



Koruza-CM

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Version Revision:

v0.3 - 30.03.2017.

DESIGN CONSIDERATIONS

DESIGN NOTE:
Example text for informational
design notes.

DESIGN NOTE:
Example text for critical
design notes.

LAYOUT NOTE:
Example text for critical
layout guidelines.

Koruza www.koruza.net

Title: koruza-compute-module-board.PrjPcb

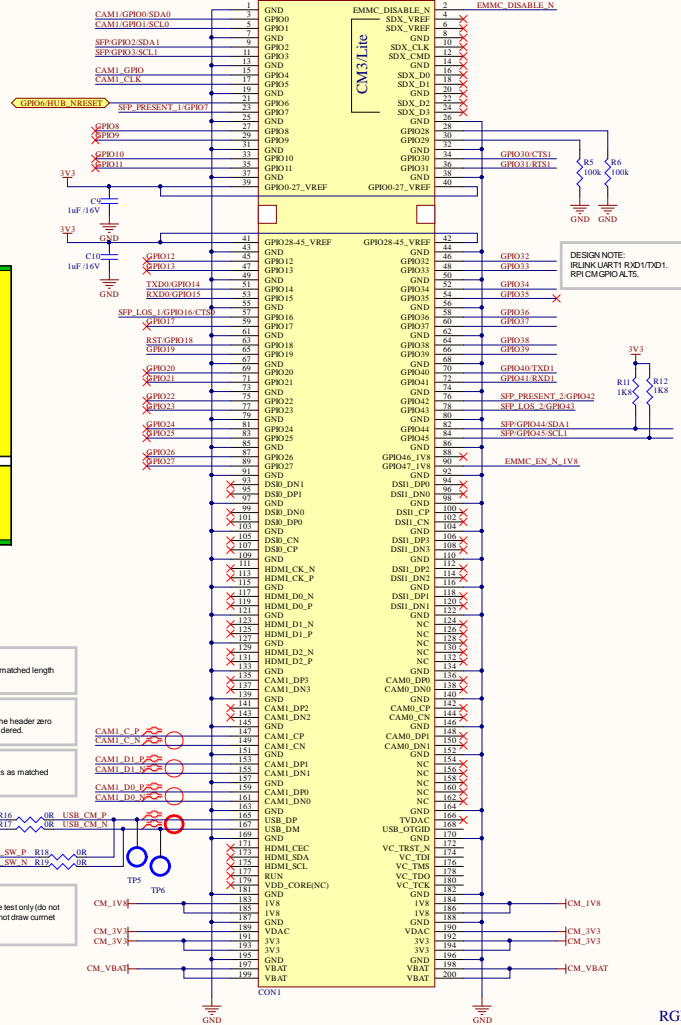
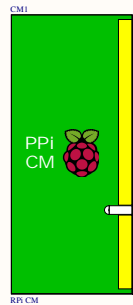
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Size: DWG NO Revision: v0.3

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KORUZA-CM

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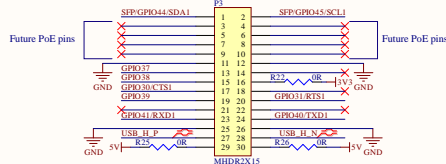
DESIGN NOTE:
Route red ringed signals as matched length 100R differential pair

DESIGN NOTE:
For USB to be connected to the header zero ohm resistors need to be soldered.

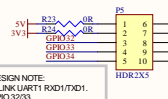
DESIGN NOTE:
Route red bold ringed signals as matched length 90R differential pair.

DESIGN NOTE:
VDD_CORE used for module test only (do not use in normal operation, do not draw current from this pin)

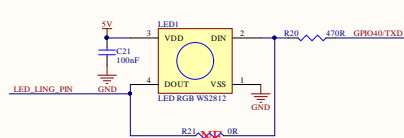
Koruzo GPIO connector



IR Link connector



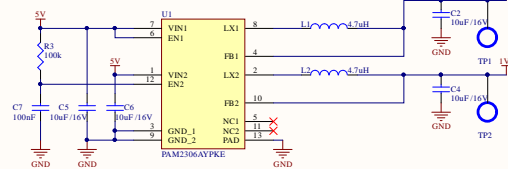
RGB Status LED



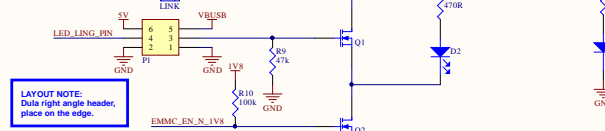
DESIGN NOTE:
If RGB LED is soldered, zero ohm resistor should not be fixed.

