

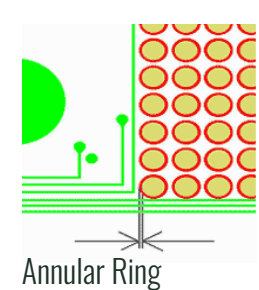
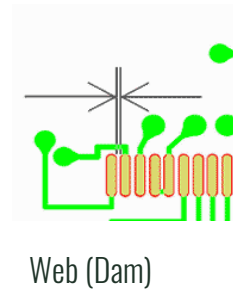
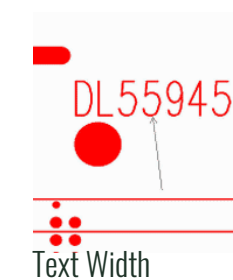
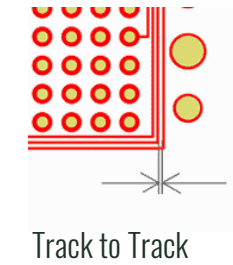
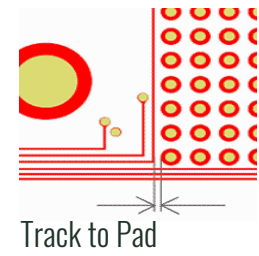
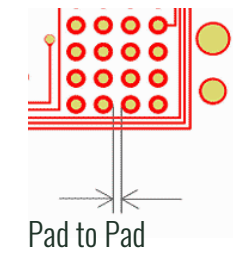
A complex network diagram with numerous nodes of varying sizes and colors (blue, grey, red) connected by thin lines, forming a dense web of connections. The nodes are scattered across the page, with a higher concentration on the right side.

Detailed Capabilities / Design Guidelines

Fineline global

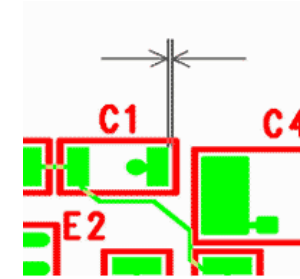
STANDARD CAPABILITIES

Signal Layer	Category	Copper Weight		
		17µm - 0.5oz	35µm - 1.0oz	70µm - 2.0oz
Signal Layer	Pad to Pad	100µm - 4µinch	100µm - 4µinch	125µm - 5µinch
	Track to Pad	100µm - 4µinch	100µm - 4µinch	125µm - 5µinch
	Track to Track	100µm - 4µinch	125µm - 5µinch	150µm - 6µinch
	Track Width	100µm - 4µinch	125µm - 5µinch	175µm - 6µinch
	Text Width	150µm - 6µinch		
Resist Layer				
Resist Layer	Encroachment	100µm - 4µinch		
	Web (Dam)	100µm - 4µinch		
	Annular Ring	50µm - 2µinch		

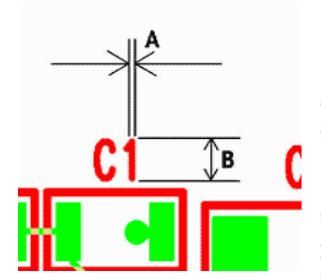


STANDARD CAPABILITIES

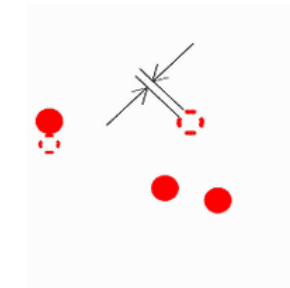
Silk Screen	Category	Copper Weight		
		17µm - 0.5oz	35µm - 1.0oz	70µm - 2.0oz
	Encroachment	100µm - 4µinch		
	Text Width	150µm - 6µinch		
	Text Height	2mm - 80µinch		
Plane				
	Thermal Spoke Width	150µm - 6µinch	200µm - 8µinch	225µm - 11µinch
	Thermal Leg Reduction	75 % Maximum Reduction		
	Isolation Annular Ring	175µm - 7µinch	200µm - 8µinch	250µm - 9µinch



