

# PCB Manufacturing Notes

## General Info

Board dimensions – 130mm x 70mm  
 Number of layers – 4  
 Smallest hole – 0.3mm  
 Number of holes – Approx 660  
 Minimum Track & Gap – 0.125mm  
 RoHS/Lead Free – Yes  
 Material – FR4

## Stackup

Stackup is to be as follows:

Layer	Copper Weight (Pre-Plating)
Layer 01 (Top)	0.5oz
	1.0oz
Layer 04 (Bottom)	1.0oz
	0.5oz

Finished board thickness to be 1.6mm 0.1mm

## Impedance Control

None required

## Copper Thieving/Balancing

The supplier may add copper thieving/balancing if required.

## Finish

A.) Conductive finish

Plating to be immersion gold.

B.) Soldermask

Liquid photo imageable soldermask (green). Pads have not been oversized.  
 Supplier should oversize soldermask on pads to suit process.

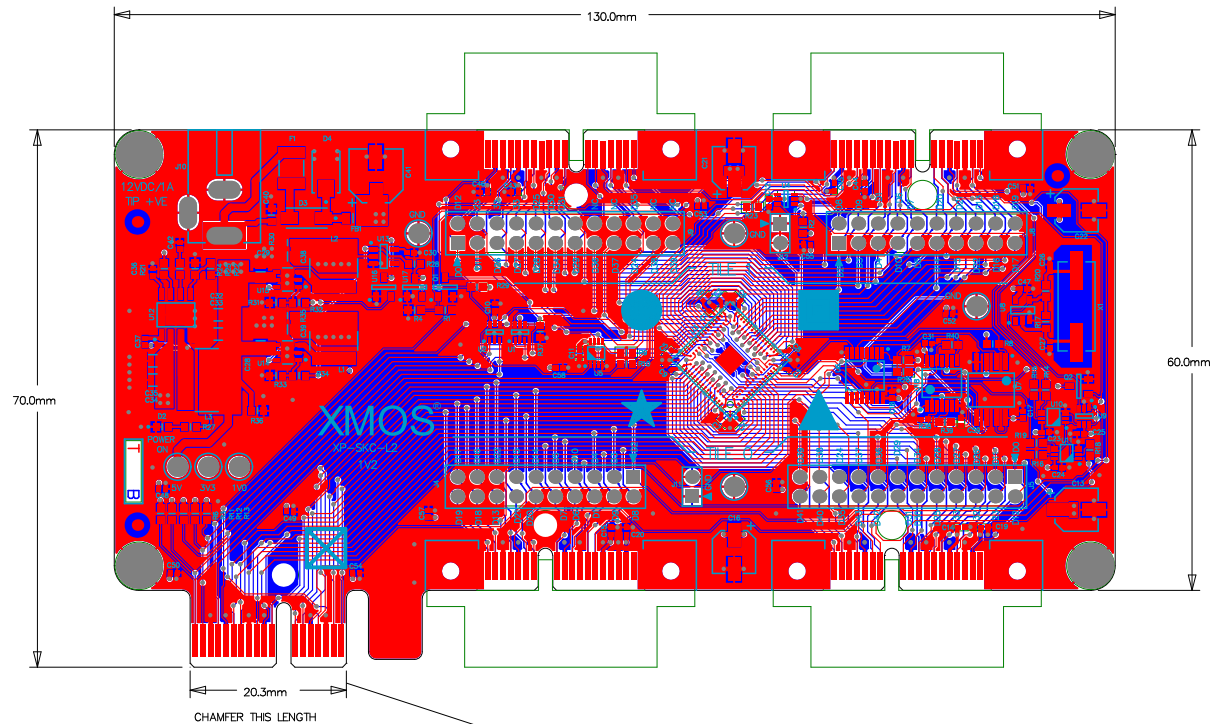
C.) Silkscreen

Colour white. Supplier should remove any silkscreen which overhangs pads.

## Drill Data

Drill data is in Excellon format, metric (000.000), no zero suppression, absolute coordinates.

Hole size is finished size.



XMOS LTD = XPCB-054 = 1V2 = 12 OCTOBER 2012  
 LAYER -- ~~BASECERKINTESTCOT (TOP)~~

**XMOS**

Project Name XPCB-054 SUCEKIT CORE L2		
Sheet A4	Date OCTOBER 2012	Revision 1V2
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Stackup is to be as follows:

Layer	Copper Weight (Pre-Plating)
1	0.5oz
2	1.0oz
3	1.0oz
4	0.5oz

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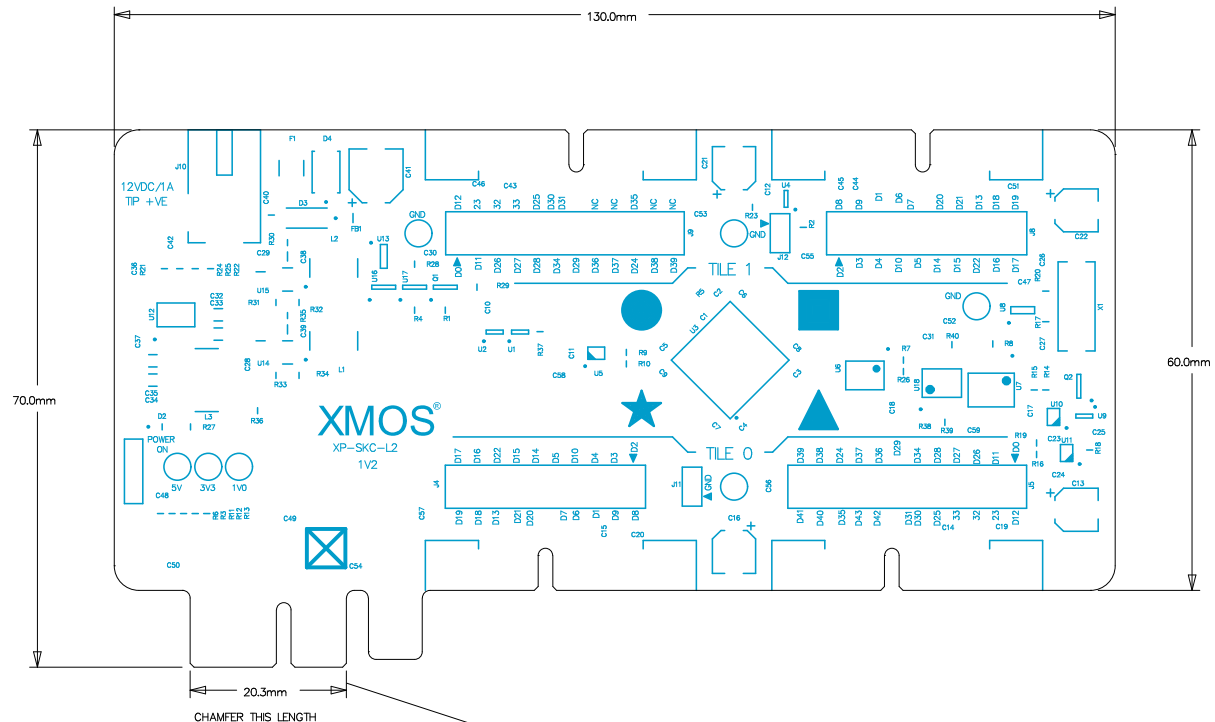
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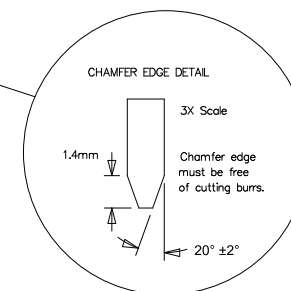
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 Material – FR4

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Stackup is to be as follows:

Layer	Copper Weight (Pre-Plating)
Layer 01 (Top)	0.5oz
	1.0oz
	1.0oz
	0.5oz

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None required

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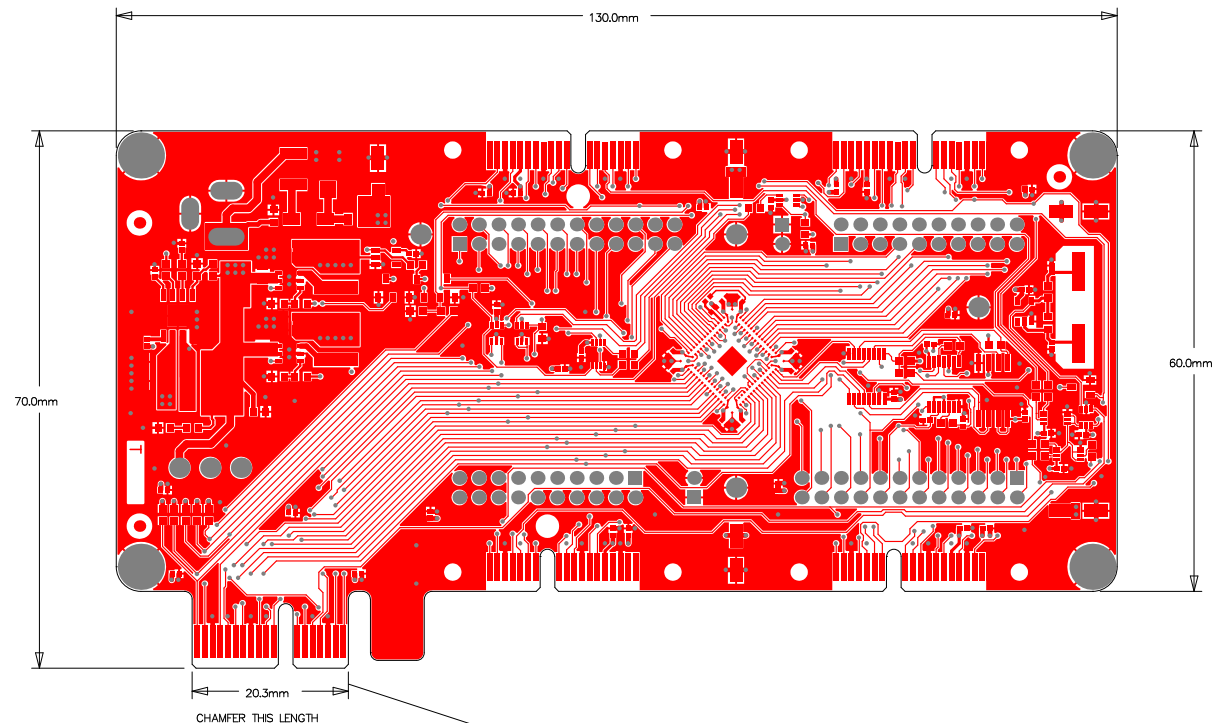
C.) Silkscreen

