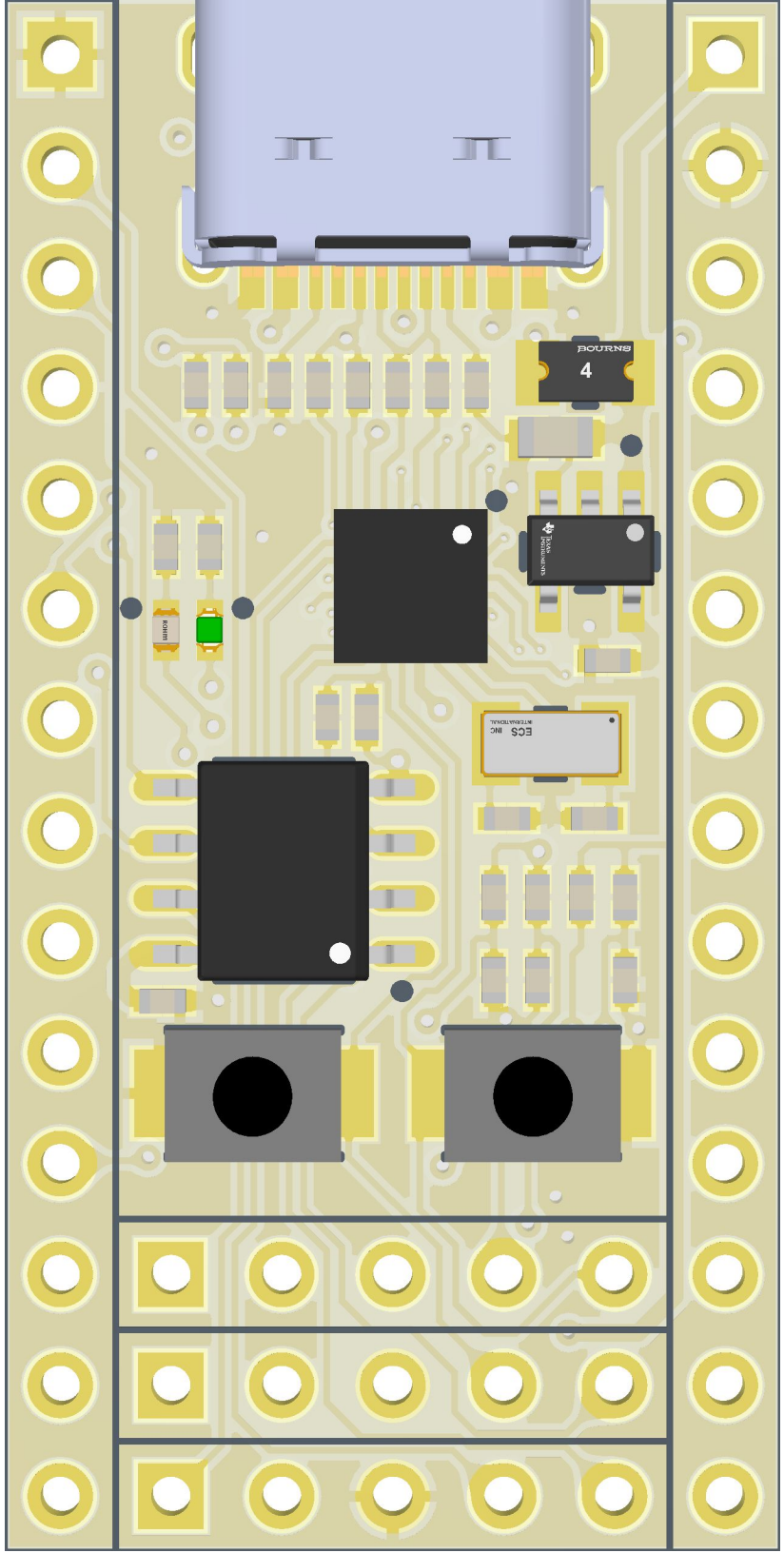

BOURNS
4

# QL-EOS-S3 breakout

## Variant: [No Variations]

# 10/6/2020

# RevB





DESIGN CONSIDERATIONS

DESIGN NOTE:
Example text for informational design notes .

**DESIGN NOTE:**
**Example text for critical design notes.**

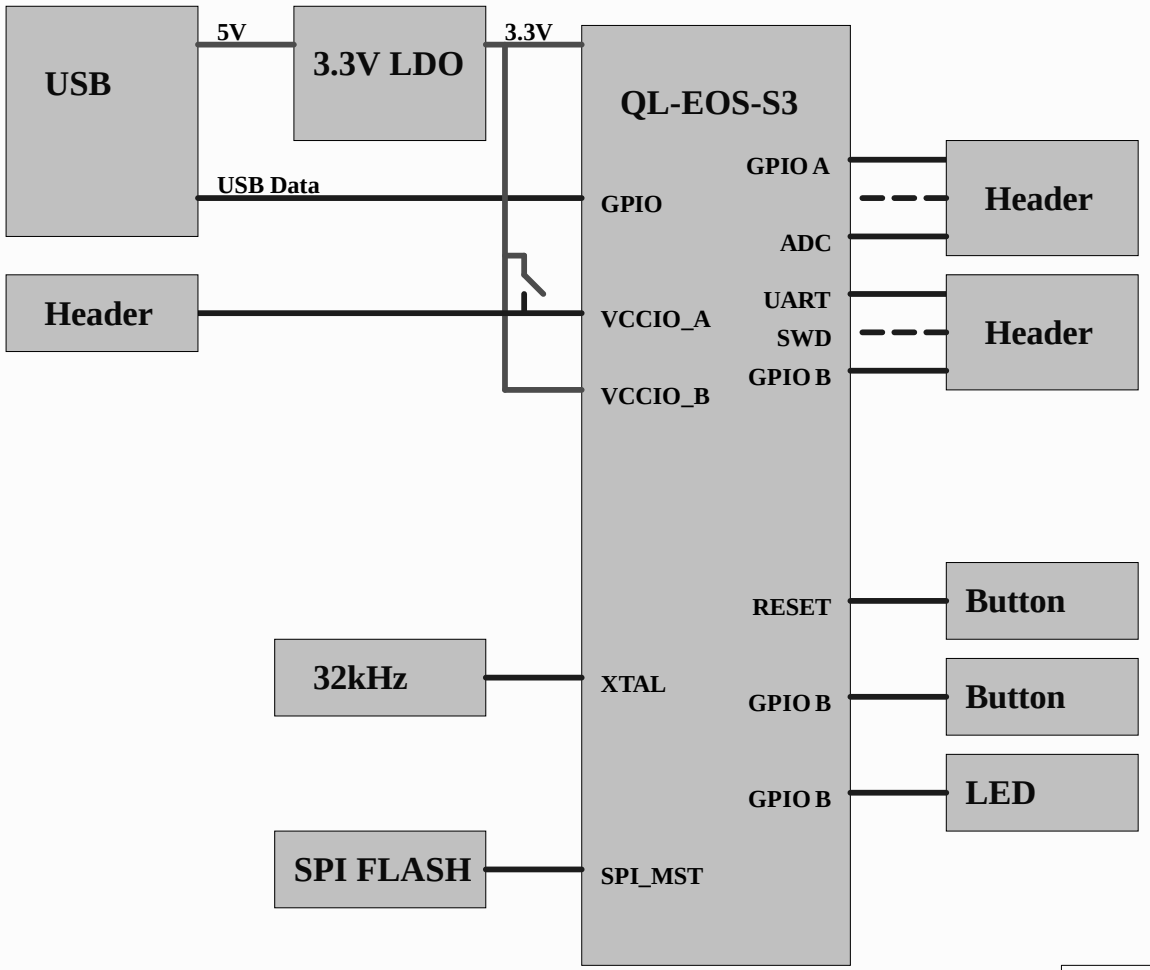
DESIGN NOTE:
Example text for cautionary design notes.