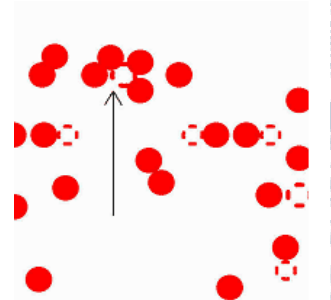
Encroachment



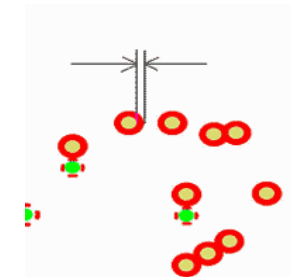
Text Width - Height



Thermal Spoke Width



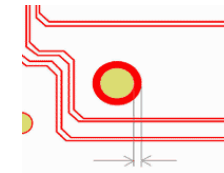
Thermal Leg Reduction



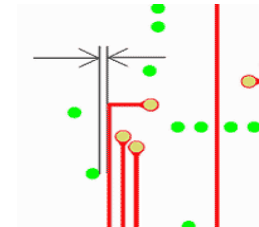
Isolation Annular Ring

STANDARD CAPABILITIES

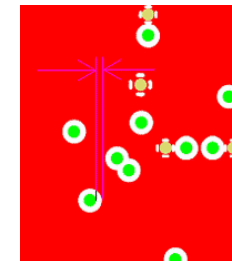
Drill & Profile	Category	Copper Weight		
		17µm - 0.5oz	35µm - 1.0oz	70µm - 2.0oz
	Smallest Drill	200µm - 8µinch (dependent on aspect ratio)		
	Aspect ratio (through hole)	8:1 on finished hole size		
	Aspect ratio (blind vias)	1:0.8 on finished hole size		
	Via Annular Ring	125µm - 5µinch (finished)		
	PTH Annular Ring	125µm - 5µinch (finished)		
	PTH to Copper	250µm - 8µinch		
	NPTH to Copper	150µm - 6µinch		
	PTH to Cu Plane	250µm - 8µinch		
	Profile to Copper	150µm - 6µinch		
	Score to Copper	600µm centre of score line to copper		



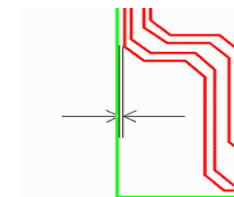
Via Annular Ring - PTH Annular Ring



PTH to Copper - NPTH to Copper



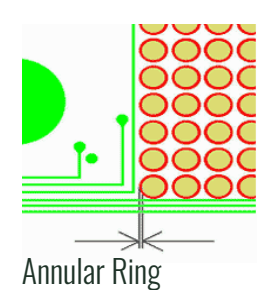
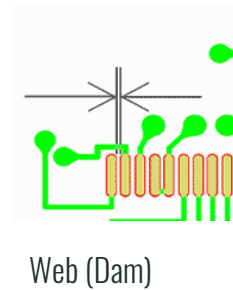
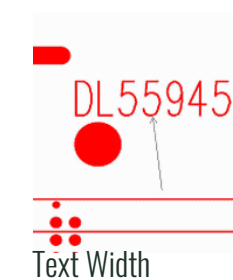
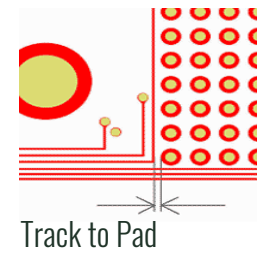
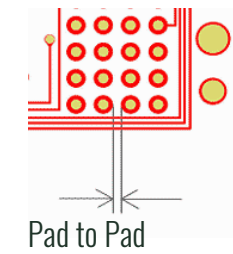
PTH to Cu Plane



