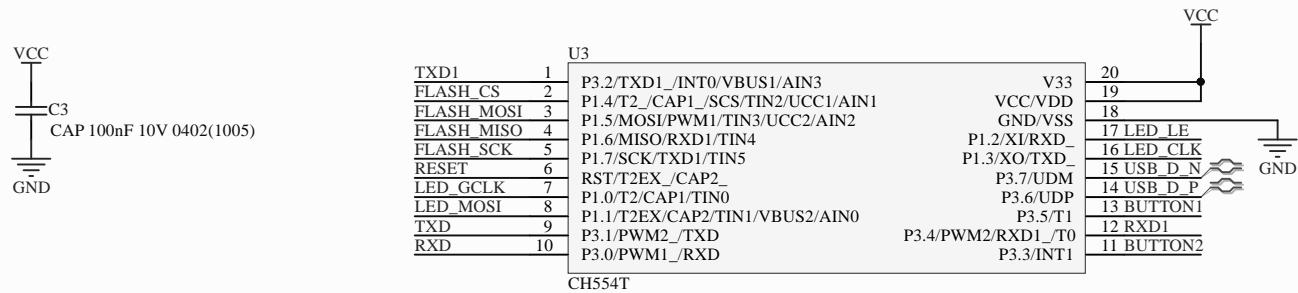
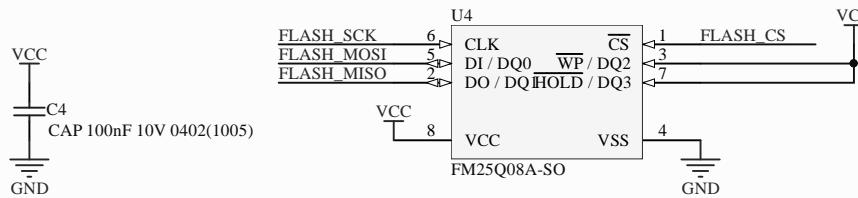


MCU

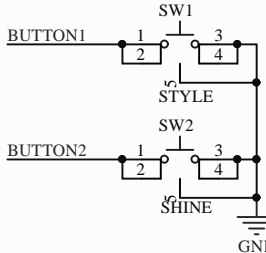


SPI Flash

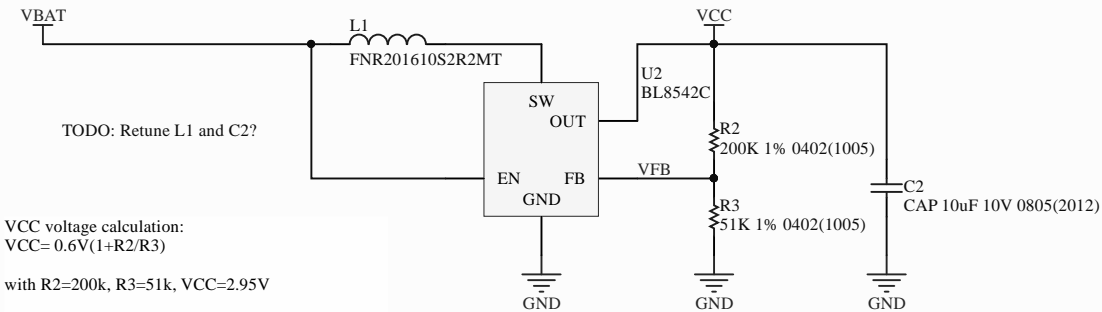


Note: Generic 8mBit flash, use a cheaper one.