**LAYOUT NOTE:**
**Example text for critical layout guidelines.**

| | | |
|---|---|---|
| Title: * | | |
| Project: QL-EOS-S3-breakout.PrjPcb | Revision: RevB | |
| Date: 10/6/2020 Time: 6:37:07 PM | Sheet 1 of 4 | |

BLIN KIN LABS

# QL-EOS-S3 breakout

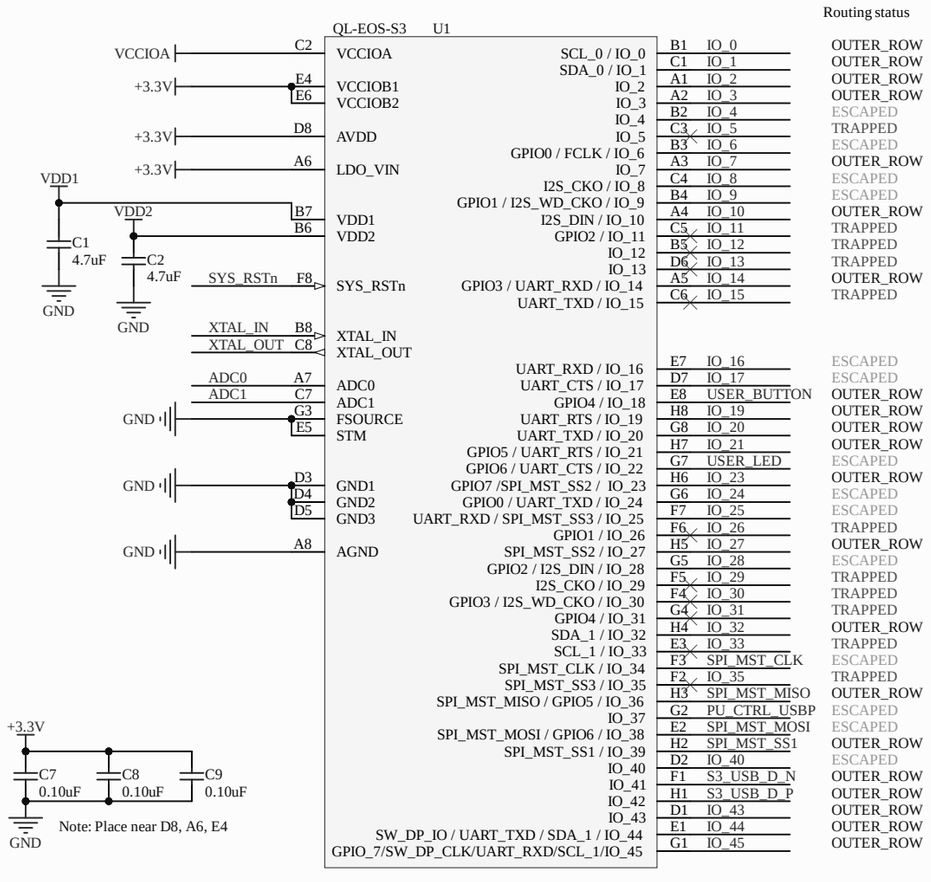



| | | |
|---|---|---|
| Title: Block Diagram | | |
| Project: QL-EOS-S3-breakout.PrjPcb | Revision: RevB | |
| Date: 10/6/2020 Time: 6:37:07 PM | Sheet 2 of 4 | |

BLIN KIN LABS

# QL-EOS-S3 breakout

## MCU/FPGA

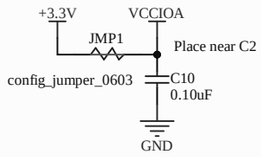



Design intent:
-Low-cost, minimum viable ARM+FPGA design that is breadboard compatable
-Footprint, power, UART pin compatibility with Teensy 3.2.
-All pins on Bank A placed in a group, so that they can have their IO voltage set with an external reference
-Bootstrap, SPI flash, and reset pins placed in non-breadboardable location to avoid inadvertant interference with application circuit
-Pins with multiple IO functions preferred over FPGA only pins
-Pins in ascending order by FPGA IO number when possible

