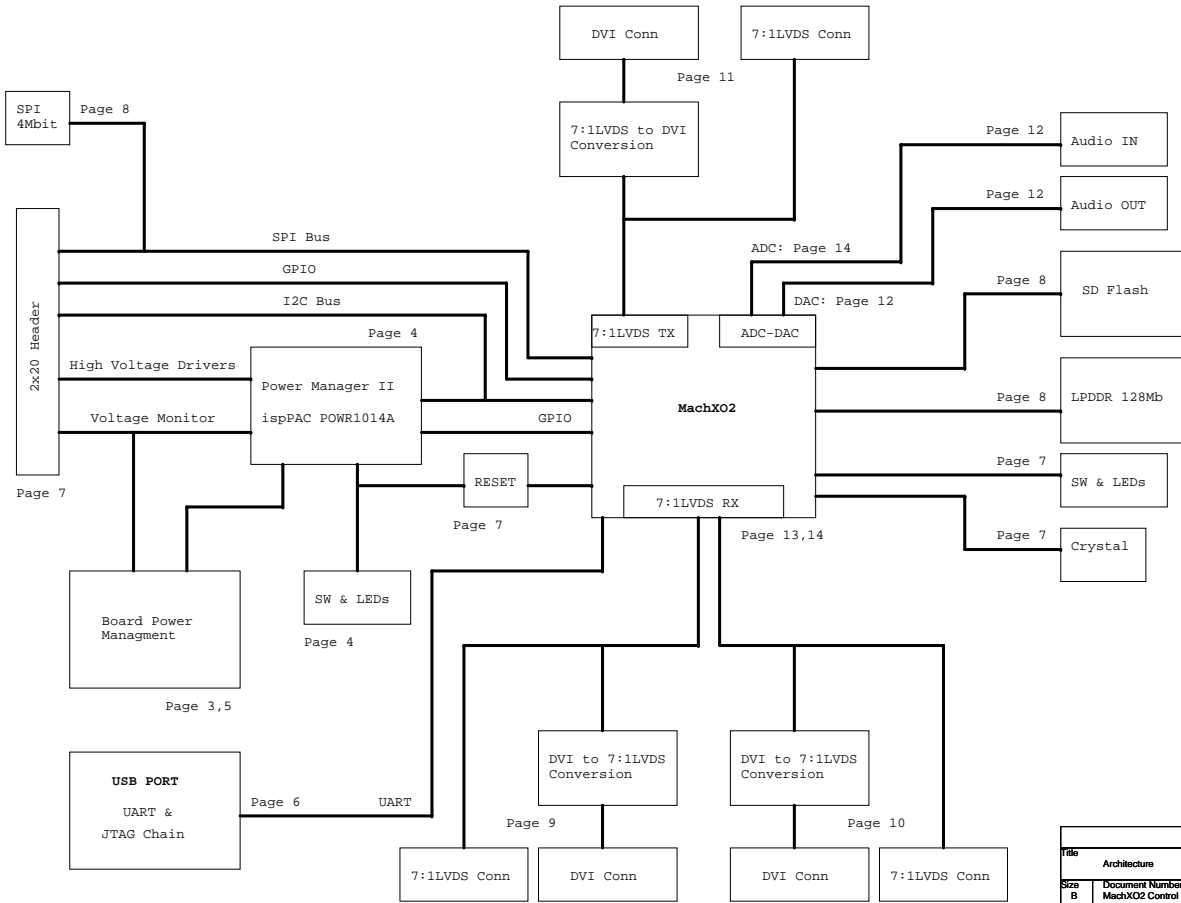


**MachX02 Control Demonstration Board**  
**Revision 'E'**  
**February 2011**

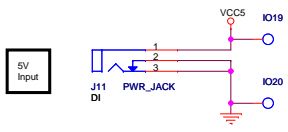
Title	
Front Page	
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B	MachX02 Control Board
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MachXO2 Control Board Architecture