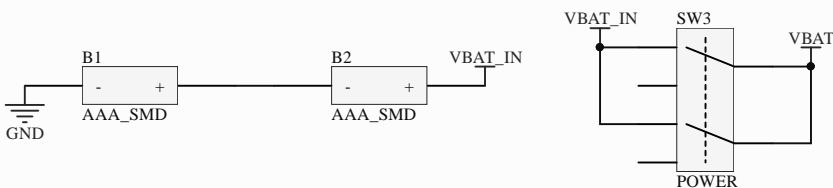
Buttons



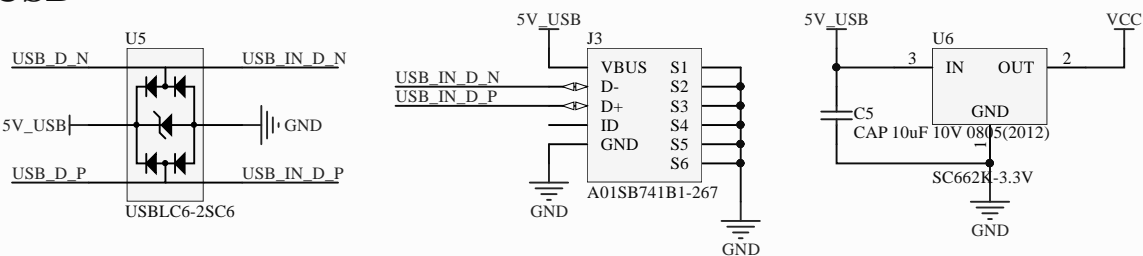
Boost circuit for system power



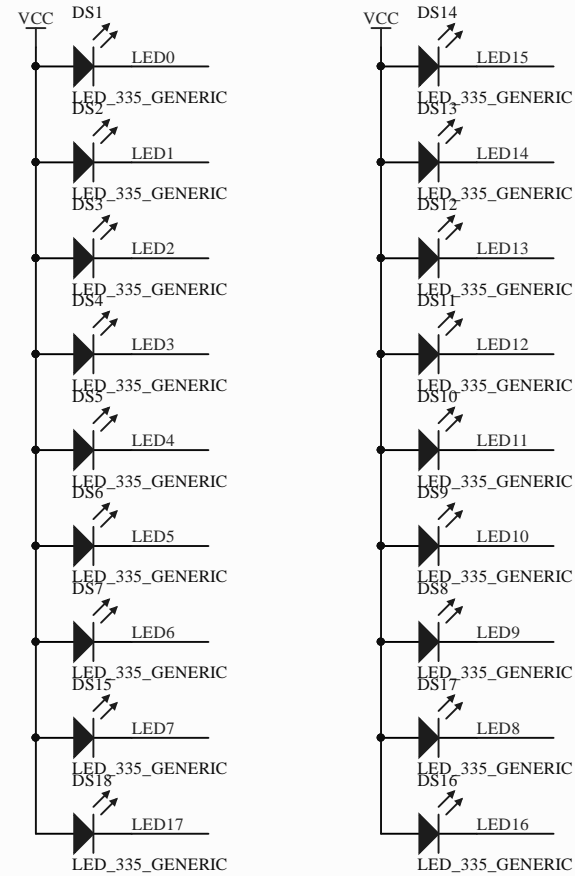
Battery



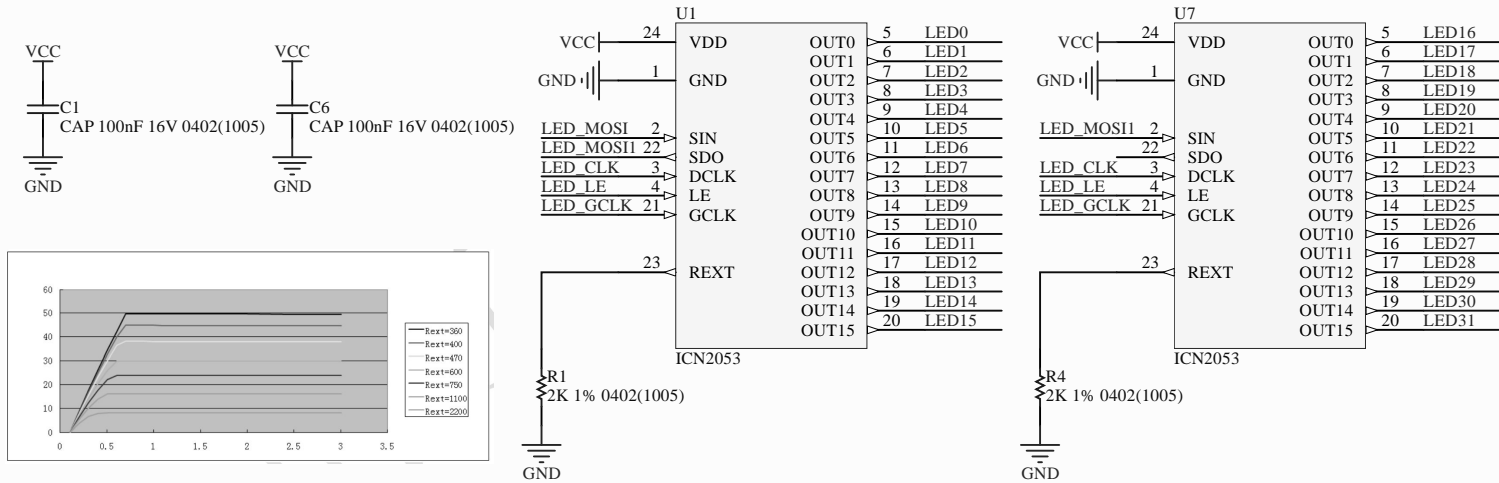
USB