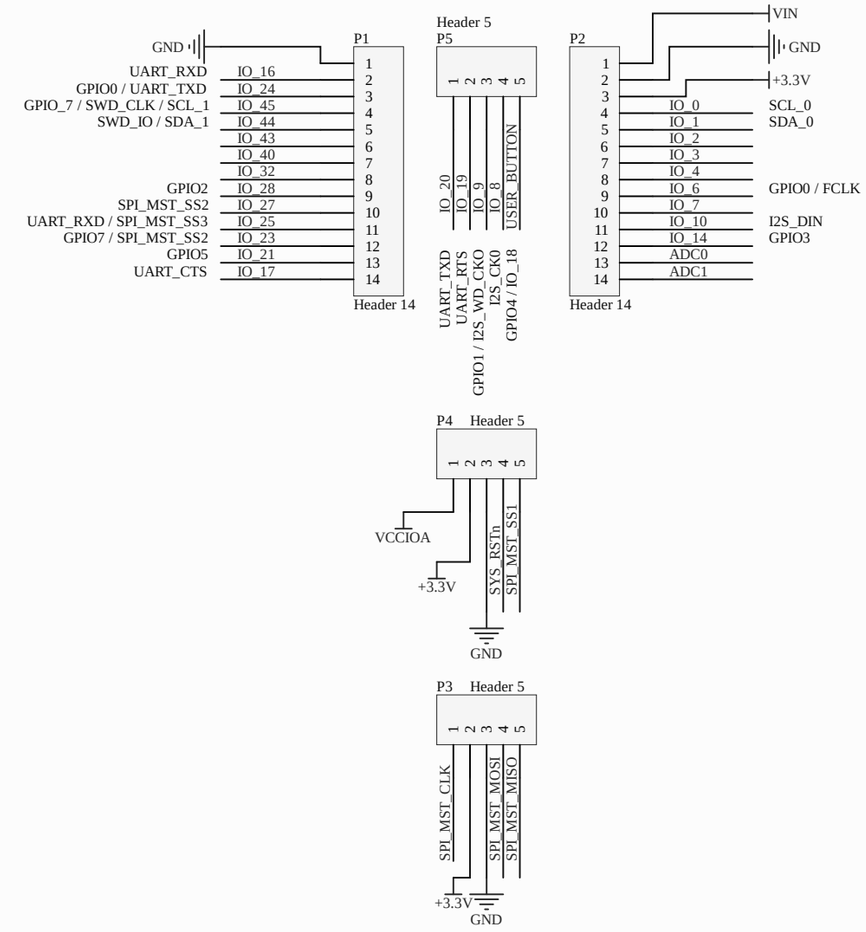
Useful connections:
-Bridge VCCIOA to 3.3V if the jumper was cut
-Bridge SYS_RSTn to GND to put processor in reset for external SPI Flash programming
-Bridge IO_19 to 3.3V to enable JTAG SWD on boot

## I/O Bank A reference voltage

Cut jumper JMP1 and provide 1.2-3.3V (?) reference voltage on VCCIOA pin

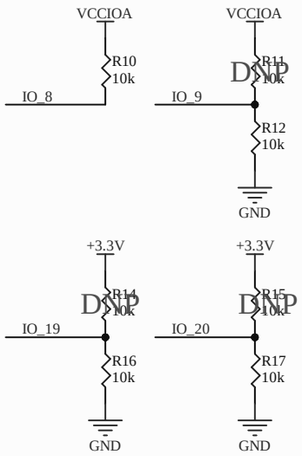



## I/O Pins



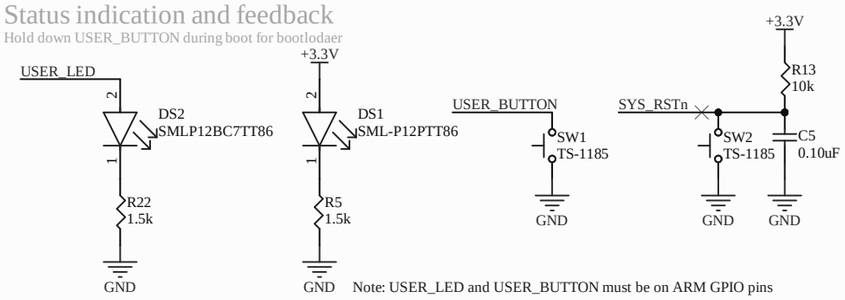

## Bootstrap Configuration

IO_8: SWD pin assignment: pull down for 14/15 (default), up for 44/45
IO_8/IO_9: High speed oscillator selection; both pulled up for external oscillator, otherwise internal oscillator
IO_19: Enable SWD: pull down to disable, up to enable
IO_20: Boot mode: pull down for host (boot from SPI flash), pull up for companion (boot from external processor)




## Status indication and feedback

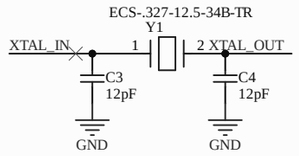
Hold down USER_BUTTON during boot for bootlodaer




Note: USER_LED and USER_BUTTON must be on ARM GPIO pins

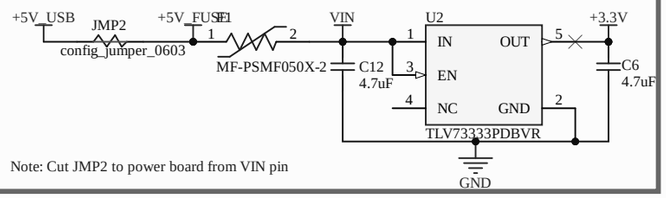
## 32.768k oscillator

Used for RTC and as a reference for the main clock




## 3.3V regulator

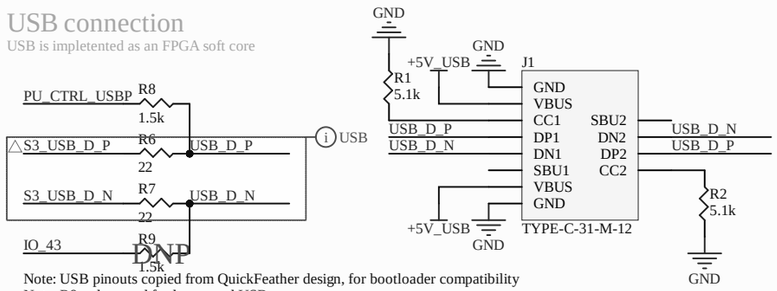
300mA max




Note: Cut JMP2 to power board from VIN pin

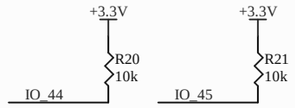
## USB connection

USB is impletented as an FPGA soft core




Note: USB pinouts copied from QuickFeather design, for bootloader compatibility
Note: R9 only neeed for low-speed USB

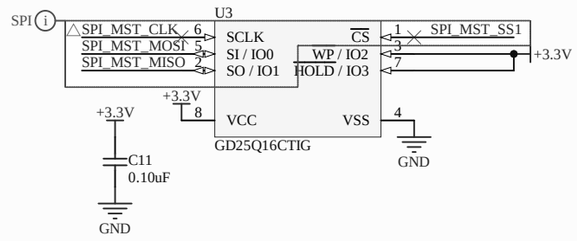
## JTAG pull-ups




Note: Possible to omit these if JTAG isn't needed.

