QUALIFICATIONS VALIDATED
ANNUALLY

QML-31032-5
25 November 1998
SUPERSEDING
QML-31032-4
12 February 1998

QUALIFIED MANUFACTURERS LIST

OF

DEPARTMENT OF DEFENSE PERFORMANCE SPECIFICATION

MIL-PRF-31032

PRINTED CIRCUIT BOARDS / PRINTED WIRING BOARDS

GENERAL SPECIFICATION FOR

This list has been prepared for use by or for the Government in the acquisition of printed circuit boards / printed wiring boards (hereafter referred to as printed boards) covered by Department of Defense Performance Specification MIL-PRF-31032. Listing of a manufacturer is not intended to and does not connote endorsement of the manufacturer by the Department of Defense. All listings herein have been qualified under the requirements as specified in the latest effective issue of MIL-PRF-31032. This list is subject to change without notice; revision or amendment of this list will be issued as necessary. The listing of a manufacturer does not in any way release the manufacturer from compliance with the individual item specification requirements.

THE ACTIVITY RESPONSIBLE FOR THIS QML IS THE DEFENSE SUPPLY CENTER COLUMBUS (DSCC-VQ), COLUMBUS, OH 43216-5000.

If a manufacturer desires to have test data considered for qualification, it must be certified and meet all qualification test requirements of MIL-PRF-31032 and the applicable associated specification.

The listing of printed board manufacturing lines in the QML applies only to printed boards produced in the plant(s) specified herein. Therefore, only those printed boards that have been manufactured and tested within the United States and its territories and as provided by international agreement(s) establishing reciprocal and equivalent quality systems and procedures, can be supplied as QML printed boards.

QML-31032 is available from the DSCC-VQ World Wide Web pages at the following addresses:

Web pages: http://www.dscc.dla.mil/offices/sourcing_and_qualification/index.html

QML: http://www.dscc.dla.mil/downloads/qplqml/qml31032.pdf

QML is a definition of a manufacturer's verified capabilities. Manufacturers may use the add-on qualification process to qualify capabilities that are not currently listed on the QML. The user is encouraged to contact the manufacturer or DSCC to make arrangements for QML availability.

SECTION I

LIST OF MANUFACTURERS BY ASSOCIATED SPECIFICATION

MIL-PRF-31032/1 - Printed Wiring Board, Rigid, Multilayered, Woven E-Glass Reinforced Thermosetting Resin Base Material, With Plated Through Holes, For Soldered Part Mounting.

AAI Corporation
P.O. Box 126
Hunt Valley, MD 21030-0126

Dynamic & Proto Circuits, Inc.
869 Barton Street
Stoney Creek, Ontario L8E 566
Canada

Lockheed Martin Electronics & Missiles
498 Oak Road
Ocala, FL 34472-3009

Raytheon Systems Company
P.O. Box 201155, MS 2110
Austin, TX 78720-1155

Teradyne Circuits Operation
4 Pittsburgh Avenue
Nashua, New Hampshire 03060

MIL-PRF-31032/2 - Printed Wiring Board, Rigid, Single and Double Layer, Woven E-Glass Reinforced Thermosetting Resin Base Material, With or Without Plated Through Holes, For Soldered Part Mounting.

AAI Corporation
P.O. Box 126
Hunt Valley, MD 21030-0126

Lockheed Martin Electronics & Missiles
498 Oak Road
Ocala, FL 34472-3009

Raytheon Systems Company
P.O. Box 201155, MS 2110
Austin, TX 78720-1155

Teradyne Circuits Operation
4 Pittsburgh Avenue
Nashua, New Hampshire 03060

MIL-PRF-31032/3 - Printed Wiring Board, Flexible, Single and Double Layer, With or Without Plated Through Holes, With or Without Stiffeners, For Soldered Part Mounting.

Lockheed Martin Electronics & Missiles
498 Oak Road
Ocala, FL 34472-3009

SECTION I

LIST OF MANUFACTURERS BY ASSOCIATED SPECIFICATION

Rigid / Flex Custom Qualification.

Lockheed Martin Electronics & Missiles
498 Oak Road
Ocala, FL 34472-3009

SECTION II

LIST OF MANUFACTURERS' QUALIFIED CAPABILITIES FOR EACH TECHNOLOGY

MANUFACTURER NAME & ADDRESS	PLANT LOCATION	CAGE CODE: 04939
		CONTACT: Teresa M. Rowe
AAI Corporation P.O. Box 126 Hunt Valley, MD 21030-0126	AAI Corporation York Road & Industry Lane Cockeysville, MD 21030	PHONE #: 410-628-3704 FAX #: 410-628-3110 EMAIL:rowetm@aaicorp.com
CAPABILITIES BY TECHNOLOGY / ASSOCIATED SPECIFICATION:		QUALIFICATION LETTER:
MIL-PRF-31032/1 MIL-PRF-31032/2		VQE-97-0889
Panel Size	18" X 24"	
Max. Board Thickness	0.190"	
Max/Min Hole Size	/0.018"	
Aspect Ratio	10:1	
Max. Number of Layers	14	
Min. Conductor Width	0.010"	
Min. Conductor Spacing	0.010"	
Part Mounting	SM, THM, COB	
Base Material	GF (Epoxy resin)	
Finish System	Fused SnPB Hot Air Solder Leveling Nickel Gold Ni Plating Au Plating	VQE-98-0068
Hole Preparation	Desmear	
Copper Plating	Acid Copper	
Solder Resist	UV-Cured Wet Screen Liquid Photoimagable SMOBC	