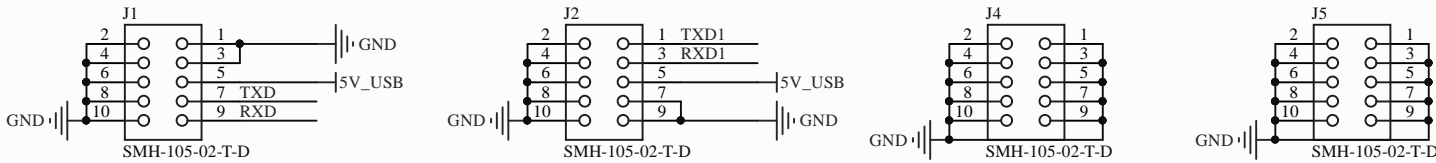
LED Array

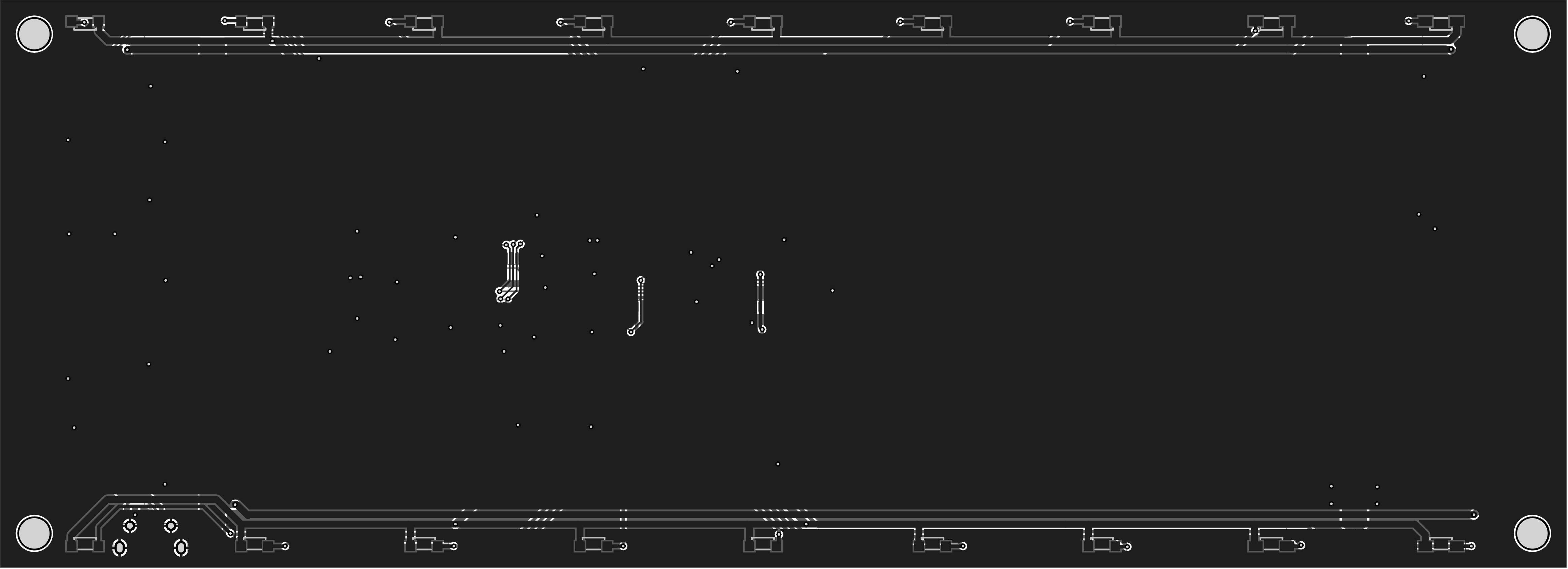


LED Driver



Sync ports





Design Rules Verification Report

Filename : C:\Users\blinkinlabs\Blinkinlabs-Repos\LeoBlinky2018\pcb-ENT\LeoBlinky2018-