## SPI Flash

Program memory loaded from SPI flash at boot



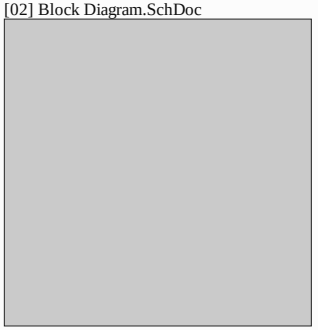

BLIN KIN LABS

| | | |
|---|---|---|
| Title: SOC | | |
| Project: QL-EOS-S3-breakout.PrjPcb | | Revision: RevB |
| Date: 10/6/2020 | Time: 6:37:07 PM | Sheet 3 of 4 |

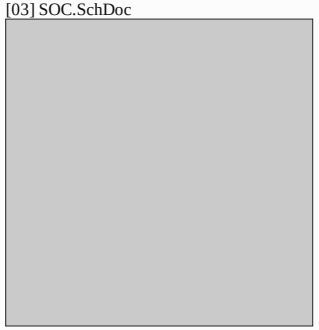
BLIN KIN LABS

Designator
[01] cover page.SchDoc

Designator
[02] Block Diagram.SchDoc

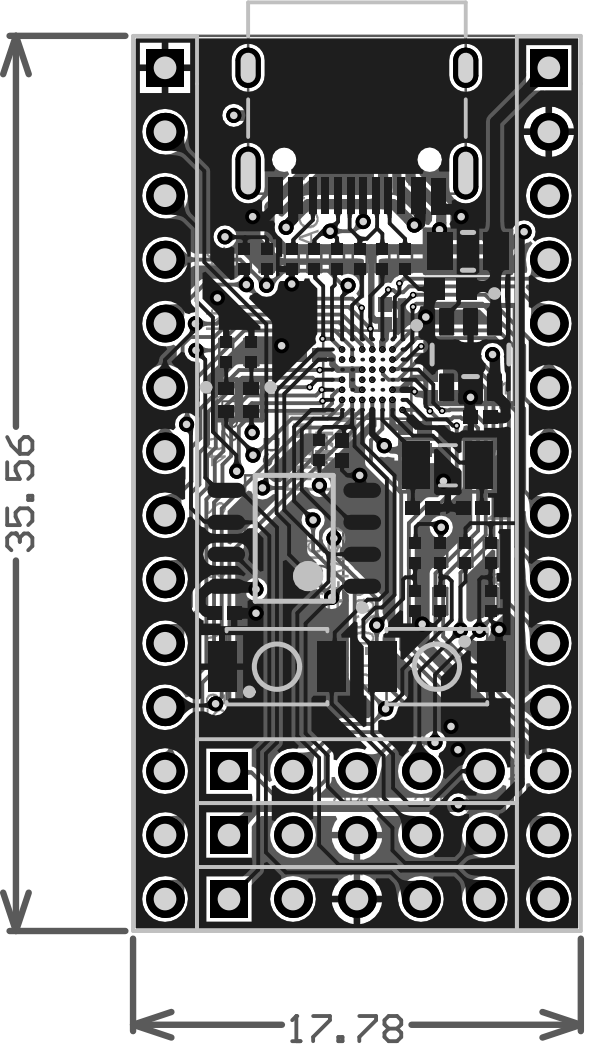


Designator
[03] SOC.SchDoc



| | | | |
|---|---|---|---|
| Title: * | | | |
| Project: QL-EOS-S3-breakout.PrjPcb | | Revision: RevB | |
| Date: 10/6/2020 | Time: 6:37:07 PM | Sheet 4 of 4 | |

BLIN KIN LABS




| Layer | Name | Material | Thickness | Constant |
|---|---|---|---|---|
| | Top Overlay | | | |
| | Top Solder | SM-001 | 0.013mm | 4 |
| 1 | Top Layer | Copper | 0.035mm | |
| | Dielectric 2 | PP-022 | 0.200mm | 4.6 |
| 2 | Layer 1 | Copper | 0.018mm | |
| | Dielectric 3 | Core-039 | 0.665mm | 4.8 |
| 3 | Layer 2 | Copper | 0.018mm | |
| | Dielectric 4 | PP-022 | 0.200mm | 4.6 |
| 4 | Bottom Layer | Copper | 0.035mm | |
| | Bottom Solder | SM-001 | 0.013mm | 4 |
| | Bottom Overlay | | | |

Total board thickness: 1.195mm

# Design Rules Verification Report

Filename : C:\Users\blinkinlabs\Blinkinlabs-Repos\QL-EOS-S3-breakout\pcb\QL-EOS-S3-b

Warnings 0
Rule Violations 330

| Warnings | |
|---|---|
| Total | 0 |

| Rule Violations | |
|---|---|
| Clearance Constraint (Gap=0.152mm) (All),(All) | 0 |
| Clearance Constraint (Gap=0.127mm) (istrack or ((ObjectKind = 'Via') And (AsMils(ViaDiameter) | 0 |
| Clearance Constraint (Gap=0.152mm) (InComponent('JMP1') or | 0 |
| Short-Circuit Constraint (Allowed=No) (All),(All) | 0 |
| Short-Circuit Constraint (Allowed=Yes) (InComponent('JMP1') or | 0 |
| Un-Routed Net Constraint ( (All) ) | 0 |
| Modified Polygon (Allow modified: No), (Allow shelved: No) | 0 |
| Width Constraint (Min=0.152mm) (Max=0.406mm) (Preferred=0.254mm) (All) | 0 |
| Power Plane Connect Rule(Relief Connect )(Expansion=0.508mm) (Conductor Width=0.254mm) | 0 |
| Hole Size Constraint (Min=0.025mm) (Max=2.54mm) (All) | 0 |
| Hole To Hole Clearance (Gap=0.25mm) (All),(All) | 0 |
| Minimum Solder Mask Sliver (Gap=0.254mm) (All),(All) | 281 |
| Silk To Solder Mask (Clearance=0.254mm) (IsPad),(All) | 44 |
| Silk to Silk (Clearance=0.254mm) (All),(All) | 4 |
| Net Antennae (Tolerance=0mm) (All) | 1 |
| Board Clearance Constraint (Gap=0mm) (IsPolygon) | 0 |
| Room [03] SOC (Bounding Region = (144.78mm, 45.72mm, 172.72mm, 86.36mm) | 0 |
| Height Constraint (Min=0mm) (Max=25.4mm) (Prefered=12.7mm) (All) | 0 |
| Total | 330 |