LAYOUT NOTE:
LED Ring connector need to be placed on the front edge of the board, to be easy accessible.

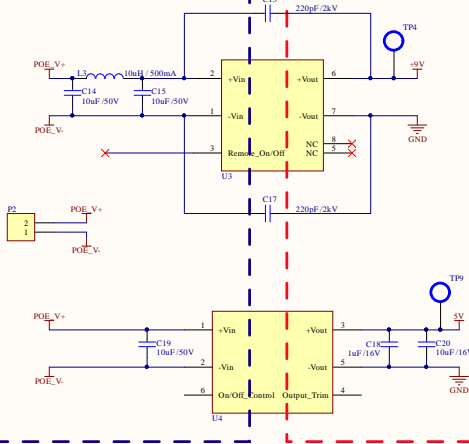
Power



DESIGN NOTE:
Jumper position:
3-2 = USB BOOT ENABLED
2-1 = USB BOOT DISABLED

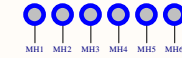


Galvanically isolated



DESIGN NOTE:
This board supports 3V3 voltage level on the IO pins.
It is powered with passive PoE, <24V, and it is galvanically isolated, due to two isolated DC-DC converters.

Mounting holes



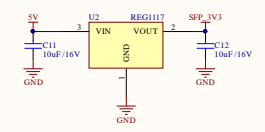
Mounting holes 7.62mm pitch 3.2mm drill

Fiducials

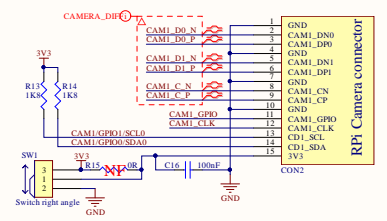


Fiducials 2x TOP

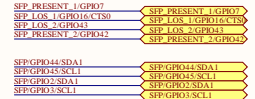
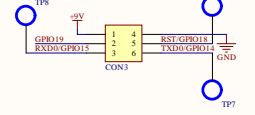
SFP Power supply