Warnings 0
Rule Violations 177

Warnings	
Total	0

Rule Violations	
Clearance Constraint (Gap=0.2mm) (All),(All)	44
Clearance Constraint (Gap=0.2mm) (IsText),(All)	0
Short-Circuit Constraint (Allowed=No) (All),(All)	0
Un-Routed Net Constraint ((All))	0
Modified Polygon (Allow modified: No), (Allow shelved: No)	0
Width Constraint (Min=0.2mm) (Max=2mm) (Preferred=0.4mm) (All)	0
Power Plane Connect Rule(Relief Connect)(Expansion=0.508mm) (Conductor	0
Width=0.254mm)	0
Hole Size Constraint (Min=0.025mm) (Max=3.6mm) (All)	0
Hole To Hole Clearance (Gap=0.254mm) (All),(All)	0
Minimum Solder Mask Sliver (Gap=0.254mm) (All),(All)	20
Minimum Solder Mask Sliver (Gap=0mm) (OnLayer("Top Solder")),(All)	0
Silk To Solder Mask (Clearance=0.254mm) (IsPad),(All)	113
Silk to Silk (Clearance=0.254mm) (All),(All)	0
Net Antennae (Tolerance=0mm) (All)	0
Room LeoBlinky2018-ENT (Bounding Region = (187.45mm, 146.5mm, 378.85mm, 219.5mm)	0
Height Constraint (Min=0mm) (Max=25.4mm) (Preferred=12.7mm) (All)	0
Total	177

Clearance Constraint (Gap=0.2mm) (All),(All)

Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-1(72.565mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-10(78.28mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-10(78.28mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-11(78.915mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-13(79.55mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-14(78.915mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-15(78.28mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-16(77.645mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-17(77.01mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-18(76.375mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-19(75.74mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-2(73.2mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-20(75.105mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-21(74.47mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-22(73.835mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-23(73.2mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-3(73.835mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-4(74.47mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-5(75.105mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-6(75.74mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-7(76.375mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U1-8(77.01mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-1(86.508mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-10(92.223mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-10(92.223mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-11(92.858mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-13(93.493mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-14(92.858mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-15(92.223mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-16(91.588mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-17(90.953mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-18(90.318mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-19(89.683mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-2(87.143mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-20(89.048mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-21(88.413mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-22(87.778mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-23(87.143mm,30.775mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-3(87.778mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-4(88.413mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-5(89.048mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-6(89.683mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-7(90.318mm,36.225mm) on Bottom Layer And Pad
Clearance Constraint: (0.185mm < 0.2mm) Between Pad U7-8(90.953mm,36.225mm) on Bottom Layer And Pad

Minimum Solder Mask Sliver (Gap=0.254mm) (All),(All)	
Minimum Solder Mask Sliver Constraint: (0.077mm < 0.254mm)	Between Pad C1-1(69.55mm,30.425mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.077mm < 0.254mm)	Between Pad C3-1(50.895mm,28.45mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.077mm < 0.254mm)	Between Pad C4-1(57.9mm,28.45mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.077mm < 0.254mm)	Between Pad C6-1(83.321mm,30.425mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm)	Between Pad J3-D-(18.35mm,4.9mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm)	Between Pad J3-D-(18.35mm,4.9mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm)	Between Pad J3-D+(17.7mm,4.9mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.047mm < 0.254mm)	Between Pad J3-GND(16.4mm,4.9mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.122mm < 0.254mm)	Between Pad J3-GND(16.4mm,4.9mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.122mm < 0.254mm)	Between Pad J3-S4(20.125mm,4.9mm) on Multi-Layer
Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm)	Between Pad R1-1(69.5mm,31.95mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm)	Between Pad R2-1(44.675mm,34.25mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm)	Between Pad R3-1(44.675mm,32.225mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.247mm < 0.254mm)	Between Pad R4-1(83.271mm,31.95mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm)	Between Pad U2-1(43.061mm,33.125mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm)	Between Pad U2-2(42.111mm,33.125mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm)	Between Pad U5-1(16.85mm,6.825mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm)	Between Pad U5-2(15.9mm,6.825mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm)	Between Pad U5-4(14.95mm,9.575mm) on Bottom Layer
Minimum Solder Mask Sliver Constraint: (0.147mm < 0.254mm)	Between Pad U5-5(15.9mm,9.575mm) on Bottom Layer