| Minimum Solder Mask Sliver (Gap=0.254mm) (All),(All) |
| --- |
| Minimum Solder Mask Sliver Constraint: (0.017mm < 0.254mm) Between Pad C10-1(10mm,24.89mm) on Bottom Layer And |
| Minimum Solder Mask Sliver Constraint: (0.017mm < 0.254mm) Between Pad C1-1(10.81mm,20mm) on Bottom Layer And |
| Minimum Solder Mask Sliver Constraint: (0.178mm < 0.254mm) Between Pad C1-1(10.81mm,20mm) on Bottom Layer And |
| Minimum Solder Mask Sliver Constraint: (0.177mm < 0.254mm) Between Pad C1-1(10.81mm,20mm) on Bottom Layer And |
| Minimum Solder Mask Sliver Constraint: (0.017mm < 0.254mm) Between Pad C11-1(4.015mm,12.625mm) on Top Layer |
| And |
| Minimum Solder Mask Sliver Constraint: (0.177mm < 0.254mm) Between Pad C1-2(11.59mm,20mm) on Bottom Layer And |
| Minimum Solder Mask Sliver Constraint: (0.178mm < 0.254mm) Between Pad C1-2(11.59mm,20mm) on Bottom Layer And |
| Minimum Solder Mask Sliver Constraint: (0.229mm < 0.254mm) Between Pad C12-1(13.25mm,25.5mm) on Top Layer And |
| Minimum Solder Mask Sliver Constraint: (0.223mm < 0.254mm) Between Pad C12-1(13.25mm,25.5mm) on Top Layer And |
| Minimum Solder Mask Sliver Constraint: (0.228mm < 0.254mm) Between Pad C12-1(13.25mm,25.5mm) on Top Layer And |
| Minimum Solder Mask Sliver Constraint: (0.223mm < 0.254mm) Between Pad C12-2(11.95mm,25.5mm) on Top Layer And |
| Minimum Solder Mask Sliver Constraint: (0.223mm < 0.254mm) Between Pad C12-2(11.95mm,25.5mm) on Top Layer And |
| Minimum Solder Mask Sliver Constraint: (0.017mm < 0.254mm) Between Pad C2-1(11.81mm,22.1mm) on Bottom Layer |
| And |
| Minimum Solder Mask Sliver Constraint: (0.178mm < 0.254mm) Between Pad C2-1(11.81mm,22.1mm) on Bottom Layer |
| And |
| Minimum Solder Mask Sliver Constraint: (0.177mm < 0.254mm) Between Pad C2-1(11.81mm,22.1mm) on Bottom Layer |
| And |
| Minimum Solder Mask Sliver Constraint: (0.177mm < 0.254mm) Between Pad C2-2(12.59mm,22.1mm) on Bottom Layer |
| And |
| Minimum Solder Mask Sliver Constraint: (0.178mm < 0.254mm) Between Pad C2-2(12.59mm,22.1mm) on Bottom Layer |
| And |
| Minimum Solder Mask Sliver Constraint: (0.017mm < 0.254mm) Between Pad C3-1(13.11mm,16.8mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.017mm < 0.254mm) Between Pad C4-1(11.89mm,16.8mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.017mm < 0.254mm) Between Pad C5-1(8.3mm,18.71mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad C5-1(8.3mm,18.71mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.227mm < 0.254mm) Between Pad C5-1(8.3mm,18.71mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.227mm < 0.254mm) Between Pad C5-2(8.3mm,19.49mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad C5-2(8.3mm,19.49mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.017mm < 0.254mm) Between Pad C6-1(14.19mm,20.4mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.017mm < 0.254mm) Between Pad C7-1(12.59mm,21.2mm) on Bottom Layer |
| And |
| Minimum Solder Mask Sliver Constraint: (0.017mm < 0.254mm) Between Pad C8-1(11.59mm,19.1mm) on Bottom Layer |
| And |
| Minimum Solder Mask Sliver Constraint: (0.017mm < 0.254mm) Between Pad C9-1(6.61mm,22.9mm) on Bottom Layer And |
| Minimum Solder Mask Sliver Constraint: (0.14mm < 0.254mm) Between Pad J1-A1/B12(12.115mm,29.19mm) on Top Layer |
| Minimum Solder Mask Sliver Constraint: (0.176mm < 0.254mm) Between Pad J1-A1/B12(12.115mm,29.19mm) on Top |
| Layer |
| Minimum Solder Mask Sliver Constraint: (0.14mm < 0.254mm) Between Pad J1-A12/B1(5.665mm,29.198mm) on Top Layer |
| Minimum Solder Mask Sliver Constraint: (0.176mm < 0.254mm) Between Pad J1-A12/B1(5.665mm,29.198mm) on Top |
| Layer |
| Minimum Solder Mask Sliver Constraint: (0.203mm < 0.254mm) Between Pad J1-A4/B9(11.34mm,29.198mm) on Top Layer |
| Minimum Solder Mask Sliver Constraint: (0.14mm < 0.254mm) Between Pad J1-A5(10.14mm,29.198mm) on Top Layer And |
| Minimum Solder Mask Sliver Constraint: (0.14mm < 0.254mm) Between Pad J1-A5(10.14mm,29.198mm) on Top Layer And |
| Minimum Solder Mask Sliver Constraint: (0.14mm < 0.254mm) Between Pad J1-A6(9.14mm,29.198mm) on Top Layer And |
| Minimum Solder Mask Sliver Constraint: (0.14mm < 0.254mm) Between Pad J1-A6(9.14mm,29.198mm) on Top Layer And |
| Minimum Solder Mask Sliver Constraint: (0.14mm < 0.254mm) Between Pad J1-A7(8.64mm,29.198mm) on Top Layer And |
| Minimum Solder Mask Sliver Constraint: (0.14mm < 0.254mm) Between Pad J1-A8(7.64mm,29.198mm) on Top Layer And |
| Minimum Solder Mask Sliver Constraint: (0.14mm < 0.254mm) Between Pad J1-A8(7.64mm,29.198mm) on Top Layer And |
| Minimum Solder Mask Sliver Constraint: (0.203mm < 0.254mm) Between Pad J1-A9/B4(6.44mm,29.198mm) on Top Layer |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R10-1(13.2mm,15.4mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R1-1(10.8mm,27.1mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm) Between Pad R1-1(10.8mm,27.1mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R11-1(14.2mm,15.4mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm) Between Pad R1-2(10.8mm,26.3mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R12-1(14.2mm,13.5mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R13-1(7.4mm,18.7mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R14-1(12.2mm,15.4mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R15-1(11.2mm,15.4mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R16-1(12.2mm,13.5mm) on Top Layer And |
| Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R17-1(11.2mm,13.5mm) on Top Layer And |
| Pad |