Colour white. Supplier should remove any silkscreen which overhangs pads.

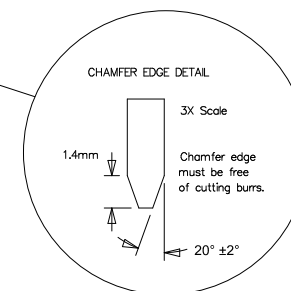
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 Material – FR4

## Stackup

Stackup is to be as follows:

Layer	Copper Weight (Pre-Plating)
	0.5oz
Layer 02 (Gnd)	1.0oz
	1.0oz
	0.5oz

Finished board thickness to be 1.6mm 0.1mm

## Impedance Control

None required

## Copper Thieving/Balancing

The supplier may add copper thieving/balancing if required.

## Finish

A.) Conductive finish

Plating to be immersion gold.

B.) Soldermask

Liquid photo imageable soldermask (green). Pads have not been oversized.  
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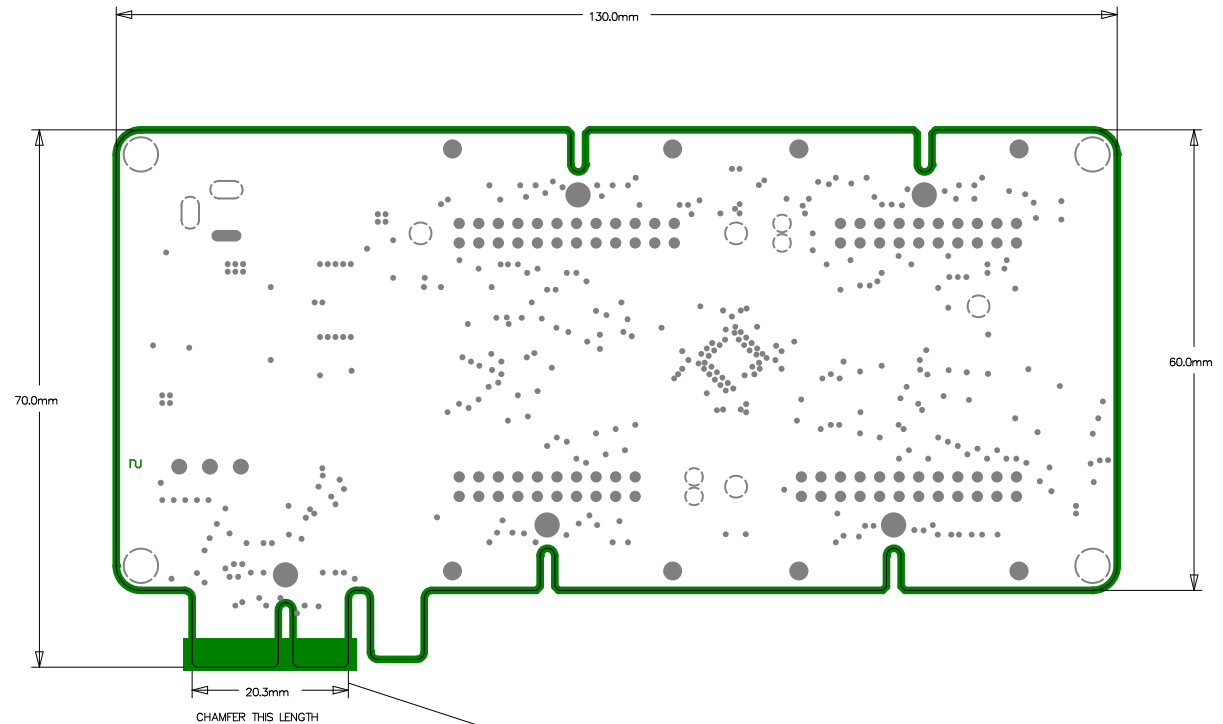
C.) Silkscreen

Colour white. Supplier should remove any silkscreen which overhangs pads.