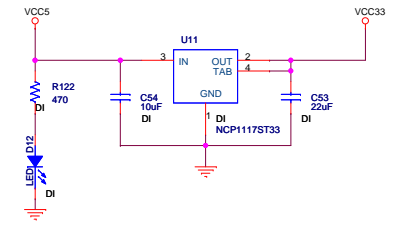


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Size	Document Number	Rev	
B	MachXO2 Control Board	A	
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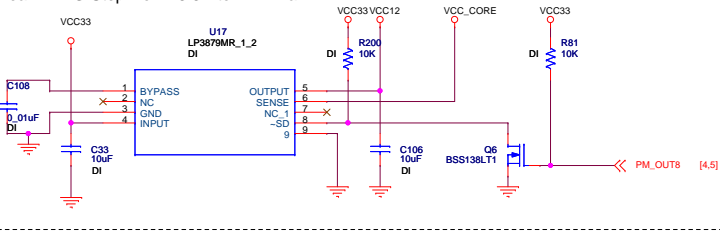
AC-DC Jack - 5V



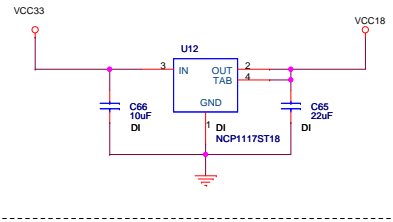
Linear VREG Step Down 5V to 3.3V Rail



Linear VREG Step Down 3.3V to 1.2V Rail

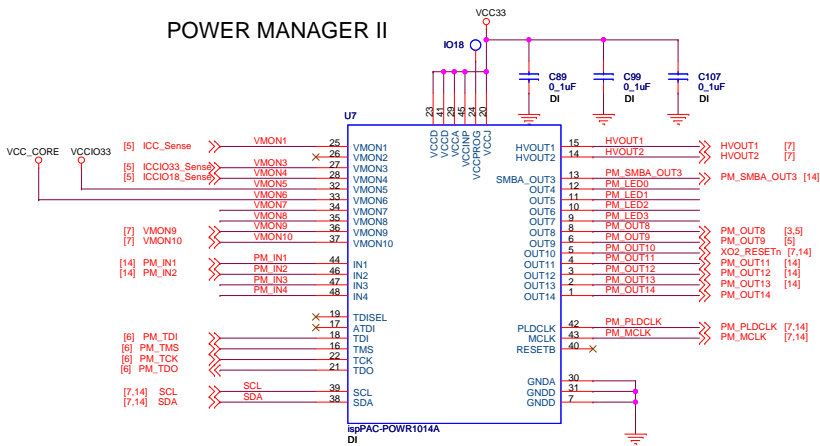


Linear VREG Step Down 3.3V to 1.8V Rail

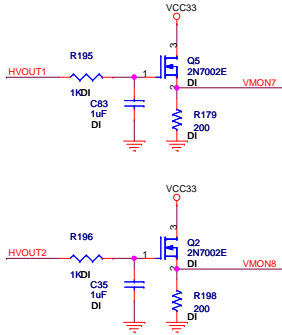


Title		
Power VCC33, VCC18, VCC12		
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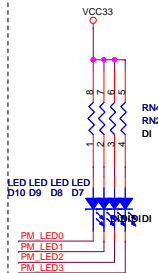
## POWER MANAGER II



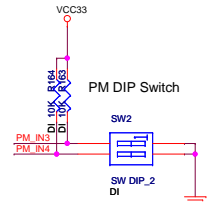
### Voltage Ramp Circuit



### PM LEDs



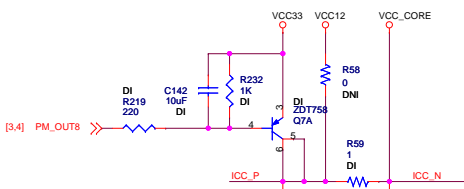
### PM DIP SWITCH



Title			Power ispPAC-POWR1014A		
Size			Document Number		
B			MachXO2 Control Board		
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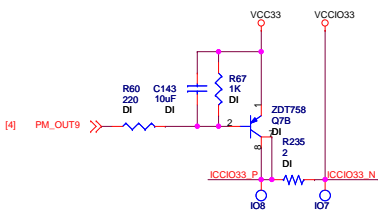
### MachXO2 Power Rails

#### MachXO2 - Core Current

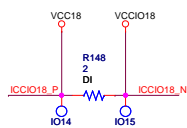


C142, C143 to limit Vcc, Vccio ramp rates to data sheet spec.

