SECTION I
LIST OF MANUFACTURERS' QUALIFIED CAPABILITIES FOR EACH TECHNOLOGY

MANUFACTURER INFORMATION:	PLANT LOCATION:	CAGE Code: L2665
Firan Technology Group 250 Finchdene Square, Scarborough, M1X 1A5, Ontario, Canada	Same Address as Manufacturer	Phone: 416-299-4000 Fax: 416-292-4308 EMail: info@ftgcorp.com

CAPABILITIES BY TECHNOLOGY/ASSOCIATED SPECIFICATION

Specification: MIL-PRF-31032/1, MIL-PRF-31032/2
Qualification Letters: VQE-05-009339, VQE-06-010764, VQE-06-010889, VQE-15-028987, VQE-16-030295, VQE-17-031083, VQE-17-031084
Rigid Base Material: BI: Aramid Fabric, Nonwoven, Polyimide Resin
Max. Panel Size: 18" x 24"
Max. Number of Layers: 14
Max. Board Thickness: .106"
Min. Hole Size: .02" Drilled Plated-Through Hole Before Plating
Aspect Ratio: 5.1:1 Through-Hole
Min. Conductor Width/Space: .004"/.004"
Hole Preparation: Permanganate Desmear, Plasma Etchback
Hole Wall Conductive Coating: Electroless Copper
Copper Plating: Direct Current Plate, Pulse Plate
Solder Resist: Dry Film, Liquid Photoimageable
Finish System: ENIG, HASL, Hot Oil Reflow of Plated Sn/Pb, ImmAg
Additional Fab Capabilities: Foil Lamination
Controlled Impedance: Differential, Single-Ended

CAPABILITIES BY TECHNOLOGY/ASSOCIATED SPECIFICATION

Specification: MIL-PRF-31032/1, MIL-PRF-31032/2
Qualification Letters: VQE-05-009339, VQE-06-010764, VQE-06-010889, VQE-15-028987, VQE-16-030295, VQE-17-031083
Rigid Base Material: GF: Woven E-Glass, Epoxy Resin, Flame Resistant
Max. Panel Size: 18" x 24"
Max. Number of Layers: 30
Max. Board Thickness: .245"
Min. Hole Size: .005" Laser Ablated Plated Hole Size Before Plating, .008" Drilled Plated-Through Hole Before Plating
Aspect Ratio: 1.01:1 Microvia, 15.9:1 Through-Hole
Min. Conductor Width/Space: .004"/.003"
Hole Preparation: Permanganate Desmear, Plasma Etchback
Hole Wall Conductive Coating: Electroless Copper
Copper Plating: Direct Current Plate, Pulse Plate
Hole Fill/Via Plug: Non-Conductive
Solder Resist: Dry Film, Liquid Photoimageable
Finish System: ENIG, HASL, Hot Oil Reflow of Plated Sn/Pb, ImmAg
Additional Fab Capabilities: Blind Vias, Buried Vias, Foil Lamination, Sequential Lamination
Controlled Impedance: Differential, Single-Ended

CAPABILITIES BY TECHNOLOGY/ASSOCIATED SPECIFICATION

Specification: MIL-PRF-31032/1, MIL-PRF-31032/2
Qualification Letters: VQE-05-009339, VQE-06-010764, VQE-06-010889, VQE-15-028987, VQE-16-030295, VQE-17-031083
Rigid Base Material: GI: Glass Base, Woven, Polyimide Resin, Heat Resistant
Max. Panel Size: 21" x 24"
Max. Number of Layers: 20
Max. Board Thickness: .17"
Min. Hole Size: .0059" Laser Ablated Plated Hole Size Before Plating, .01" Drilled Plated-Through Hole Before Plating
Aspect Ratio: 0.6:1 Microvia, 9.6:1 Through-Hole
Min. Conductor Width/Space: .0035"/.003"
Hole Preparation: Permanganate Desmear, Plasma Etchback
Hole Wall Conductive Coating: Electroless Copper
Copper Plating: Direct Current Plate, Pulse Plate
Hole Fill/Via Plug: Non-Conductive
Solder Resist: Dry Film, Liquid Photoimageable
Finish System: ENIG, HASL, Hot Oil Reflow of Plated Sn/Pb, ImmAg
Additional Fab Capabilities: Blind Vias, Foil Lamination, Sequential Lamination
Controlled Impedance: Differential, Single-Ended

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LIST OF MANUFACTURERS' QUALIFIED CAPABILITIES FOR EACH TECHNOLOGY

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CAPABILITIES BY TECHNOLOGY/ASSOCIATED SPECIFICATION

Specification: MIL-PRF-31032/1, MIL-PRF-31032/2
Qualification Letters: VQE-05-009339, VQE-06-010764, VQE-06-010889, VQE-15-028987, VQE-16-030295, VQE-17-031083
Rigid Base Material: GM: Glass Base, Woven, Triazine and/or Bismaleimide Modified Epoxy Resin, Flame Resistant
Max. Panel Size: 21" x 24"
Max. Number of Layers: 24
Max. Board Thickness: .137"
Min. Hole Size: .01" Drilled Plated-Through Hole Before Plating
Aspect Ratio: 9.3:1 Through-Hole
Min. Conductor Width/Space: .004"/.0037"
Hole Preparation: Permanganate Desmear, Plasma Etchback
Hole Wall Conductive Coating: Electroless Copper
Copper Plating: Direct Current Plate, Pulse Plate
Hole Fill/Via Plug: Non-Conductive
Solder Resist: Dry Film, Liquid Photoimageable
Finish System: ENIG, HASL, Hot Oil Reflow of Plated Sn/Pb, ImmAg
Additional Fab Capabilities: Blind Vias, Foil Lamination, Sequential Lamination

CAPABILITIES BY TECHNOLOGY/ASSOCIATED SPECIFICATION

Specification: MIL-PRF-31032/3, MIL-PRF-31032/4
Qualification Letters: VQE-15-029018, VQE-16-030295
Rigid Base Material: GF: Woven E-Glass, Epoxy Resin, Flame Resistant
Flex Base Material: Copper Clad Adhesiveless Polyimide
Max. Panel Size: 12" x 18"
Max. Number of Layers: 12
Max. Board Thickness: .086"
Min. Hole Size: .008" Drilled Plated-Through Hole Before Plating
Aspect Ratio: 10:1
Min. Conductor Width/Space: .004"/.004"
Hole Preparation: Plasma Desmear
Hole Wall Conductive Coating: Electroless Copper
Copper Plating: Direct Current Plate, Pulse Plate
Solder Resist: Liquid Photoimageable
Finish System: ENIG, HASL, Hot Oil Reflow of Plated Sn/Pb, ImmAg
Flex Usage: Use A (Flex During Installation)