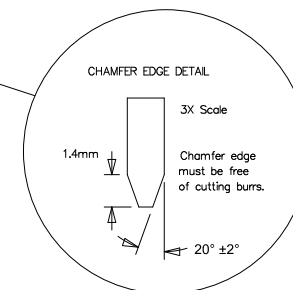
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PCB001 (GND)



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 Number of holes – Approx 660  
 Minimum Track & Gap – 0.125mm  
 RoHS/Lead Free – Yes  
 Material – FR4

## Stackup

Stackup is to be as follows:

Layer	Copper Weight (Pre-Plating)
	0.5oz
	1.0oz
Layer 03 (Power)	1.0oz
	0.5oz

Finished board thickness to be 1.6mm 0.1mm

## Impedance Control

None required

## Copper Thieving/Balancing

The supplier may add copper thieving/balancing if required.

## Finish

A.) Conductive finish

Plating to be immersion gold.

B.) Soldermask

Liquid photo imageable soldermask (green). Pads have not been oversized.  
 Supplier should oversize soldermask on pads to suit process.

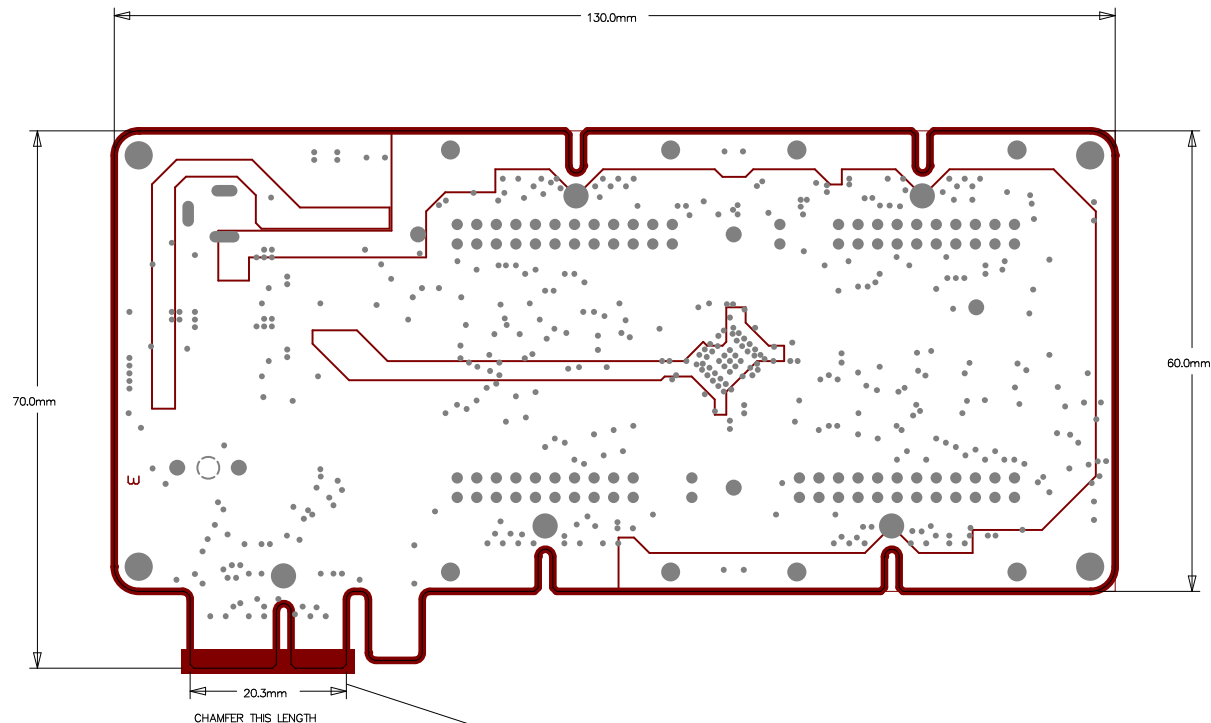
C.) Silkscreen

Colour white. Supplier should remove any silkscreen which overhangs pads.

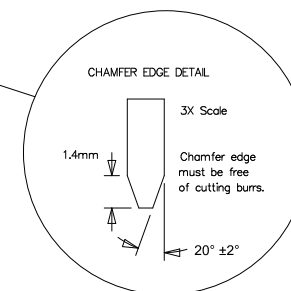
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FABRICATOR INSTRUCTIONS



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 Material – FR4

## Stackup

Stackup is to be as follows:

Layer	Copper Weight (Pre-Plating)
	0.5oz
	1.0oz
	1.0oz
Layer 04 (Bottom)	0.5oz

Finished board thickness to be 1.6mm 0.1mm

## Impedance Control

None required

## Copper Thieving/Balancing

The supplier may add copper thieving/balancing if required.

## Finish

A.) Conductive finish

Plating to be immersion gold.