SECTION II

LIST OF MANUFACTURERS' QUALIFIED CAPABILITIES FOR EACH TECHNOLOGY

MANUFACTURER NAME & ADDRESS	PLANT LOCATION	CAGE CODE: 38898
Dynamic & Proto Circuits, Inc. 869 Barton Street Stoney Creek, Ontario L8E 566 Canada	Same	CONTACT: Mr. Sal Sanchez PHONE #: 905-643-9900 FAX #: 905-643-9911
CAPABILITIES BY TECHNOLOGY / ASSOCIATED SPECIFICATION:		QUALIFICATION LETTER:
MIL-PRF-31032/1		VQE-98-1143
Panel Size	12"X14"	
Max. Board Thickness	0.072"	
Max/Min Hole Size	0.039"/0.018"	
Aspect Ratio	5.43:1	
Max. Number of Layers	10	
Min. Conductor Width	0.005"	
Min. Conductor Spacing	0.005"	
Part Mounting	SM, THM, MIX	
Base Material	GI (Polyimide resin)	
Finish System	Hot Air Solder Leveling	
Hole Preparation	Plasma Desmear/Etchback	
Copper Plating	Acid Copper	
Solder Resist	Liquid Photoimagable	

SECTION II

LIST OF MANUFACTURERS' QUALIFIED CAPABILITIES FOR EACH TECHNOLOGY

MANUFACTURER NAME & ADDRESS	PLANT LOCATION	CAGE CODE: 04939
Lockheed Martin Electronics & Missiles 498 Oak Road Ocala, FL 34472-3009	Same	CONTACT: Shirley Berry PHONE #: 352-687-5676 FAX #: 352-687-5625 EMAIL: shirleyberry@usa.net

CAPABILITIES BY TECHNOLOGY / ASSOCIATED SPECIFICATION:			QUALIFICATION LETTER:
MIL-PRF-31032/1 MIL-PRF-31032/2			VQE-97-0933
Panel Size	18" X 24"		
Max. Board Thickness	0.110"		
Max/Min Hole Size	/0.010"		VQE-98-0289
Aspect Ratio	9.7:1		VQE-98-0289
Max. Number of Layers	14		VQE-98-0289
Min. Conductor Width	0.004"		VQE-98-0289
Min. Conductor Spacing	0.005"		
Part Mounting	THM, SM		
Base Material	GF	(Epoxy resin)	
	GI	(Polyimide resin)	
	SC	(Cynate Ester)	VQE-98-0289
	NELCO N4000-13 (GF)		VQE-99-0081
Finish System	Fused SnPB		
	Hot Air Solder Leveling		
Hole Preparation	Plasma Desmear/Etchback		
Copper Plating	Electro-deposited Acid Copper		
Solder Resist	UV-Cured Wet Screen		
	Liquid Photoimagable		
	SMOBC		

MIL-PRF-31032/3		VQE-97-1233
Panel Size	18" X 24"	
Max. Board Thickness	0.025"	
Max/Min Hole Size	/0.012"	
Aspect Ratio	2.1:1	
Min. Conductor Width	0.006"	
Min. Conductor Spacing	0.006"	
Part Mounting	THM	
Base Material	Polyimide Non-Reinforced film (3 mil)	
Finish System	Fused SnPB	
Hole Preparation	Plasma Desmear/Etchback	
Copper Plating	Electro-deposited Acid Copper	
Solder Resist	UV-Cured Wet Screen	
	Liquid Photoimagable	
	SMOBC	

SECTION II

LIST OF MANUFACTURERS' QUALIFIED CAPABILITIES FOR EACH TECHNOLOGY

MANUFACTURER NAME & ADDRESS	PLANT LOCATION	CAGE CODE: 04939
Lockheed Martin Electronics & Missiles 498 Oak Road Ocala, FL 34472-3009	Same	CONTACT: Shirley Berry PHONE #: 352-687-5676 FAX #: 352-687-5625 EMAIL: shirleyberry@usa.net
Multilayer Rigid/Flex Construction (Custom)		VQE-99-0080
Panel Size	18" X 26"	
Max. Board Thickness	0.195"	
Max/Min Hole Size	/0.025"	
Aspect Ratio	7.8:1	
Max. Number of Layers	18	
Internal Connections	Blind / Buried Vias	
Min. Conductor Width	0.005"	
Min. Conductor Spacing	0.005"	
Part Mounting	THM	
Base Material	Polyimide and Acrylic	
Hole Preparation	Plasma Desmear/Etchback	
Copper Plating	Electro-deposited Acid Copper	
Solder Resist	UV-Cured Wet Screen Liquid Photoimagable SMOBC	
Usage	Class A (Flex during installation)	