| Minimum Solder Mask Sliver (Gap=0.254mm) (All),(All) |
| --- |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R20-1(4.4mm,27.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm) Between Pad R20-1(4.4mm,27.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm) Between Pad R20-2(4.4mm,26.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R2-1(6.3mm,26.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm) Between Pad R2-1(6.3mm,26.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R21-1(5.3mm,27.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm) Between Pad R2-2(6.3mm,27.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R22-1(3.7mm,22.6mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R5-1(4.7mm,23.4mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R6-1(8.1mm,26.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm) Between Pad R6-1(8.1mm,26.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm) Between Pad R6-1(8.1mm,26.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm) Between Pad R6-2(8.1mm,27.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm) Between Pad R6-2(8.1mm,27.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R7-1(9mm,26.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm) Between Pad R7-1(9mm,26.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm) Between Pad R7-2(9mm,27.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R8-1(7.2mm,26.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm) Between Pad R9-1(9.9mm,26.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A1(10.7mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A1(10.7mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-A1(10.7mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A2(10.7mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-A2(10.7mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A2(10.7mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-A2(10.7mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A3(10.7mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-A3(10.7mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A3(10.7mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-A3(10.7mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A4(10.7mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-A4(10.7mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A4(10.7mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-A4(10.7mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A5(10.7mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-A5(10.7mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A5(10.7mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-A5(10.7mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A6(10.7mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-A6(10.7mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A6(10.7mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-A6(10.7mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A7(10.7mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-A7(10.7mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A7(10.7mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-A7(10.7mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-A8(10.7mm,20.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-A8(10.7mm,20.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B1(10.3mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B1(10.3mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-B1(10.3mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B2(10.3mm,23.1mm) on Top Layer And Pad |

| Minimum Solder Mask Sliver (Gap=0.254mm) (All),(All) |
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| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-B2(10.3mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B2(10.3mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-B2(10.3mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B3(10.3mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-B3(10.3mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B3(10.3mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-B3(10.3mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B4(10.3mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-B4(10.3mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B4(10.3mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-B4(10.3mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B5(10.3mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-B5(10.3mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B5(10.3mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-B5(10.3mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B6(10.3mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-B6(10.3mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B6(10.3mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-B6(10.3mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B7(10.3mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-B7(10.3mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B7(10.3mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-B7(10.3mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-B8(10.3mm,20.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-B8(10.3mm,20.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C1(9.9mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C1(9.9mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-C1(9.9mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C2(9.9mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-C2(9.9mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C2(9.9mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-C2(9.9mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C3(9.9mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-C3(9.9mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C3(9.9mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-C3(9.9mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C4(9.9mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-C4(9.9mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C4(9.9mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-C4(9.9mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C5(9.9mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-C5(9.9mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C5(9.9mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-C5(9.9mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C6(9.9mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-C6(9.9mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C6(9.9mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-C6(9.9mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C7(9.9mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-C7(9.9mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C7(9.9mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-C7(9.9mm,21.1mm) on Top Layer And Pad |

| Minimum Solder Mask Sliver (Gap=0.254mm) (All),(All) |
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| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-C8(9.9mm,20.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-C8(9.9mm,20.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D1(9.5mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D1(9.5mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-D1(9.5mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D2(9.5mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-D2(9.5mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D2(9.5mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-D2(9.5mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D3(9.5mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-D3(9.5mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D3(9.5mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-D3(9.5mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D4(9.5mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-D4(9.5mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D4(9.5mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-D4(9.5mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D5(9.5mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-D5(9.5mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D5(9.5mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-D5(9.5mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D6(9.5mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-D6(9.5mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D6(9.5mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-D6(9.5mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D7(9.5mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-D7(9.5mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D7(9.5mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-D7(9.5mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-D8(9.5mm,20.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-D8(9.5mm,20.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E1(9.1mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E1(9.1mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-E1(9.1mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E2(9.1mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-E2(9.1mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E2(9.1mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-E2(9.1mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E3(9.1mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-E3(9.1mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E3(9.1mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-E3(9.1mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E4(9.1mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-E4(9.1mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E4(9.1mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-E4(9.1mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E5(9.1mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-E5(9.1mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E5(9.1mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-E5(9.1mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E6(9.1mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-E6(9.1mm,21.5mm) on Top Layer And Pad |

| Minimum Solder Mask Sliver (Gap=0.254mm) (All),(All) |
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| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E6(9.1mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-E6(9.1mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E7(9.1mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-E7(9.1mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E7(9.1mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-E7(9.1mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-E8(9.1mm,20.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-E8(9.1mm,20.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F1(8.7mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F1(8.7mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-F1(8.7mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F2(8.7mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-F2(8.7mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F2(8.7mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-F2(8.7mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F3(8.7mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-F3(8.7mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F3(8.7mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-F3(8.7mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F4(8.7mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-F4(8.7mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F4(8.7mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-F4(8.7mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F5(8.7mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-F5(8.7mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F5(8.7mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-F5(8.7mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F6(8.7mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-F6(8.7mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F6(8.7mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-F6(8.7mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F7(8.7mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-F7(8.7mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F7(8.7mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-F7(8.7mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-F8(8.7mm,20.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-F8(8.7mm,20.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G1(8.3mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G1(8.3mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-G1(8.3mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G2(8.3mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-G2(8.3mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G2(8.3mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-G2(8.3mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G3(8.3mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-G3(8.3mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G3(8.3mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-G3(8.3mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G4(8.3mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-G4(8.3mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G4(8.3mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-G4(8.3mm,22.3mm) on Top Layer And Pad |

| Minimum Solder Mask Sliver (Gap=0.254mm) (All),(All) |
| --- |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G5(8.3mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-G5(8.3mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G5(8.3mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-G5(8.3mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G6(8.3mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-G6(8.3mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G6(8.3mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-G6(8.3mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G7(8.3mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-G7(8.3mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G7(8.3mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-G7(8.3mm,21.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.212mm < 0.254mm) Between Pad U1-G8(8.3mm,20.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-G8(8.3mm,20.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-H1(7.9mm,23.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-H2(7.9mm,23.1mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-H3(7.9mm,22.7mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-H4(7.9mm,22.3mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-H5(7.9mm,21.9mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-H6(7.9mm,21.5mm) on Top Layer And Pad |
| Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm) Between Pad U1-H7(7.9mm,21.1mm) on Top Layer And Pad |