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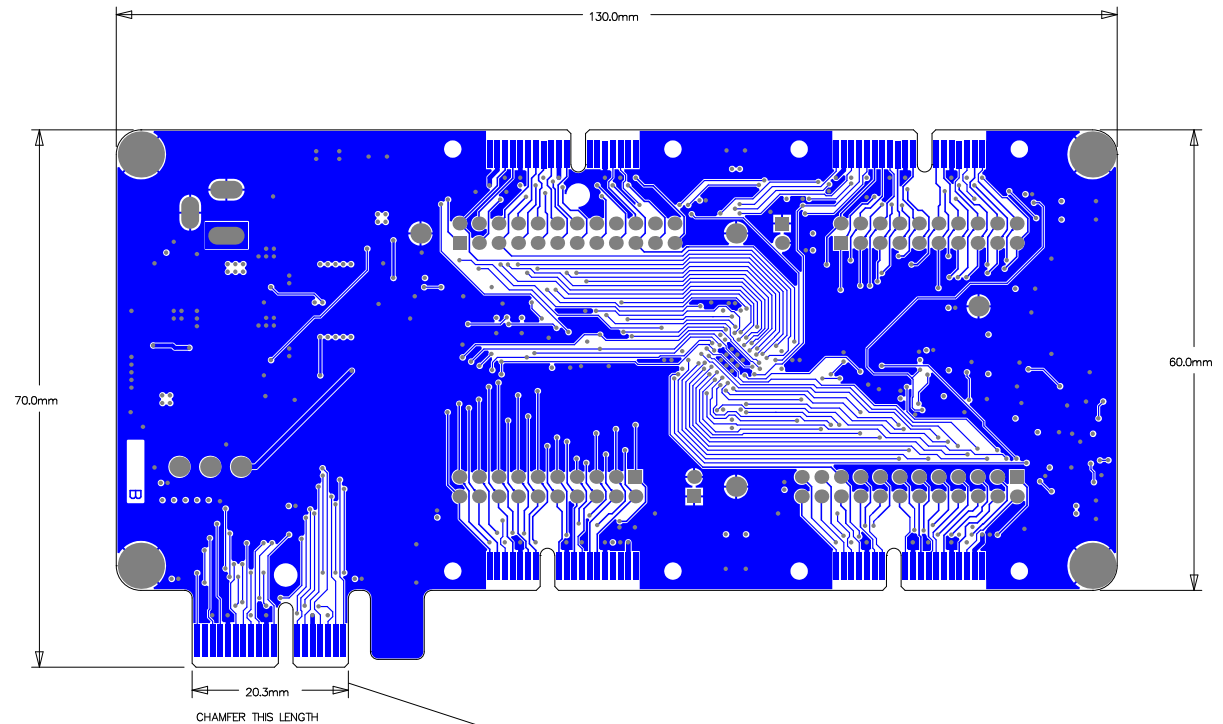
C.) Silkscreen

Colour white. Supplier should remove any silkscreen which overhangs pads.

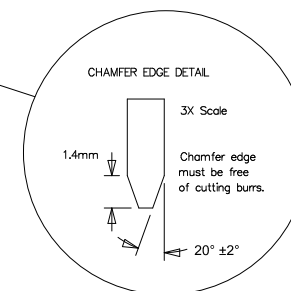
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## FABRICATION INSTRUCTIONS (BOTTOM)



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 Number of holes – Approx 660  
 Minimum Track & Gap – 0.125mm  
 RoHS/Lead Free – Yes  
 Material – FR4

## Stackup

Stackup is to be as follows:

Layer	Copper Weight (Pre-Plating)
	0.5oz
	1.0oz
	1.0oz
	0.5oz

Finished board thickness to be 1.6mm 0.1mm

## Impedance Control

None required

## Copper Thieving/Balancing

The supplier may add copper thieving/balancing if required.

## Finish

A.) Conductive finish

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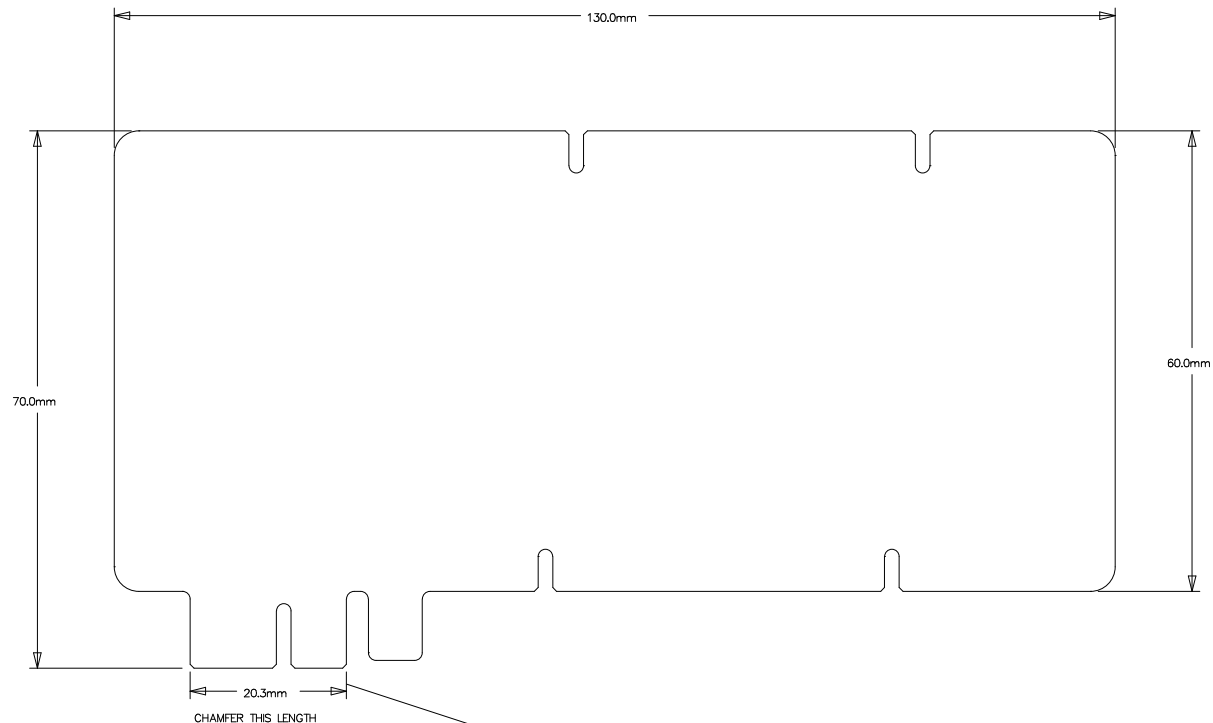
C.) Silkscreen

