Preferred Materials

FR4 Standard Tg	Shengyi, ITEQ, KB, Nanya
FR4 Mid Tg (Lead Free Compatible)	Shengyi S1000, 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)
	Isola FR408, FR408HR
	Isola I - Speed, I - Tera MT
	Nelco N4000 - 13EP, EPSI
	Panasonic R5775 Megtron 6
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	Shengyi SAR20, Yugu YGA, Dupont

Additional Materials

Rigid Polyimide: Shengyi SH260, Ventec VT901
BT Epoxy: Nelco and Mitsubishi
High CTI FR4: Shengyi S1600
Flexible Circuit Materials: Dupont, Panasonic, Taiflex, Shengyi

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

Standard Features	Standard	Advanced
Maximum Layer Count	20	36
Maximum Panel Size	533x610mm [21x24"]	610x1067mm [24x42"]
Outer Layer Trace/Spacing	90µm/90µm	64µm/76µm
(1/3oz starting foil + platig)	[0.0035"/0.0035"]	[0.0025"/0.003"]
Inner Layer Trace/Spacing	76µm/76µm	50µm/50µm
(Hoz inner layer cu)	[0.003"/0.003"]	[0.002"/0.002"]
Maximum PCB Thickness	3.2mm [0.125"]	6.5mm [0.256"]
Minimum PCB Thickness	.20mm [0.008"]	.10mm [0.004"]
Minimum Mechancial Drill Size	.20mm [0.008"]	.10mm [0.004"]
Minimum Laser Drill Size	.10mm [0.004"]	.08mm [0.003"]
Maximum PCB Aspect Ratio	10:1	25:1
Maximum Copper Weight	5 oz [178µm]	6 oz [214µm]
Minimum Copper Weight	1/3 oz [12µm]	1/4 oz [9µm]
Minimum Core Thickness	50µm [0.002"]	38µm [0.0015"]
Minimum Dielectric Thickness	64µm [0.0025"]	38µm [0.0015"]
Minimum Pad Size Over Drill	0.46mm [0.018"]	0.4mm [0.016"]
Solder Mask Registration	± 50µm [0.002"]	± 38µm [0.0015"]
Minimum Solder Mask Dam	76µm [0.003"]	64µm [0.0025"]
Copper Feature to Edge, V - cut (30°)	0.40mm [0.016"]	0.36mm [0.014"]
Copper Feature to PCB Edge, Routed	0.25mm [0.010"]	0.20mm [0.008"]
Tolerance on Overall Dimensions	± 100µm [0.004"]	±50µm [0.002"]

HDI Features	Standard	Advanced
Minimum Microvia Hole Size	100µm [0.004"]	75µm [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	5+N+5

Advanced Processes

Direct Imaging for Innerlayers, Outerlayers, and Soldermask
Direct Plating for High Layer Count and Microvias Products
Reverse Pulse Plating
Solid Copper Plated PTH Vias
XACT Tooling System for Improved Layer - to - Layer Registration
Spray Coating for Soldermask
Inkjet Printing for Legend
In - Line AOI for Outerlayers and AOI for Final Inspection
ORMET® Copper Paste for Any - layer Connections
ZETA® Material for HDI and Low - Loss Applications

Quality System and Certifications

IPC Specs: IPC - A - 600, IPC - 6012, IPC - 6013, IPC - 6016 (Class II and Class III)

Quality System Certifications: ISO 9001:2008, TS16949:2009, ISO13485:2003

Environmental Certifications: ISO14001:2004, ISO/TS14067:2013
UL Certification: File number E229342