

CAPABILITY MATRIX

Available Materials

FR4 Standard Tg	Shengyi, ITEQ, Nanya
FR4 Mid Tg (Lead Free Compatible)	Shengyi S1000H, ITEQ IT158
FR4 High Tg (Lead Free Compatible)	Shengyi S1000-2, S1170 EMC EM827 Isola 370HR ITEQ IT180A Panasonic R1755V
High Performance Low Dk/Df	EMC EM828, EM888(S), EM888(K) EM891, EM891K Isola 408HR, I-Speed, I-Tera MT Nelco N4000-13EP, EPSI Panasonic R5775 Megtron 6N &7N
RF Materials	Rogers RO4350, RO3010 Taconic RF-30, RF-35, TLC, TLX, TLY Taconic 601, 602, 603, 605
Halogen Free	EMC EM285, EM370(D) Panasonic R1566
Aluminum Backed PCB	SAR15, SAR20, IT-859GTA
Rigid Polyimide	Shengyi SH260
BT Epoxy	Nelco and Mitsubishi
High CTI FR4	Shengyi S1600
Flexible Circuit Materials	Panasonic, Shengyi, Dupont

Surface Finishes

Electroless Nickel Immersion Gold (ENIG)
Hot Air Solder Level (HASL, Lead and Lead-free)
OSP, Immersion Tin, Immersion Silver, ENEPIG
Gold Fingers, Flash Gold, Full Body Hard Gold, Wire Bondable Gold
Selective and Multiple Surface Finishes, Carbon Ink, Peelable SM

PCB Technologies

	Standard	Advanced
Impedance Control	± 10%	± 5%
Buried and Blind Vias	Y	Y
Sequential Lamination	Y	Y
Aluminum PCB's	Y	Y
Rigid-Flex & Flexible Circuits	Y	Y
Non-Conductive Via Fill (VIPPO)	Y	Y
Conductive Via Fill	Y	Y
Backdrilling	Y	Y
Controlled Depth Drill and Rout	Y	Y
Cavity Boards	Y	Y
Hybrids & Mixed Dielectrics	Y	Y
Edge Plating	Y	Y
Etch Back	Y	Y
In-board Beveling	Y	Y
2-D Bar Code Printing	Y	Y
Buried Capacitance	Y	Y

Features

	Standard	Advanced
Maximum Layer Count	28	36
Maximum Panel Size	533x610mm [21x24"]	621x726mm [25x29"]
Outer Layer Trace/Spacing (T oz starting foil + plating)	0.090/.102mm [0.0035"/0.004"]	0.076/.090mm [0.003"/0.0035"]
Inner Layer Trace/Spacing (Copper Wts. H= Hoz T= 1/3 oz)	0.076/.090mm H [0.003"/0.0035"] H	0.064/.076mm T [0.0025"/0.003"] T
Maximum PCB Thickness	3.2mm [0.126"]	6.5mm [0.256"]
Minimum PCB Thickness	0.20mm [0.008"]	0.10mm [0.004"]
Minimum Mechancial Drill Size	0.20mm [0.008"]	0.15mm [0.006"]
Minimum Laser Drill Size	0.10mm [0.004"]	0.08mm [0.003"]
Maximum PCB Aspect Ratio	10:1	16:1
Maximum Copper Weight	5 oz [.178mm]	6 oz [.214mm]
Minimum Copper Weight	1/3 oz [.012mm]	1/4 oz [.009mm]
Minimum Core Thickness	0.050mm [0.002"]	0.038mm [0.0015"]
Minimum Dielectric Thickness	0.064mm [0.0025"]	0.038mm [0.0015"]
Solder Mask Registration	±0.076mm [0.003"]	±0.038mm [0.0015"]
Minimum Solder Mask Dam	0.076mm [0.003"]	0.076mm [0.003"]
Feature to Edge, V-cut (30°)	0.40mm [0.016"]	0.36mm [0.014"]
Feature to PCB Edge, Routed	0.25mm [0.010"]	0.20mm [0.008"]
Overall Dimension Tolerance	±0.127mm [0.005"]	±0.102mm [0.004"]

HDI Features

	Standard	Advanced
Minimum Microvia Hole Size	0.102mm [0.004"]	0.076mm [0.003"]
Capture Pad Size	0.25mm [0.010"]	0.20mm [0.008"]
Glass Reinforced Dielectrics	Y	Y
Maximum Aspect Ratio	0.7:1	1:1
Stacked Microvias	Y	Y
Copper Filled Microvias	Y	Y
Buried Filled Vias	Y	Y
Maximum No. of Buildup Layers	3+N+3	4+N+4

Advanced Processes

Direct Imaging for Innerlayers, Outerlayers, and Soldermask
Direct Plating for High Layer Count and Microvias Products
Periodic Reverse Pulse Plating
Vision Drill and Vision Routing
XACT Tooling System for Improved Layer-to-Layer Registration
Spray Coating for Soldermask
In-Line AOI for Outerlayers and AVI for Final Inspection
ORMET® Copper Paste for Every-Layer InterConnections (ELIC)
Metal Core and Copper Inlay Thermal Management Solutions

Quality System and Certifications

IPC Specs: IPC-A-600, IPC-6012, IPC-6013, IPC-6016 (Class II and Class III)
Quality System Certifications: ISO 9001:2015, IATF16949:2016, ISO13485:2016
Environmental Certifications: ISO14001:2015, ISO/TS14067:2013
UL Certification: File number E229342