Profile to Copper

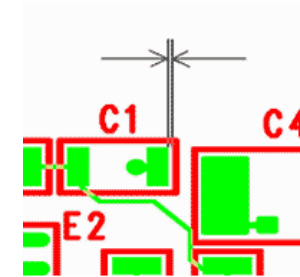
ADVANCED CAPABILITIES

Signal Layer	Category	Copper Weight		
		17µm - 0.5oz	35µm - 1.0oz	70µm - 2.0oz
	Pad to Pad	75µm - 3µinch	100µm - 4µinch	125µm - 5µinch
	Track to Pad	75µm - 3µinch	100µm - 4µinch	125µm - 5µinch
	Track to Track	75µm - 3µinch	100µm - 4µinch	125µm - 5µinch
	Track Width	75µm - 3µinch	100µm - 4µinch	150µm - 6µinch
	Text Width	100µm - 4µinch		
Resist Layer				
	Encroachment	75µm - 3µinch		
	Web (Dam)	75µm - 3µinch		
	Annular Ring	25µm - 1µinch		

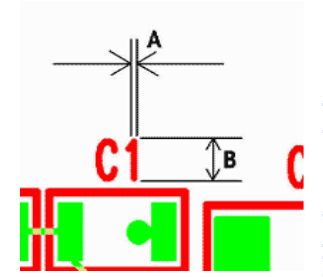


ADVANCED CAPABILITIES

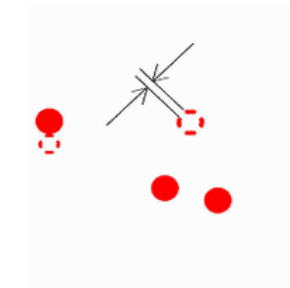
Silk Screen	Category	Copper Weight		
		17µm - 0.5oz	35µm - 1.0oz	70µm - 2.0oz
	Encroachment	100µm - 4µinch		
	Text Width	125µm - 5µinch		
	Text Height	1,5mm - 59µinch		
Plane				
	Thermal Spoke Width	125µm - 5µinch	175µm - 7µinch	225µm - 9µinch
	Thermal Leg Reduction	75 % Maximum Reduction		
	Isolation Annular Ring	175µm - 7µinch	200µm - 8µinch	225µm - 9µinch



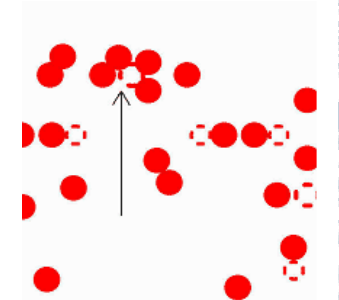
Encroachment



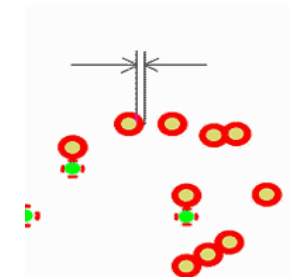
Text Width - Height



Thermal Spoke Width



Thermal Leg Reduction

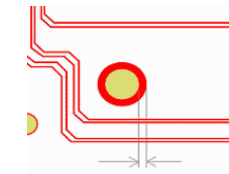


Isolation Annular Ring

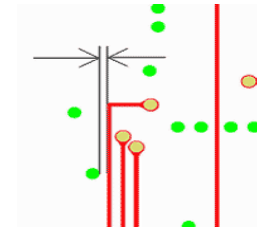
ADVANCED CAPABILITIES

Drill & Profile	Category	Copper Weight		
		17µm - 0.5oz	35µm - 1.0oz	70µm - 2.0oz
	Smallest Drill	150µm - 6µinch (dependent on aspect ratio)		
	Aspect ratio (through hole)	12:1 on finished hole size		
	Aspect ratio (blind vias)	1:0.8 on finished hole size		
	Via Annular Ring	100µm - 4µinch (finished)		
	PTH Annular Ring	100µm - 4µinch (finished)		
	PTH to Copper	200 µm - 8µinch		
	NPTH to Copper	125 µm - 5µinch		
	PTH to Cu Plane	200 µm - 6µinch		
	Profile to Copper	150 µm - 6µinch		
	Score to Copper	600µm centre of score line to copper		

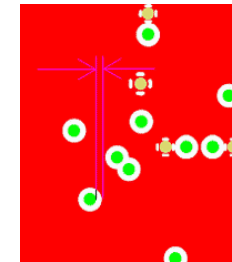
Red = difference compared to standard capabilities