Colour white. Supplier should remove any silkscreen which overhangs pads.

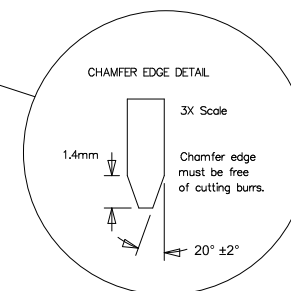
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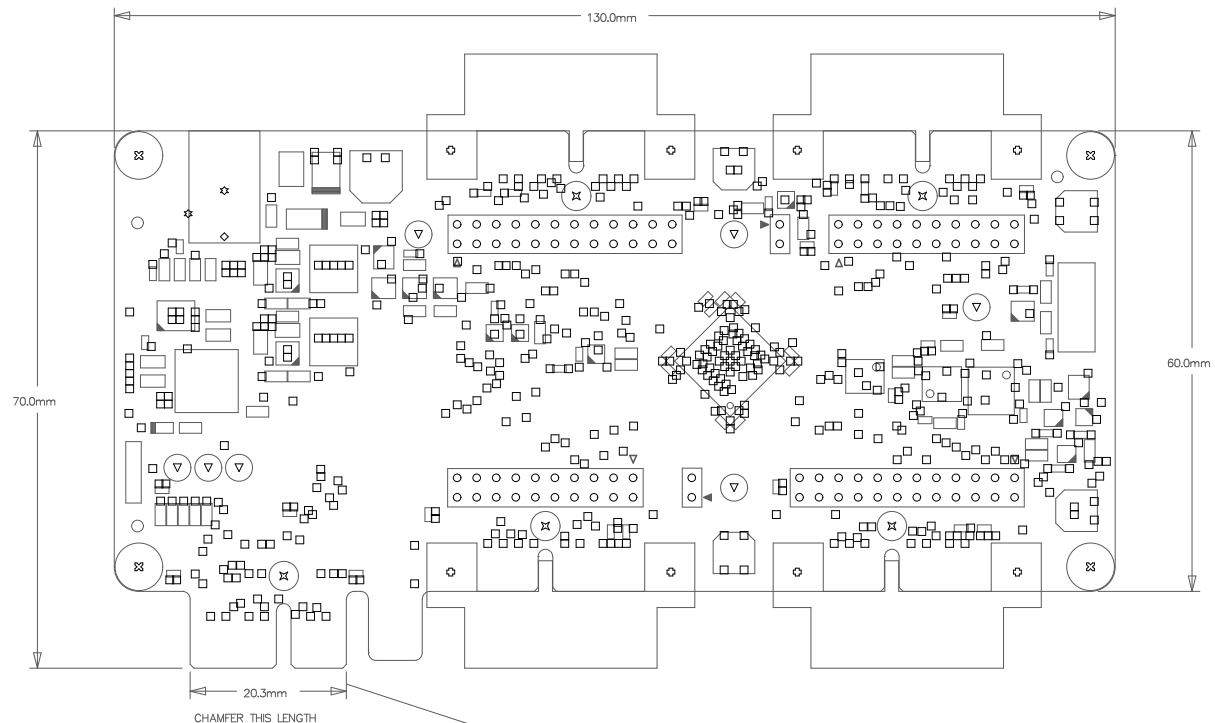
C.) Silkscreen

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### DRAWING INSTRUCTIONS

Symbol	Hit Count	Tool Size	Physical Length	Rout Path Length	Plated	Hole Type
□	544	0.3mm (11.81mil)			PTH	Round
○	92	1mm (39.37mil)			PTH	Round
▽	7	1.6mm (62.992mil)			PTH	Round
○	8	2mm (78.74mil)			NPTH	Round
×	5	2.8mm (110.236mil)			NPTH	Round
⊗	4	3.2mm (125.984mil)			PTH	Round
○	2	1mm (39.37mil)	2.9mm (114.173mil)	1.9mm (74.803mil)	PTH	Slot
○	1	1mm (39.37mil)	3.4mm (133.858mil)	2.4mm (94.488mil)	PTH	Slot
663 Total						