| Silk To Solder Mask (Clearance=0.254mm) (IsPad),(All) |
| --- |
| Silk To Solder Mask Clearance Constraint: (0.25mm < 0.254mm) Between Arc (13.165mm,11.5mm) on Top Overlay And Pad |
| Silk To Solder Mask Clearance Constraint: (0.25mm < 0.254mm) Between Arc (2.9mm,21.6mm) on Top Overlay And Pad |
| Silk To Solder Mask Clearance Constraint: (0.25mm < 0.254mm) Between Arc (4.615mm,9.5mm) on Top Overlay And Pad |
| Silk To Solder Mask Clearance Constraint: (0.211mm < 0.254mm) Between Arc (5.461mm,21.603mm) on Top Overlay And |
| Silk To Solder Mask Clearance Constraint: (0.225mm < 0.254mm) Between Pad C12-1(13.25mm,25.5mm) on Top Layer |
| Silk To Solder Mask Clearance Constraint: (0.242mm < 0.254mm) Between Pad C5-1(8.3mm,18.71mm) on Top Layer And |
| Silk To Solder Mask Clearance Constraint: (0.242mm < 0.254mm) Between Pad C5-1(8.3mm,18.71mm) on Top Layer And |
| Silk To Solder Mask Clearance Constraint: (0.233mm < 0.254mm) Between Pad P1-12(1.27mm,6.35mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.233mm < 0.254mm) Between Pad P1-13(1.27mm,3.81mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.233mm < 0.254mm) Between Pad P1-14(1.27mm,1.27mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.218mm < 0.254mm) Between Pad P2-12(16.51mm,6.35mm) on Multi-Layer |
| Silk To Solder Mask Clearance Constraint: (0.214mm < 0.254mm) Between Pad P2-13(16.51mm,3.81mm) on Multi-Layer |
| Silk To Solder Mask Clearance Constraint: (0.211mm < 0.254mm) Between Pad P2-14(16.51mm,1.27mm) on Multi-Layer |
| Silk To Solder Mask Clearance Constraint: (0.199mm < 0.254mm) Between Pad P3-1(3.81mm,1.27mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.2mm < 0.254mm) Between Pad P3-1(3.81mm,1.27mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.236mm < 0.254mm) Between Pad P3-2(6.35mm,1.27mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.236mm < 0.254mm) Between Pad P3-3(8.89mm,1.27mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.248mm < 0.254mm) Between Pad P3-4(11.43mm,1.27mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.235mm < 0.254mm) Between Pad P3-5(13.97mm,1.27mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.248mm < 0.254mm) Between Pad P3-5(13.97mm,1.27mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.199mm < 0.254mm) Between Pad P4-1(3.81mm,3.81mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.2mm < 0.254mm) Between Pad P4-1(3.81mm,3.81mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.201mm < 0.254mm) Between Pad P4-1(3.81mm,3.81mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.219mm < 0.254mm) Between Pad P4-2(6.35mm,3.81mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.236mm < 0.254mm) Between Pad P4-2(6.35mm,3.81mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.246mm < 0.254mm) Between Pad P4-3(8.89mm,3.81mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.236mm < 0.254mm) Between Pad P4-3(8.89mm,3.81mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.248mm < 0.254mm) Between Pad P4-4(11.43mm,3.81mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.249mm < 0.254mm) Between Pad P4-4(11.43mm,3.81mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.236mm < 0.254mm) Between Pad P4-5(13.97mm,3.81mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.238mm < 0.254mm) Between Pad P4-5(13.97mm,3.81mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.234mm < 0.254mm) Between Pad P4-5(13.97mm,3.81mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.204mm < 0.254mm) Between Pad P5-1(3.81mm,6.35mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.203mm < 0.254mm) Between Pad P5-1(3.81mm,6.35mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.201mm < 0.254mm) Between Pad P5-1(3.81mm,6.35mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.251mm < 0.254mm) Between Pad P5-2(6.35mm,6.35mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.219mm < 0.254mm) Between Pad P5-2(6.35mm,6.35mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.252mm < 0.254mm) Between Pad P5-3(8.89mm,6.35mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.246mm < 0.254mm) Between Pad P5-3(8.89mm,6.35mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.252mm < 0.254mm) Between Pad P5-4(11.43mm,6.35mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.244mm < 0.254mm) Between Pad P5-4(11.43mm,6.35mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.241mm < 0.254mm) Between Pad P5-5(13.97mm,6.35mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.24mm < 0.254mm) Between Pad P5-5(13.97mm,6.35mm) on Multi-Layer And |
| Silk To Solder Mask Clearance Constraint: (0.253mm < 0.254mm) Between Pad P5-5(13.97mm,6.35mm) on Multi-Layer And |

| Silk to Silk (Clearance=0.254mm) (All),(All) |
| --- |
| Silk To Silk Clearance Constraint: (0.178mm < 0.254mm) Between Text "BLIN |

| KIN |
| --- |
| |

| LABS" (9.12mm,20.55mm) on Bottom Overlay And Track (6.12mm,17.55mm)(6.12mm,20.55mm) on B |
| --- |
| |

**Silk to Silk (Clearance=0.254mm) (All),(All)**
Silk To Silk Clearance Constraint: (0.248mm < 0.254mm) Between Text "BLIN

**KIN**

**LABS" (9.12mm,20.55mm) on Bottom Overlay And Track (6.12mm,17.55mm)(9.12mm,17.55mm) on B**

**Silk to Silk (Clearance=0.254mm) (All),(All)**
Silk To Silk Clearance Constraint: (0.108mm < 0.254mm) Between Text "BLIN

**KIN**

**LABS" (9.12mm,20.55mm) on Bottom Overlay And Track (6.12mm,20.55mm)(9.12mm,20.55mm) on B**

**Silk to Silk (Clearance=0.254mm) (All),(All)**
Silk To Silk Clearance Constraint: (0.192mm < 0.254mm) Between Text "BLIN