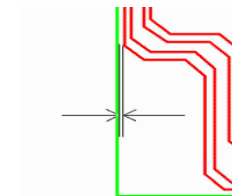
Via Annular Ring - PTH Annular Ring



PTH to Copper - NPTH to Copper



PTH to Cu Plane



Profile to Copper

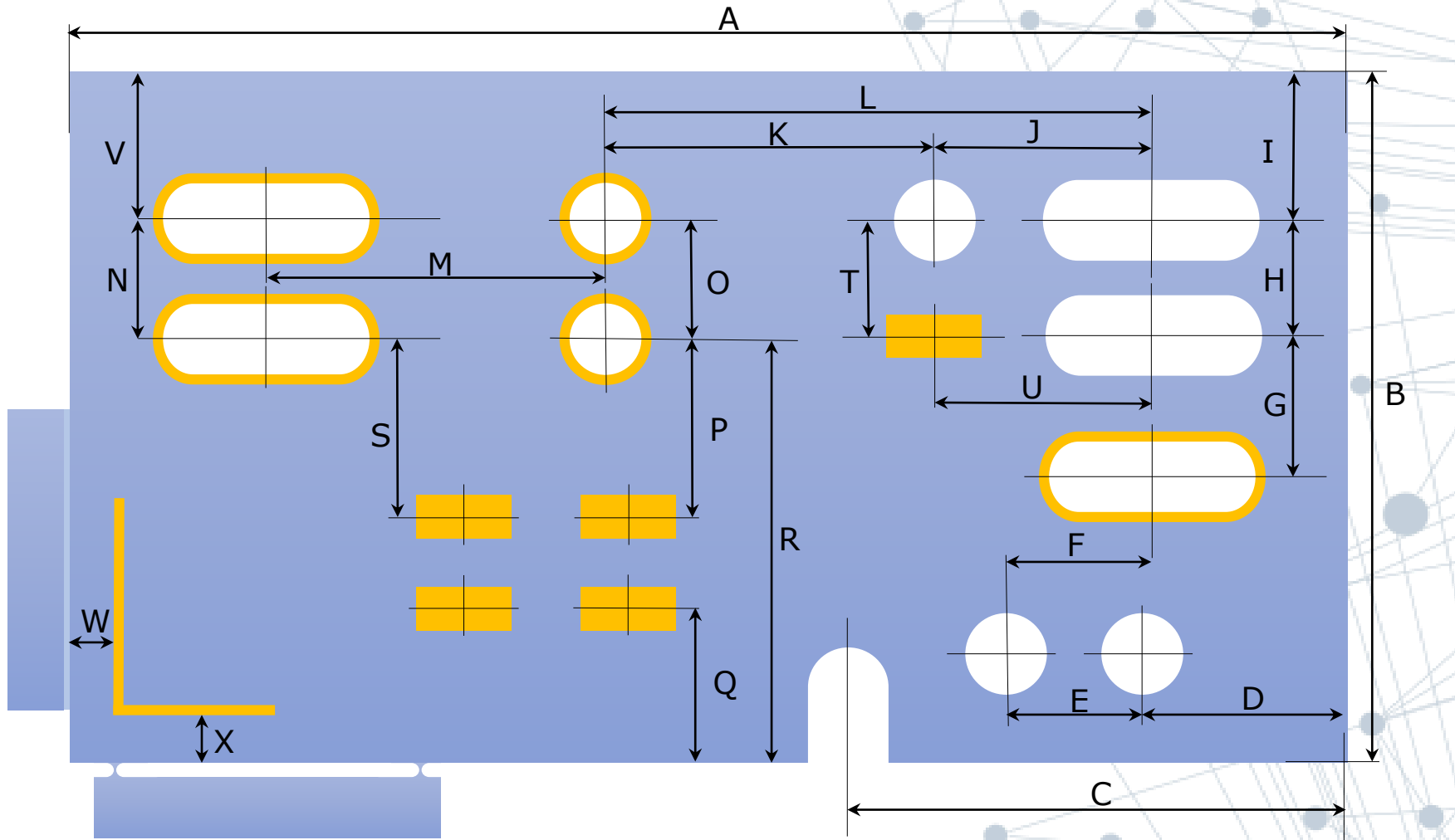
RIGID PCB SPECIFICATIONS

Dimensions	Max. board size 1199x600 mm (47.2x23.6")				special sizes upon request			
Thickness	Min. thickness 100µm (4mil) Max. thickness 8,0mm (0.31")							
Layer count	Rigid	60 layers	Flex	14 layers	Flex-rigid	34 layers	Layer2layer accuracy 100µ(4 mil)	
Materials	<ul style="list-style-type: none"> - FR-4 Standard Tg - CEM 3 - Aluminium base (1-6 W/m*K) - Teflon (Rogers®, Taconic®, Arlon®) 			<ul style="list-style-type: none"> - FR-4 Mid Tg - FR-4 Hi Tg 		<ul style="list-style-type: none"> - BT epoxy - PTFE alternatives(Panasonic®, Isola®, Nelco®) - Thermount® - Copper Invar Copper 		
Via constructions	<ul style="list-style-type: none"> - Mechanical drilled hole via - Laser drilled via(Co2/UV-Yag) 			<ul style="list-style-type: none"> - Buried via - Blind via - Blind + Buried via - Via in pad - Any layer 		<ul style="list-style-type: none"> - Copper filled via - Resin filled via - Via on buried via - Stacked via - Staggered via 		<ul style="list-style-type: none"> - Plugged via - Resin filled via
Solderable finishes	<ul style="list-style-type: none"> - Electroless Ni immersion Au (ENIG) - Electroless Ni/Pd immersion Au (ENEPIG) - Electroless Pd immersion Au (EPIG) - Electrolytic Ni/Au (Hard gold min. track/gap 100µm (4mil)) 			<ul style="list-style-type: none"> - Electrolytic Ni/Au (soft gold, bondable) - Entek (OSP) - Flash gold (electolytic thin Au) - Gold edge connector 		<ul style="list-style-type: none"> - Hot air solder level (HAL Pb free) - Hot air solder level (HAL Pb) - Immersion Sn - Immersion Ag - Immersion Ag/Au (ISIG) 		