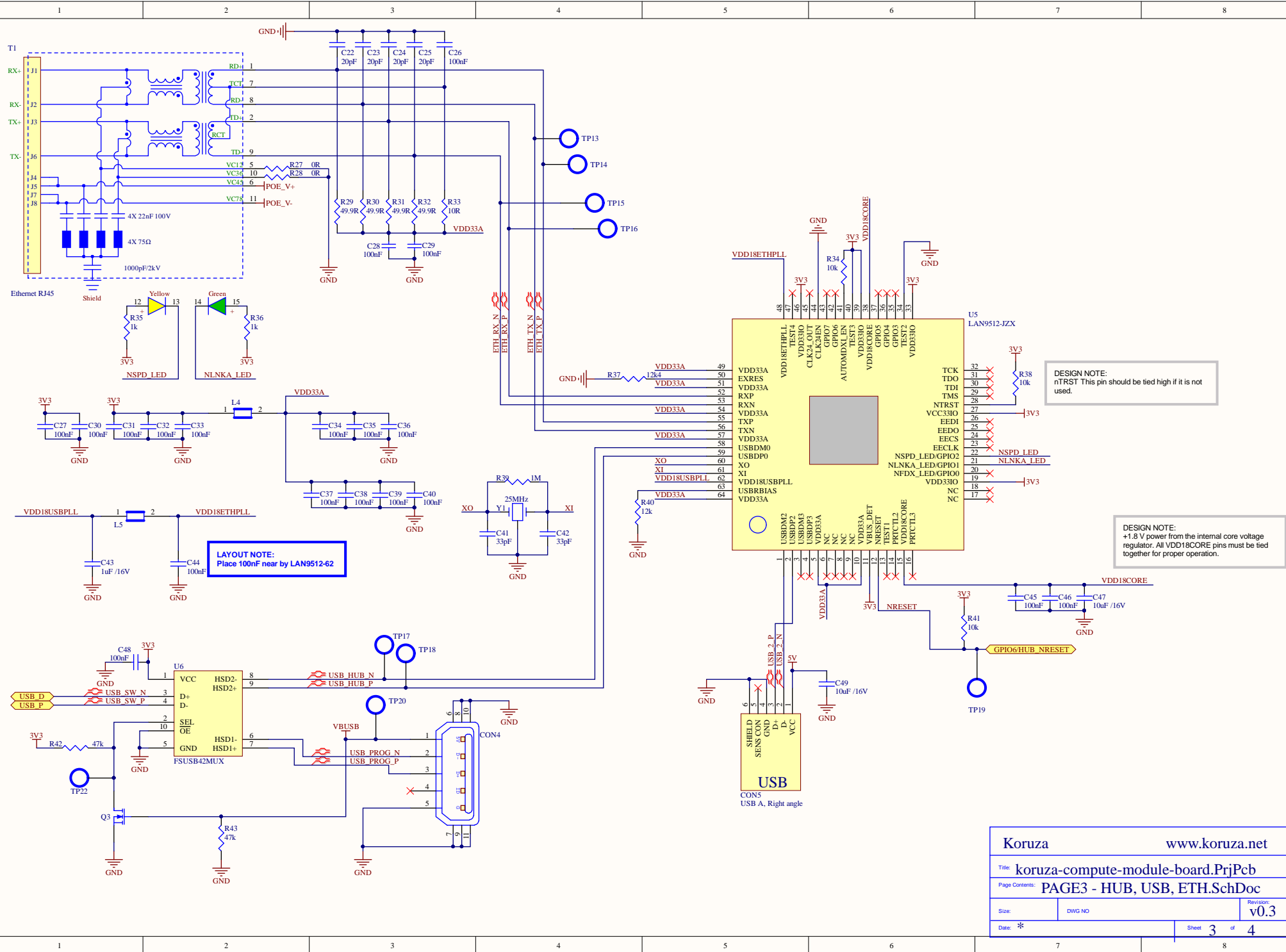


Koruzo Camera connector



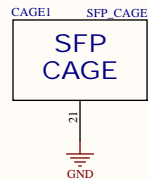
Koruzo move driver connector



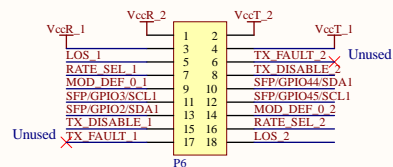


Rigid to Flex PCB connection

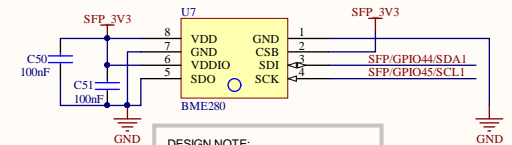
SFP Cage Rigid to flex connector



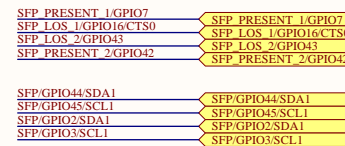
Koruza SFP rigid to flex GPIO connector



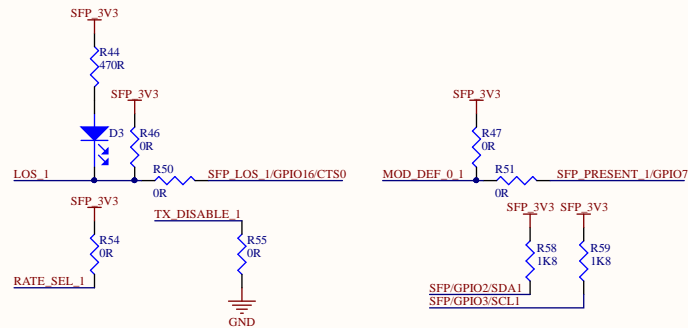
Environment sensor
Temperature, humidity, presure



