, Inc.	55110-31032!#
Coast to Coast Circuits, Inc.	55110-31032!*#
Colonial Circuits, Inc.	55110-31032!*
Electro Plate Circuitry, Inc.	55110-31032!*#
Electrotek Corp.	55110-31032!
Firan Technology Group Circuits	55110-31032!*
FTG Circuits, Inc. - Chatsworth	55110-31032!*#
Gorilla Circuits	55110-31032!#
Hamby Corp.	55110-31032*
Hans Brockstedt GmbH	55110-31032!*
Holaday Circuits, Inc.	55110-31032!#
Hughes Circuits	55110-31032!
Integrated Technolgy Limited (ITL) Circuit	55110-31032!*#
KCA Electronics, Inc	55110-31032!*#
Lockheed Martin Mission Systems and Training	55110-31032!*
Lone Star Circuits	55110-31032!*
Micropack, Ltd.	55110-31032*#
Midwest Printed Circuits Services	55110-31032!*
Multicircuits, Inc.	55110-31032!*#
Pioneer Circuits, Inc.	55110-31032!*#
Printed Circuits, Inc	55110-31032*
Pro-Tech Interconnect Solutions LLC	55110-31032!*#
Sanmina-SCI, San Jose	55110-31032!*#
Sierra Circuits, Inc.	55110-31032*
Streamline Circuits	55110-31032!*#

SUPPLIER'S NAME (ADDRESS ON LAST PAGE)	QUALIFICATION REFERENCE NUMBER AND EXPIRATION DATE (MM/DD/YY)	SUPPLIER'S NAME (ADDRESS ON LAST PAGE)	QUALIFICATION REFERENCE NUMBER AND EXPIRATION DATE (MM/DD/YY)
GI TYPE 3			
Thales Nederland B.V.	55110-31032#		
TTM Technologies, Inc. (Anaheim)	55110-31032!*#		
TTM Technologies, Inc. (Denver)	55110-31032!*#		
TTM Technologies, Inc. (Forest Grove)	55110-31032#		
TTM Technologies, Inc. (North Jackson)	55110-31032!*#		
TTM Technologies, Inc. (Santa Ana)	55110-31032!*#		
TTM Technologies, Inc. (Santa Clara)	55110-31032!*#		
TTM Technologies, Inc. (Stafford)	55110-31032!*		
TTM Technologies, Inc. (Sterling)	55110-31032!*		
Unicircuit, Inc.	55110-31032!*		
US Circuit	55110-31032!#		
Viasystems Technologies Corp., LLC - Toronto	55110-31032!*		
Westak of Oregon	55110-31032*#		
GM TYPE 3			
Firan Technology Group Circuits	55110-31032!*		
TTM Technologies, Inc. (Santa Clara)	55110-31032!#		
TTM Technologies, Inc. (Stafford)	55110-31032!		
GR TYPE 2			
Coast to Coast Circuits, Inc.	55110-31032!		
Lone Star Circuits	55110-31032!		
GY TYPE 2			
Coast to Coast Circuits, Inc.	55110-31032!		
Lone Star Circuits	55110-31032!		
GY TYPE 3			
Electro Plate Circuitry, Inc.	55110-31032!*#		
With or Without Woven or Non-Woven E-Glass, Polytetrafluoroethylene (PTFE) Resin, Ceramic Filler TYPE 3			
Coast to Coast Circuits, Inc.	55110-31032!		
Electro Plate Circuitry, Inc.	55110-31032!*#		
TTM Technologies, Inc. (Stafford)	55110-31032!*		
Woven Glass Reinforced, Hydrocarbon Resin with Ceramic Fill TYPE 2			
TTM Technologies, Inc. (North Jackson)	55110-31032!		
Woven Glass Reinforced, Hydrocarbon Resin with Ceramic Fill TYPE 3			
Advanced Circuits Minnesota	55110-31032!*#		
American Standard Circuits	55110-31032!		
Amphenol Printed Circuits	55110-31032!*		
Cirexx International, Inc.	55110-31032!#		
Coast to Coast Circuits, Inc.	55110-31032!		
Compunetics Inc.	55110-31032		
Sanmina-SCI (San Jose)	55110-31032		
TTM Technologies, Inc. (Santa Clara)	55110-31032!		
TTM Technologies, Inc. (Stafford)	55110-31032!*		
TTM Technologies, Inc. (Sterling)	55110-31032!		