And

Silk To Solder Mask (Clearance=0.254mm) (IsPad),(All)

[illegible]

And
Wednesday 18 Jul 2018 12:02:19 AM

Silk To Solder Mask (Clearance=0.254mm) (IsPad),(All)

[illegible]

Silk To Solder Mask (Clearance=0.254mm) (IsPad),(All)

Silk To Solder Mask Clearance Constraint: (0.25mm < 0.254mm) Between Pad SW2-3(48.25mm,11.75mm) on Bottom Layer And
Silk To Solder Mask Clearance Constraint: (0.15mm < 0.254mm) Between Pad SW2-4(55.75mm,11.75mm) on Bottom Layer And
Silk To Solder Mask Clearance Constraint: (0.25mm < 0.254mm) Between Pad SW2-4(55.75mm,11.75mm) on Bottom Layer And
Silk To Solder Mask Clearance Constraint: (0.2mm < 0.254mm) Between Pad SW2-5(48.5mm,14mm) on Bottom Layer And
Silk To Solder Mask Clearance Constraint: (0.2mm < 0.254mm) Between Pad SW2-5(48.5mm,14mm) on Bottom Layer And
Silk To Solder Mask Clearance Constraint: (0.2mm < 0.254mm) Between Pad SW3-1(40.62mm,48mm) on Bottom Layer And
Silk To Solder Mask Clearance Constraint: (0.2mm < 0.254mm) Between Pad SW3-3(40.62mm,44mm) on Bottom Layer And
Silk To Solder Mask Clearance Constraint: (0.249mm < 0.254mm) Between Pad SW3-4(35.38mm,44mm) on Bottom Layer And
Silk To Solder Mask Clearance Constraint: (0.2mm < 0.254mm) Between Pad SW3-6(35.38mm,48mm) on Bottom Layer And

Electrical Rules Check Report

Class	Document	Message
Warning	LeoBlinky2018-ENT.SchDoc	Net FLASH_CS has no driving source (Pin U3-2,Pin U4-1)
Warning	LeoBlinky2018-ENT.SchDoc	Net FLASH_SCK has no driving source (Pin U3-5,Pin U4-6)
Error	LeoBlinky2018-ENT.SchDoc	Net LED18 has only one pin (Pin U7-7)
Error	LeoBlinky2018-ENT.SchDoc	Net LED19 has only one pin (Pin U7-8)
Error	LeoBlinky2018-ENT.SchDoc	Net LED20 has only one pin (Pin U7-9)
Error	LeoBlinky2018-ENT.SchDoc	Net LED21 has only one pin (Pin U7-10)
Error	LeoBlinky2018-ENT.SchDoc	Net LED22 has only one pin (Pin U7-11)
Error	LeoBlinky2018-ENT.SchDoc	Net LED23 has only one pin (Pin U7-12)
Error	LeoBlinky2018-ENT.SchDoc	Net LED24 has only one pin (Pin U7-13)
Error	LeoBlinky2018-ENT.SchDoc	Net LED25 has only one pin (Pin U7-14)
Error	LeoBlinky2018-ENT.SchDoc	Net LED26 has only one pin (Pin U7-15)
Error	LeoBlinky2018-ENT.SchDoc	Net LED27 has only one pin (Pin U7-16)
Error	LeoBlinky2018-ENT.SchDoc	Net LED28 has only one pin (Pin U7-17)
Error	LeoBlinky2018-ENT.SchDoc	Net LED29 has only one pin (Pin U7-18)
Error	LeoBlinky2018-ENT.SchDoc	Net LED30 has only one pin (Pin U7-19)
Error	LeoBlinky2018-ENT.SchDoc	Net LED31 has only one pin (Pin U7-20)
Warning	LeoBlinky2018-ENT.SchDoc	Net LED_CLK has no driving source (Pin U1-3,Pin U3-16,Pin U7-3)
Warning	LeoBlinky2018-ENT.SchDoc	Net LED_GCLK has no driving source (Pin U1-21,Pin U3-7,Pin U7-21)
Warning	LeoBlinky2018-ENT.SchDoc	Net LED_LE has no driving source (Pin U1-4,Pin U3-17,Pin U7-4)
Warning	LeoBlinky2018-ENT.SchDoc	Net LED_MOSI has no driving source (Pin U1-2,Pin U3-8)
Error	LeoBlinky2018-ENT.SchDoc	Net RESET has only one pin (Pin U3-6)