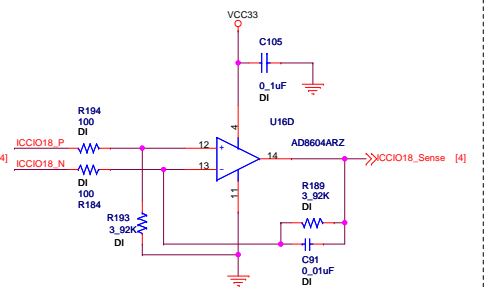
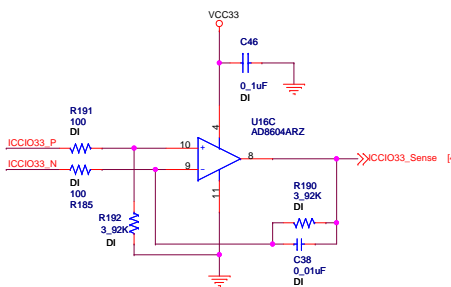
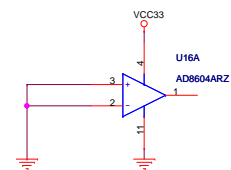
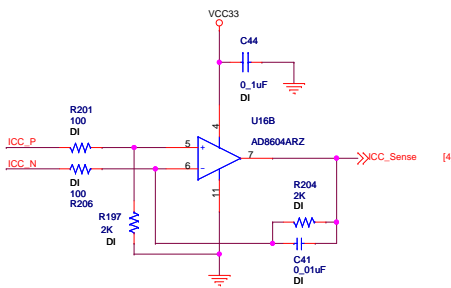
#### MachXO2 - ICCIO33 Current



#### MachXO2 - ICCIO18 Current

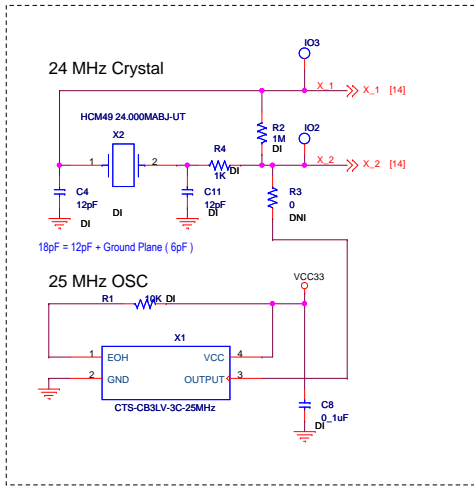
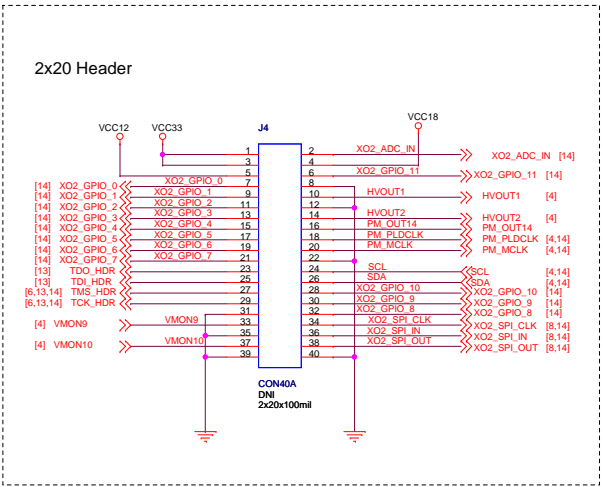
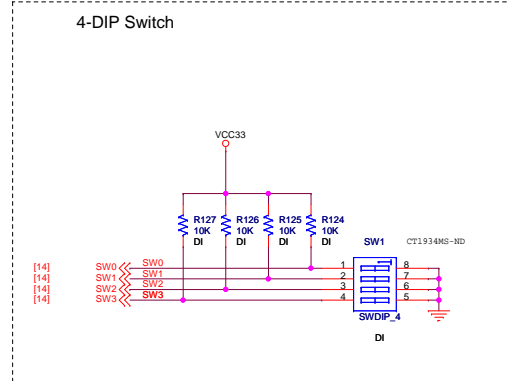
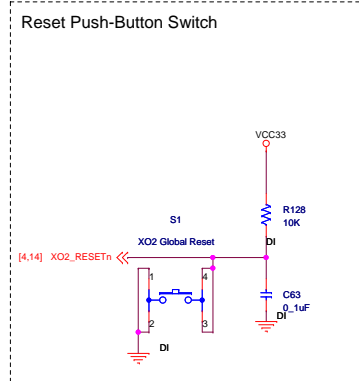
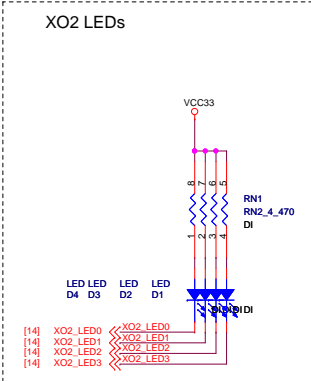