Slot definitions : Rout Path Length = Calculated from tool start centre position to tool end centre position.  
Physical Length = Rout Path Length + Tool Size = Slot length as defined in the PCB layout

Drill Drawing

# XMOS

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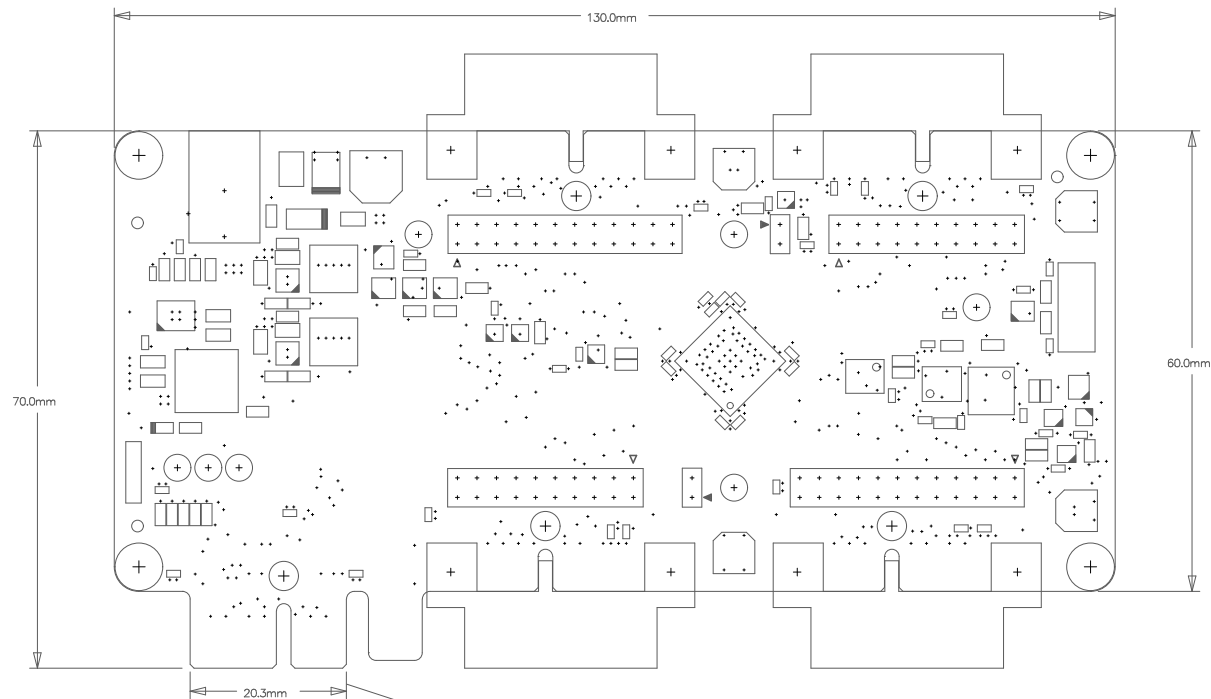
C.) Silkscreen

Colour white. Supplier should remove any silkscreen which overhangs pads.

## Drill Data

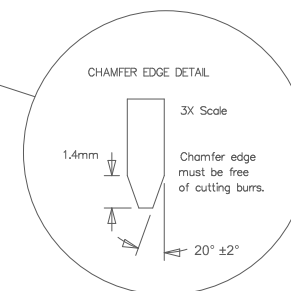
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CHAMFER THIS LENGTH

FABRICATION INSTRUCTIONS



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## BOM

## SliceKit L2 Core Board

Source Data From:

XPCB-054 L2Core.PrjPCB

Project:

XPCB-054 L2Core.PrjPCB

Variant:

None



Report Date: 30/11/2012 17:22:38  
Print Date: 30-Nov-12 5:22:45 PM

#	LibRef	Designator	Description	Quantity
1	E-01-0001	R1, R27, R35, R36	RES 1k 0603 1%	4
2	E-01-0002	R2, R3, R4, R6, R8, R11, R12, R13, R28, R29	RES 10k 0603 1%	10
3	E-01-0008	R9, R10, R14, R15, R16, R18, R19, R23	RES 33R 0603 1%	8
4	E-01-0012	R39	RES 0R 0603 1%	1
5	E-01-0017	R31	RES 5.6k 0603 1%	1
6	E-01-0021	R34	RES 4.7k 0603 1%	1
7	E-01-0022	R20	RES 470R 0603 1%	1
8	E-01-0027	R26, R30	RES 2.2k 0603 1%	2
9	E-01-0032	R21	RES 100k 0603 1%	1
10	E-01-0034	R22	RES 68k 0603 1%	1
11	E-01-0035	R17	RES 2.2M 0603 5%	1
12	E-01-0050	R7, R32, R33	RES 18k 0603 1%	3
13	E-01-0115	R24	RES 13k 0603 1%	1
14	E-01-0116	R25	RES 15k 0603 1%	1
15	E-01-0158	R5	RES 2.2R 0402 5%	1
16	E-01-0220	R38	RES 100K 0402 1%	1
17	E-02-0001	C1	MLCC 1uF 0402 X5R 6.3V	1
18	E-02-0002	C2, C3, C4, C5, C6, C7, C8, C9, C10, C11, C12, C14, C15, C17, C18, C19, C20, C23, C24, C25, C31, C36, C37, C43, C44, C45, C46, C47, C48, C49, C50, C51, C52, C53, C54, C55, C56, C57, C58	MLCC 100nF 0402 X7R 16V	39
19	E-02-0003	C59	MLCC 10nF 0402 X7R 50V	1
20	E-02-0004	C38, C39	MLCC 22uF 0805 X5R 6.3V	2
21	E-02-0008	C26, C27	MLCC 33pF 0402 COG 50V	2
22	E-02-0015	C41	AlElec 100uF 16V CaseD SMD	1
23	E-02-0021	C28, C29	MLCC 4.7uF 0805 X5R 10V	2
24	E-02-0031	C13, C16, C21, C22	AlElec 47uF 16V CaseC SMD	4
25	E-02-0037	C32, C33	MLCC 22uF 1206 X5R 16V	2
26	E-02-0039	C34, C35	MLCC 10uF 1206 X5R 25V	2
27	E-02-0043	C40	MLCC 100nF 0603 X7R 50V	1
28	E-02-0056	C42	MLCC 3.9nF 0402 X7R 50V	1
29	E-02-0061	C30	MLCC 1nF 0402 X7R 50V	1
30	E-03-0021	U7	Memory, Flash, SPI, 16Mb (8Kx256), SOIC-8W	1
31	E-04-0050	J10	DC Power Jack, 5.5mm x 2.1mm, 2.5A, Through Hole	1
32	E-04-0067	J2, J3, J6, J7	PCIe End Fire Socket, x1, 36 Pin, SMD	4
33	E-05-0019	U12	DC-DC Buck Converter, Adjustable, 3A, SOIC8	1
34	E-05-0028	U14, U15	DC-DC Buck Converter, 1.5A, 1.5MHz, DFN6	2
35	E-07-0019	X1	Crystal, 25MHz, HC49US SMD, Fundamental, 18pF, Tol. ±30ppm, Stab. ±50ppm	1
36	E-08-0006	FB1	Ferrite Bead, 120R AT 100MHz, 0805, 3A	1
37	E-09-0005	L1, L2	Power Inductor, 2.2uH, 2.7A, 44mR DCR	2
38	E-09-0013	L3	Power Inductor, 10uH, 3.1A, 44mR DCR	1
39	E-10-0021	D3	Schottky Diode, 40V, 2A, SMA	1
40	E-10-0022	D4	Unidirectional Transient Protection Diode, 22V Stand-Off, 600W, SMB	1
41	E-10-0028	Q1, Q2	MOSFET, ESD Protected, N-Channel, Logic Level, 60V, 300mA, SOT23	2
42	E-11-0009	U3	XMOS XS1-L2 Processor, 124QFN, 500MHz	1
43	E-12-0001	D2	LED, GREEN, 0603	1
44	E-13-0009	U4, U9	2-Input Multiplexer, UHS Series, SC70	2
45	E-13-0014	U10, U11	Triple Logic Buffer, UHS Series, US8	2
46	E-13-0021	U8	Unbuffered Inverter, UHS Series, SOT-23-5	1
47	E-13-0025	U13	Voltage Detector, 3.0V, Programmable Delay, SOT23-5	1
48	E-13-0026	U1, U2	Dual Logic Buffer, Open Drain Output, UHS Series, SC70	2
49	E-13-0099	U6	Quad 1-of-2 Multiplexer/Demultiplexer, Bus Switch, CBTLV Series, TSSOP16	1
50	E-13-0103	U5	Triple Logic Buffer, Schmitt Trigger, UHS Series, US8	1
51	E-13-0104	U16	Microprocessor Reset Circuit, 4.6V, Active Low, Push Pull, SOT23	1
52	E-13-0106	U17	Microprocessor Reset Circuit, 2.9V, Active Low, Open Drain, SOT23	1
53	E-13-0108	U18	Dual D-type flip-flop with set and reset, p.e. trig, TSSOP14	1
54	E-15-0032	TP13, TP14, TP15	Through Hole Testpoint, Compact, 1.8mm Loop, Red	3
55	E-15-0033	TP1, TP2, TP7, TP8	Through Hole Testpoint, Compact, 1.8mm Loop, Black	4
56	E-17-0024	F1	Polyswitch Resettable Fuse, 1812, 1.1A, 16V	1
57	P-01-0011	PROD1, PROD2, PROD3, PROD4	Feet, Nylon, M3, 6mm Standoff	4

Approved

Notes

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