SECTION II

LIST OF MANUFACTURERS' QUALIFIED CAPABILITIES FOR EACH TECHNOLOGY

MANUFACTURER NAME & ADDRESS	PLANT LOCATION	CAGE CODE: 96214
Raytheon Systems Company P.O. Box 201155, MS 2110 Austin, TX 78720-1155	12501 Research Blvd. Austin, TX 78759	CONTACT: Roddy Scherff PHONE #: (512) 250-7538 FAX #: (512) 250-7010 EMAIL: r-scherff@ti.com
CAPABILITIES BY TECHNOLOGY / ASSOCIATED SPECIFICATION:		QUALIFICATION LETTER:
MIL-PRF-31032/1 MIL-PRF-31032/2		VQE-97-0509 VQE-97-0718
Panel Size	18" X 24"	
Max. Board Thickness	0.150"	
Max/Min Hole Size	/0.010"	
Aspect Ratio	9:1	
Max. Number of Layers	20	
Min. Conductor Width	0.004"	
Min. Conductor Spacing	0.004"	
Part Mounting	THM, SM	
Base Material	BI (Nonwoven aramid reinforced polyimide resin) GF (Epoxy resin) GI (Polyimide resin)	
Finish System	Fused SnPB Hot Air Solder Leveling OSP Nickel Gold	
Hole Preparation	Plasma Desmear/Etchback	
Copper Plating	Acid Copper	
Solder Resist	Liquid Photo Imageable (spray coated and screen printed), Dry Film Photo Imageable, SMOBC	

SECTION II

LIST OF MANUFACTURERS' QUALIFIED CAPABILITIES FOR EACH TECHNOLOGY

MANUFACTURER NAME & ADDRESS	PLANT LOCATION	CAGE CODE: 3T000
Teradyne, Inc. Connection Systems Division MS-124 4 Pittsburgh Avenue Nashua, New Hampshire 03062	Same	CONTACT: Mark Buechner PHONE #: 603-791-3832 FAX #: 603-791-3080 EMAIL:buechner.mark @tcs.teradyne.com
CAPABILITIES BY TECHNOLOGY / ASSOCIATED SPECIFICATION:		QUALIFICATION LETTER:
MIL-PRF-31032/1 MIL-PRF-31032/2		VQE-97-0649 VQE-97-0721
Panel Size	24" X 36"	
Max. Board Thickness	0.322"	
Max/Min Hole Size	/0.016"	
Aspect Ratio	8:1	
Max. Number of Layers	27	
Min. Conductor Width	0.004"	
Min. Conductor Spacing	0.004"	
Part Mounting	THM, Compliant Pin, SMT	
Base Material	GF (Epoxy resin) GI (Polyimide resin)	
Finish System	Fused SnPB Nickel Gold	
Hole Preparation	Permanganate Desmear/Etchback	
Copper Plating	Acid Copper	
Solder Resist	Thermal cured soldermask and SMOBC	

SECTION III

ALPHABETICAL LIST OF QUALIFIED MANUFACTURERS

MANUFACTURER NAME & ADDRESS	PLANT LOCATION	OTHER INFORMATION
AAI Corporation P.O. Box 126 Hunt Valley, MD 21030-0126	AAI Corp York Road & Industry Lane Cockeysville, MD 21030	CAGE CODE: 02128 CONTACT: Teresa M. Rowe PHONE #: 410-628-3704 FAX #: 410-628-3110 EMAIL: rowetm@aaicorp.com
Dynamic & Proto Circuits, Inc. 869 Barton Street Stoney Creek, Ontario L8E 566 Canada	Same	CAGE CODE: 38898 CONTACT: Mr. Sal Sanchez PHONE #: 905-643-9900 FAX #: 905-643-9911
Lockheed Martin Electronics & Missiles 498 Oak Road Ocala, FL 34472-3009	Same	CAGE CODE: 04939 CONTACT: Shirley Berry PHONE #: 352-687-5676 FAX #: 352-687-5625 EMAIL: shirleyberry&usa.net
Raytheon Systems Company P.O. Box 201155, MS 2110 Austin, TX 78720-1155	12501 Research Blvd. 78759 Austin, TX 78759	CAGE CODE: 96214 CONTACT: Roddy Scherff PHONE #: (512) 250-7538 FAX #: (512) 250-7010 EMAIL: r-scherff@ti.com
Teradyne, Inc. Connection Systems Division MS-124 4 Pittsburgh Avenue Nashua, New Hampshire 03062	Same	CAGE CODE: 3T000 CONTACT: Mark Buechner PHONE #: 603-791-3832 FAX #: 603-791-3080 EMAIL:buechner.mark @tcs.teradyne.com