### Current Sense



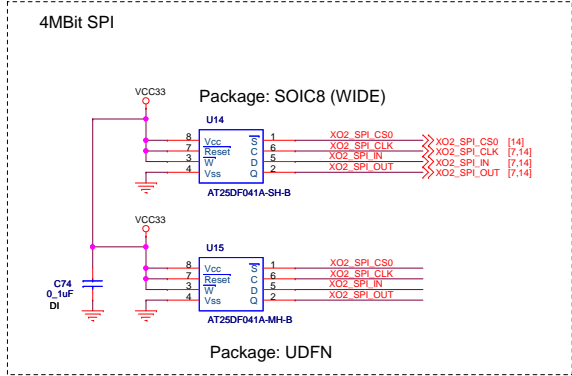
Title		
Power Current Sense		
Size	Document Number	Rev
B	MachXO2 Control Board	A
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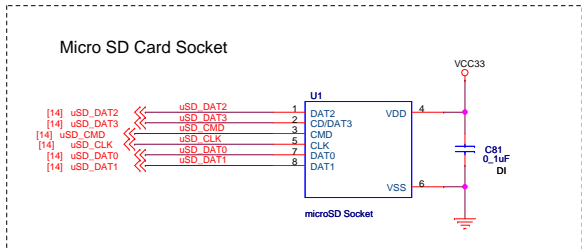


Title		
SW, LED, Crystal, Header		
Size	Document Number	Rev
B	MachXO2 Control Board	A
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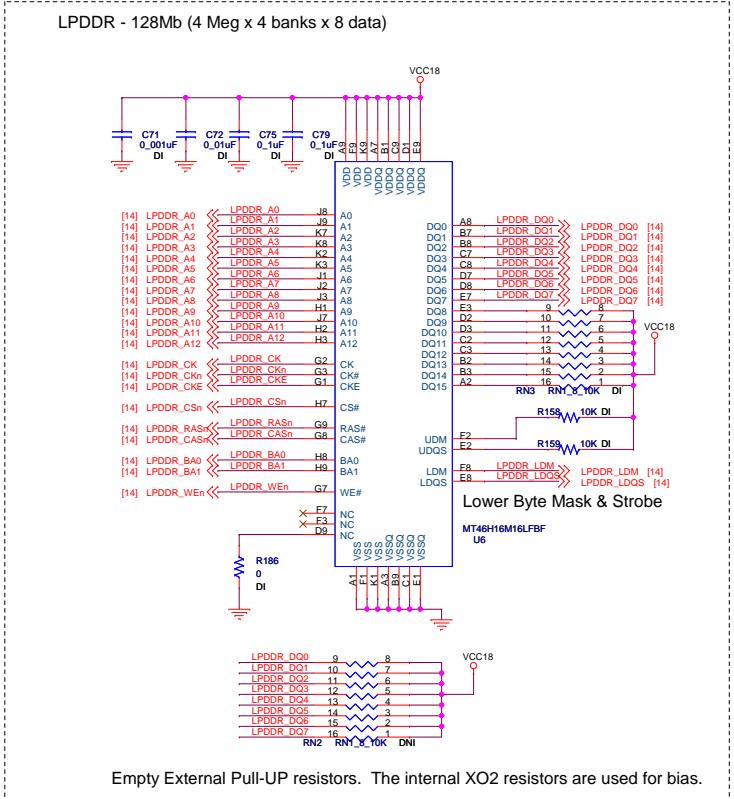
4MBit SPI



Micro SD Card Socket



LPDDR - 128Mb (4 Meg x 4 banks x 8 data)



Title		
Memory LPDDR, SD, SPI		
Size	Document Number	Rev
B	MachXO2 Control Board	A
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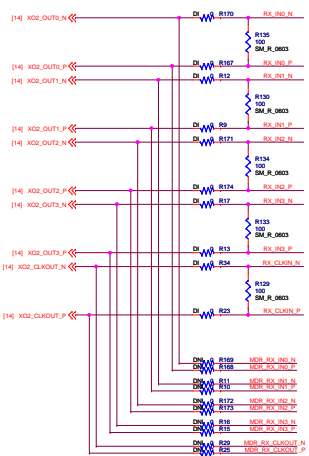