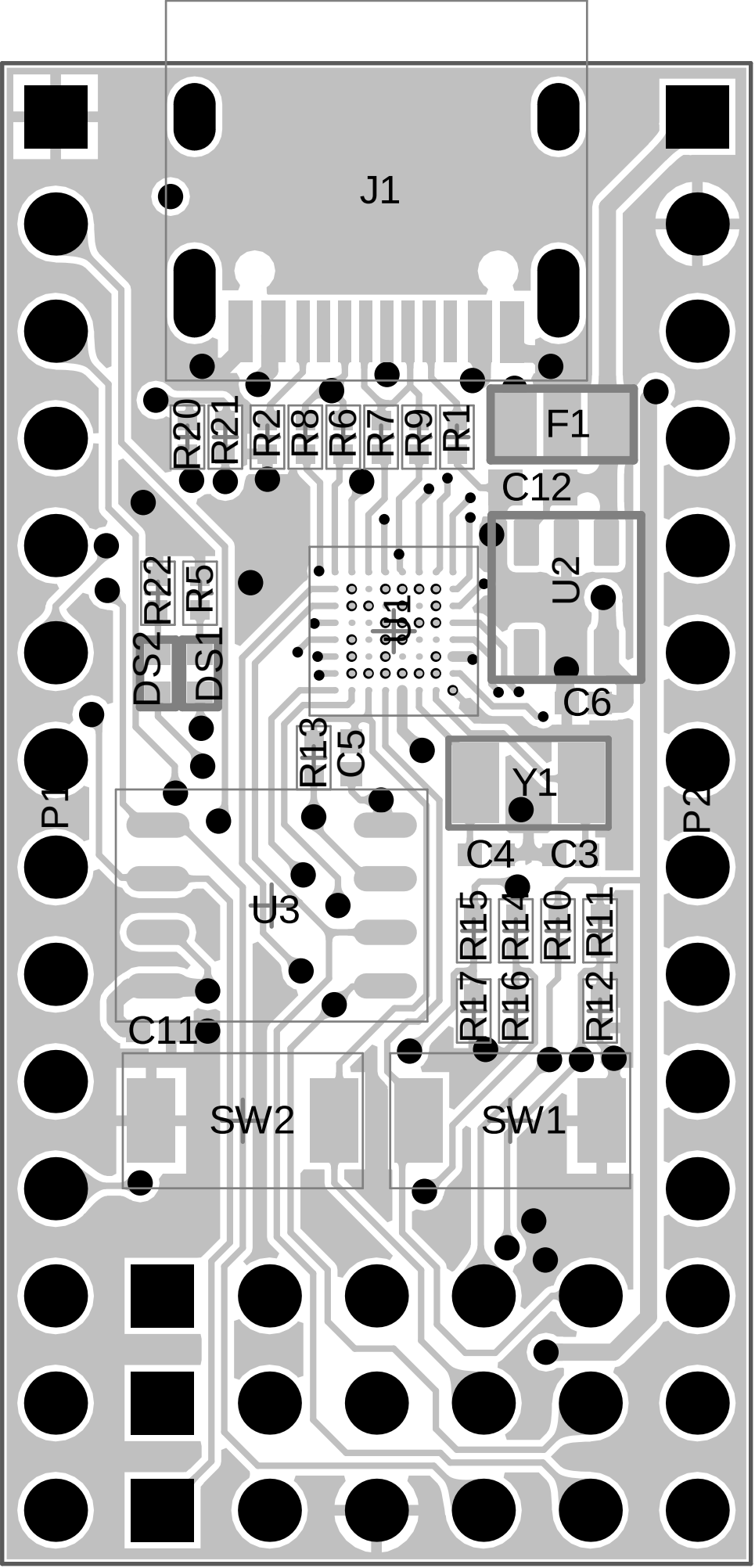
**KIN**

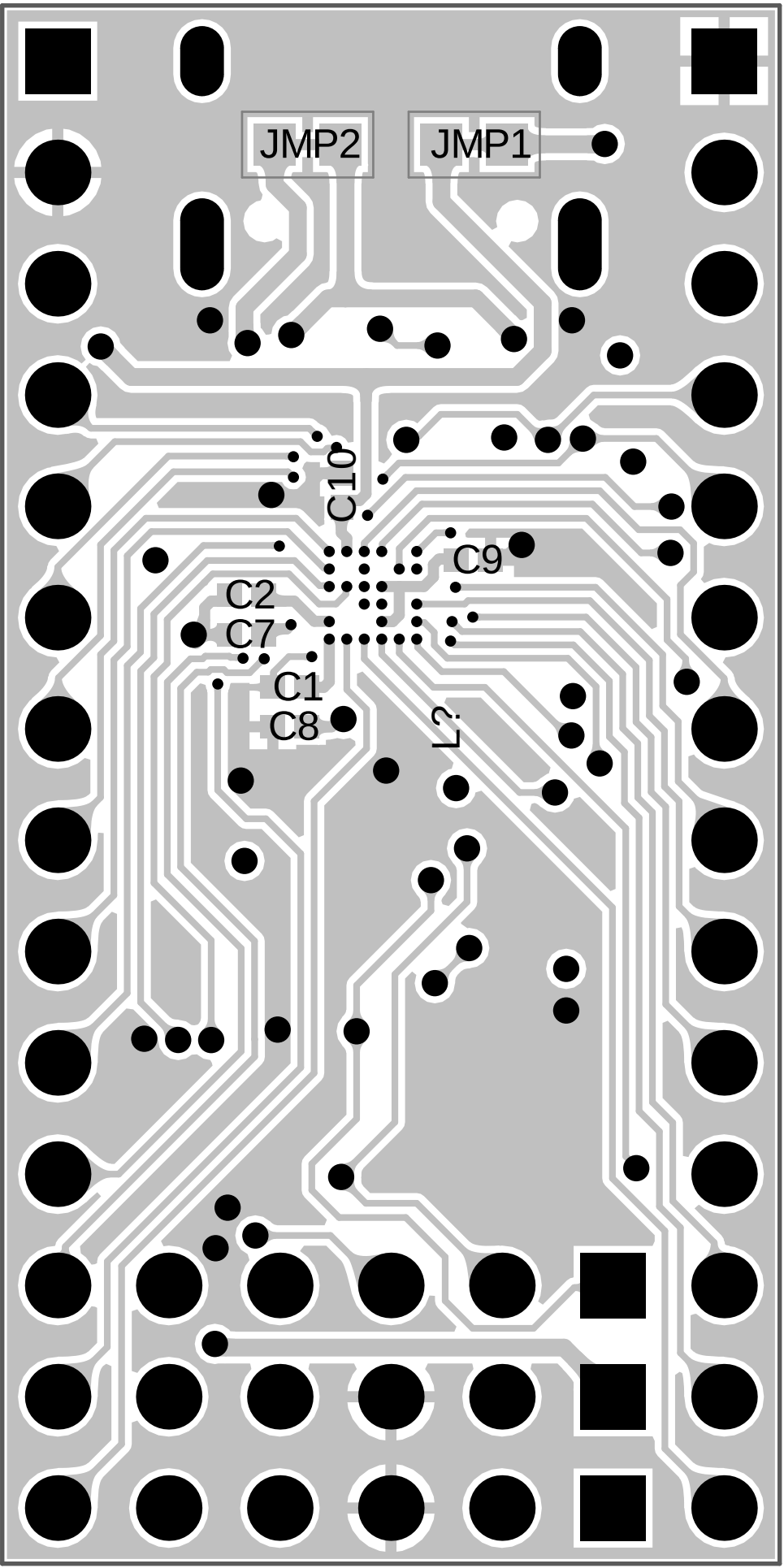
**LABS" (9.12mm,20.55mm) on Bottom Overlay And Track (9.12mm,17.55mm)(9.12mm,20.55mm) on B**

**Net Antennae (Tolerance=0mm) (All)**
Net Antennae: Track (6.235mm,32.385mm)(7.735mm,32.385mm) on Bottom Layer

## Electrical Rules Check Report

| Class | Document | Message |
|---|---|---|
| Warning | [03] SOC.SchDoc | Un-Designated Part L? |
| | | |


J1
R20
R21
R2
R8
R6
R7
R9
R1
F1
C12
U2
R22
R5
DS2
DS1
U1
C6
R13
C5
Y1
P1
P2
C4
C3
U3
R15
R14
R10
R11
R17
R16
R12
C11
SW2
SW1


JMP2
JMP1
C10
C9
C2
C7
C1
C8
L2