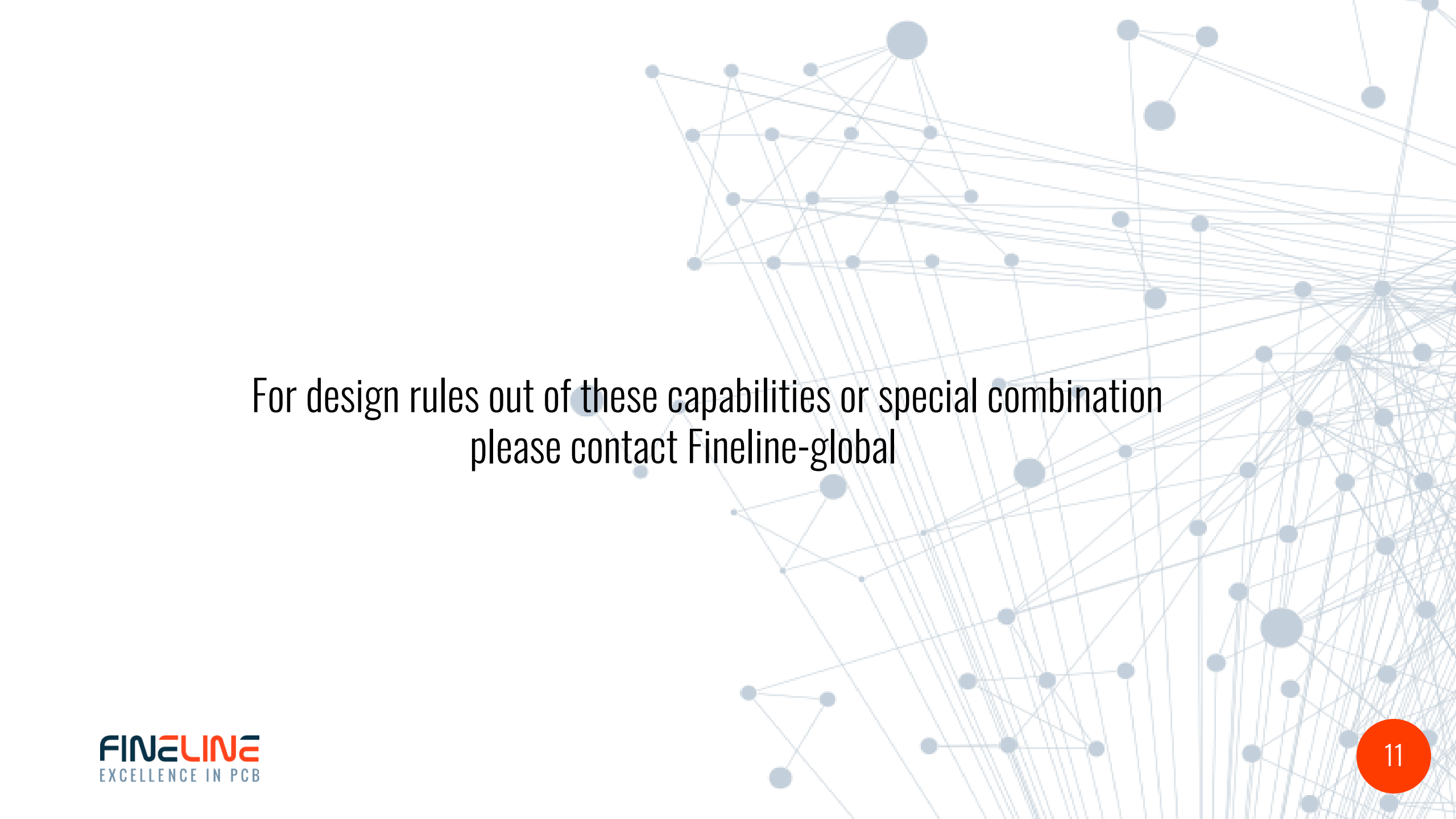
RIGID PCB SPECIFICATIONS

Copper foil thicknesses	2µm 5µm 9µm 12µm 18µm	0,060z 0,1250z 0.250z 0.40z 0.50z	35µm 70µm 105µm 140µm 210µm 420µm	1.0z 2.0z 3.0z 4.0z 6.0z 12.0z
Solder resist	Solder resist color options: Green, Red, Blue, Yellow, Black, White		Min thickness 15-30 µm (0.4 – 1.2 mil)	
Silk screen	Legend color options: White, Black, Yellow, Red			
Controlled impedance	Impedance tolerance 10% , 5%			
Standards	Manufacturing according IPC-A600 Class 2 IPC-A600 Class 3	Materials IPC	Testing According IPC-TM-650	
Qualifications	- UL-94V0 - ISO TS16949	- MIL-P-55110 - MIL-P-50884	- QS9000 - AEC-Q100 - AS9100	
Special products	On request			

MECHANICAL DIMENSIONS



A	± 0,15	outline dimension PCB
B	± 0,15	outline dimension PCB
C	± 0,15	outline dimension PCB
D	± 0,10	edge PCB - NPTH
E	± 0,10	NPTH - NPTH
F	± 0,10	NPTH - PT slot
G	± 0,10	PT slot - NPT slot
H	± 0,10	NPT slot - NPT slot
I	± 0,10	edge PCB - NPT slot
J	± 0,10	NPTH - NPT slot
K	± 0,10	PTH - NPTH
L	± 0,10	PTH - NPT slot
M	± 0,10	PT slot - PTH
N	± 0,075	PT slot - PT slot
O	± 0,10	PTH - PTH
P	± 0,075	PT slot - Cu pad
Q	± 0,10	edge - Cu pad
R	± 0,10	PTH - edge PCB
S	± 0,10	PT slot - Cu pad
T	± 0,10	NPTH - Cu pad
U	± 0,10	NPT slot - Cu pad
V	± 0,10	PT slot - edge PCB
W	≥ 0,3	Copper to scoring edge
X	≥ 0,2	Copper to routing edge

A background network diagram consisting of numerous light blue circular nodes of varying sizes connected by thin, light blue lines. The nodes are distributed across the page, with a higher density on the right side.

For design rules out of these capabilities or special combination
please contact Fineline-global