Manufacturer: Accurate Circuit Engineering (CAGE Code: 0MNN9)
Location: 3019 S. Kilson Drive, Santa Ana, CA 92707, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Advanced Circuits - Tempe Division (CAGE Code: 6RJS1)
Location: 229 S. Clark Drive, Tempe, AZ 85281-3073, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Advanced Circuits Minnesota (CAGE Code: 45032)
Location: 8860 Zachary Lane North, Maple Grove, MN 55369-4524, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: American Standard Circuits (CAGE Code: 4AA34)
Location: RF Division, 475 Industrial Drive, West Chicago, IL 60185, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Amphenol Printed Circuits (CAGE Code: 57034)
Location: 91 Northeastern Boulevard, Nashua, NH 03062, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Calumet Electronics Corp. (CAGE Code: 65337)
Location: 25830 Depot Street, Calumet, MI 49913-1985, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Circuit-Tech Inc. (CAGE Code: L4387)
Location: 399 Denison Street, Markham,, ON L3R 1B7, Canada

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Cirexx International, Inc. (CAGE Code: 4MEG7)
Location: 791 Nuttman Street, Santa Clara, CA 95054, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Cirtech, Inc. (CAGE Code: 8K616)
Location: 250 E. Emerson Ave., Orange, CA 92865-3303,

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Coast to Coast Circuits, Inc. (CAGE Code: 66982)
Location: 5331 McFadden Avenue, Huntington Beach, CA 92649-1204, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Colonial Circuits, Inc. (CAGE Code: 6T499)
Location: 1026 Warrentown Road, Fredericksburg, VA 22406-6200, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Compunetics, Inc. (CAGE Code: 30598)
Location: 700 Seco Road, Monroeville, PA 15146, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Electro Plate Circuitry, Inc. (CAGE Code: 79616)
Location: 1430 Century Drive, Carrollton, TX 75006, US

Manufacturer: Electro Plate Circuitry, Inc. (CAGE Code: 79616)
Location: 1430 Century Drive, Carrollton, TX 75006, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Electrotek Corp. (CAGE Code: 66030)
Location: 7745 S. 10th Street, Oak Creek, WI 53154, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Firan Technology Group (CAGE Code: L2665)
Location: 250 Finchdene Square, Scarborough, M1X 1A5, Ontario, Canada

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: FTG Circuits, Inc. - Chatsworth (CAGE Code: 30803)
Location: 20750 Marilla Street, Chatsworth, CA 91311, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Gorilla Circuits (CAGE Code: 3C7D2)
Location: 1145 Old Oakland Rd., San Jose, CA 95112, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Hamby Corporation (CAGE Code: 07284)
Location: 27704 Avenue Scott, Valencia, CA 91355-1218, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Hans Brockstedt GmbH (CAGE Code: C4831)
Location: Leiterplattenschnelldienst, Clara-Immerwahr-Strabe 7, 24145 Kiel, Germany

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Holaday Circuits, Inc. (CAGE Code: 59554)
Location: 11126 Bren Road West, Minnetonka, MN 55343, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Hughes Circuits, Inc. (CAGE Code: 1KXU6)
Location: 540 S. Pacific Street, San Marcos, CA 92078-4056, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: IMI, Inc. (CAGE Code: 78259)
Location: 140 Hilldale Avenue, Haverhill, MA 01832-3830, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Integrated Technology, Ltd. (ITL) Circuits (CAGE Code: 38747)
Location: 90 Don Park Road, Markham, L3R 1C4, Ontario, Canada

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: ISU Petasys Corp. (CAGE Code: 1WFH9)
Location: 12930 Bradley Avenue, Symar, CA 91342, US

Manufacturer: KCA Electronics, Inc. (CAGE Code: 1VUH8)
Location: 223 N. Crescent Way, Anaheim, CA 92801, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Lockheed Martin Mission Systems & Training (CAGE Code: 03640)
Location: 1801 State Route 17-C, Owego, NY 13827, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Lone Star Circuits (CAGE Code: 04RV5)
Location: 901 Hensley Drive, Wylie, TX 75098-4909, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Metaplast Circuits, Ltd. (CAGE Code: 3AD63)
Location: 180 Hymus Road, Scarborough, M1L 2E1, Ontario, Canada

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Micropack, Ltd. (CAGE Code: SAL28)
Location: Plot No. 16 Jigani Industrial Area, Anekal Taluk, Bangalore District 560105, India