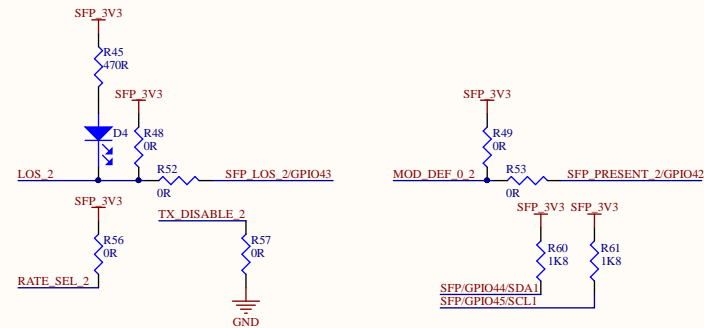
DESIGN NOTE:
I2C address bit 0 GND: '0'; VDDIO: '1'.
BME280 I2C address: 1110110 (0x76)



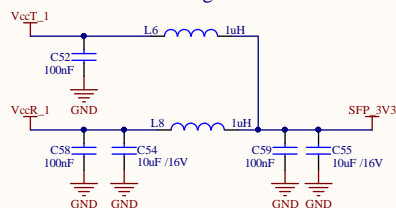
SFP1 GPIO config



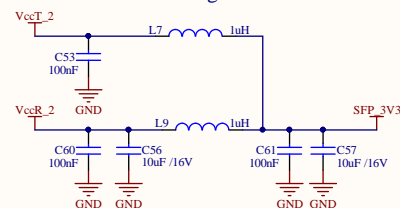
SFP2 GPIO config



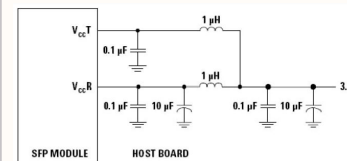
SFP1 Power filtering network



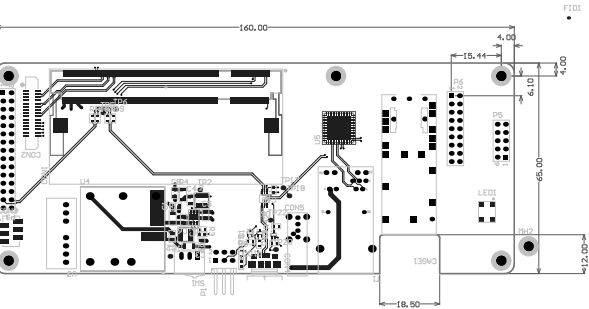
SFP2 Power filtering network



DESIGN NOTE:
Note: Inductors with DC resistance of less than 1 Ω should be used in order to maintain the required voltage at the SFP input pin at 3.3V. When the recommended supply filtering circuit is used, hot plugging of the SFP transceiver module will result in an inrush current of no more than 30 mA greater than the steady state value.



Layer	Name	Material	Thickness	Constant	Board Layer Stack
1	Top Overlay				
2	Top Solder	Solder Resist	0.40mil	3.5	
3	Component Side	Copper	1.57mil		
4	Dielectric 1	FR-4	9.48mil	4.6	
5	Ground Plane	Copper	1.98mil		
6	Dielectric 2	6-1750H	15.74mil	4.6	
7	Power Plane	Copper	1.98mil		
8	Dielectric 4	Copper	10.05mil	4.2	
10	Bottom Solder	Solder Resist	0.40mil	3.5	
11	Bottom Overlay				



C59 C54 C55 C56 C57 C58 C53 C52 C51 C50 C49 C48 C47 C46 C45 C44 C43 C42 C41 C40 C39 C38 C37 C36 C35 C34 C33 C32 C31 C30 C29 C28 C27 C26 C25 C24 C23 C22 C21 C20 C19 C18 C17 C16 C15 C14 C13 C12 C11 C10 C9 C8 C7 C6 C5 C4 C3 C2 C1 C0

TP19 C49 R41 C45 C46 C47 C43 C44 C41 C42 L5 R40 C37 C38 C39 C40 R38 C27 C30 C31 C32 C33 C34 C35 C36 L4 C37 C38 C39 R36 R34 C28 C29 C26 C25 C24 C23 C22 C21 C20 C19 C18 C17 C16 C15 C14 C13 C12 C11 C10 C9 C8 C7 C6 C5 C4 C3 C2 C1 C0

TP8 TP9 C15 C18 C20 TP9 P2 C17 R15 C16 R19 R24 C14 C15 C13 C12 C11 C10 C9 C8 C7 C6 C5 C4 C3 C2 C1 C0

C11 C12 C13 R17 C3 C4 C5 C6 C7 C8 C9 C10