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Midwest Printed Circuit Services (CAGE Code: 0YYS4)
Location: 1741 Circuit Drive, Round Lake Beach, IL 60073, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Multicircuits, Inc. (CAGE Code: 1BQS8)
Location: 2301 Universal Street, Oshkosh, WI 54904-9146, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Murrietta Circuits, Inc. (CAGE Code: 0EJD7)
Location: 5000 E. Landon Drive, Anaheim, CA 92807, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Pioneer Circuits, Inc. (CAGE Code: 65723)
Location: 3000 S. Shannon Street, Santa Ana, CA 92704-6321, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: PNC, Inc. (CAGE Code: 66766)
Location: 115 East Centre Street, Nutley, NJ 07110, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Printed Circuits, Inc (CAGE Code: 65114)
Location: 1200 W 96th St, Bloomington, MN 55431-2699, USA

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Pro-Tech Interconnect Solutions LLC (CAGE Code: 3CP65)
Location: 4300 Peavey Road, Chaska, MN 55318, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Prototron Circuits, Inc. (CAGE Code: 66108)
Location: 3760 East 43rd Place, Tucson, AZ 85713, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Sanmina-SCI (Costa Mesa) (CAGE Code: 3BKL5)
Location: 2945 Airway Avenue, Costa Mesa, CA 92626, US

Manufacturer: Sanmina-SCI (Costa Mesa) (CAGE Code: 3BKL5)
Location: 2945 Airway Avenue, Costa Mesa, CA 92626, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Sanmina-SCI (San Jose) (CAGE Code: 3DR67)
Location: 2050 Bering Drive, San Jose, CA 95131, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Sierra Circuits, Inc. (CAGE Code: 0ZHS4)
Location: 1108 West Evelyn Avenue, Sunnyvale, CA 94086, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Streamline Circuits (CAGE Code: 3WUY3)
Location: 1410 Martin Ave., Santa Clara, CA 95050, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Thales Nederland B.V. (CAGE Code: H0203)
Location: Department Bareboards and Substrates, Haaksbergerstraat 49, 7554RR Hengelo, The Netherlands

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: TTM Technologies, Inc. (Anaheim) (CAGE Code: 0BSG1)
Location: Anaheim, 3140 East Coronado Street, Anaheim, CA 92806, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: TTM Technologies, Inc. (Denver) (CAGE Code: 75815)
Location: Denver Division, 10570 Bradford Road, Littleton, CO 80127-4211, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: TTM Technologies, Inc. (Forest Grove) (CAGE Code: 01KV9)
Location: 1521 Poplar Lane, Forest Grove, OR 97116-2033,

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: TTM Technologies, Inc. (North Jackson) (CAGE Code: 0GN71)
Location: North Jackson Division, P.O. Box 216, 12080 DeBartolo Drive, North Jackson, OH 44451, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: TTM Technologies, Inc. (Santa Ana) (CAGE Code: 1WQ42)
Location: Santa Ana Division, 2630 South Harbor Boulevard, Santa Ana, CA 92704, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: TTM Technologies, Inc. (Santa Clara) (CAGE Code: 65916)
Location: Santa Clara Division, 407 Matthew Street, Santa Clara, CA 95050, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: TTM Technologies, Inc. (Stafford) (CAGE Code: 5L706)
Location: Stafford Division, P.O. Box 145, 4 Old Monson Road, Stafford, CT 06075, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: TTM Technologies, Inc. (Sterling) (CAGE Code: 0K703)
Location: Sterling Division, 1200 Severn Way, Sterling, VA 20166-8904, US

Manufacturer and Supplier Location Information

Manufacturer: TTM Technologies, Inc. (Sterling) (CAGE Code: 0K703)
Location: Sterling Division, 1200 Severn Way, Sterling, VA 20166-8904, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Unicircuit, Inc. (CAGE Code: 66311)
Location: 8192 Southpark Lane, Littleton, CO 80120, US

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: US Circuit (CAGE Code: 66483)
Location: 2071 Wineridge Place, Escondido, CA 92029,

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Viasystems Toronto Inc. (CAGE Code: 3AF82)
Location: Toronto Division, 8150 Sheppard Avenue East, Scarborough, Ontario M1B 5K2, Canada

Plants:
1. Plant: Same Address as Manufacturer

Manufacturer: Westak of Oregon (CAGE Code: 65745)
Location: 3941 24th Avenue, Forest Grove, OR 97116, US

Plants:
1. Plant: Same Address as Manufacturer