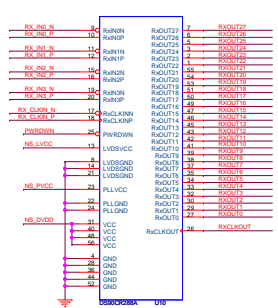


Video Output : DVI or MDR for direct 7:1LVDS

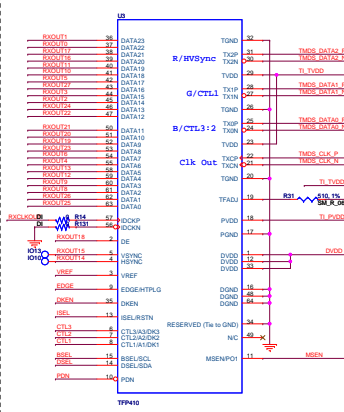
Resistor De-MUX



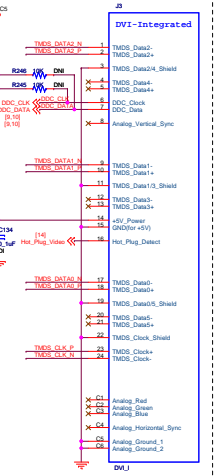
LVDS Translator



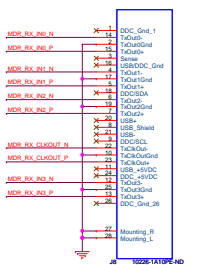
TMDS - DVI Decoder



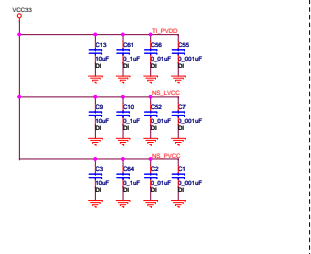
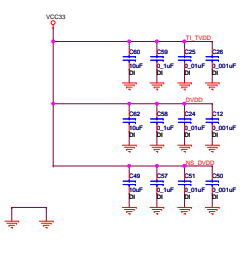
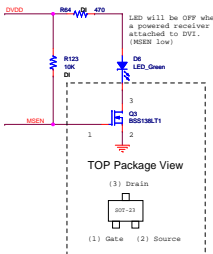
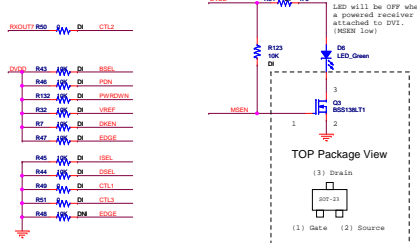
TMDS - DVI Connector



MDR Connector



Supporting Circuits

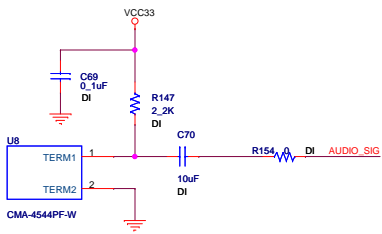


Channel Link - TX

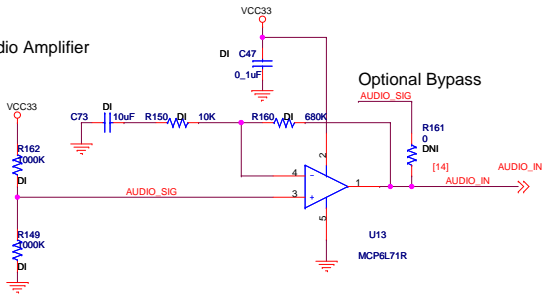


Doc	Video Output	Rev	A
Doc	Document Number		
Doc	Mac9302 Control Board		
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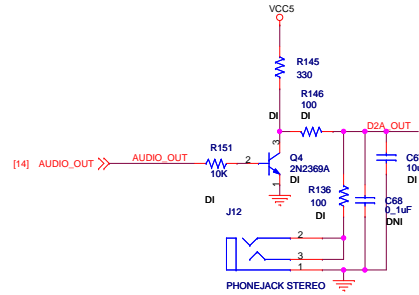
Microphone



Audio Amplifier

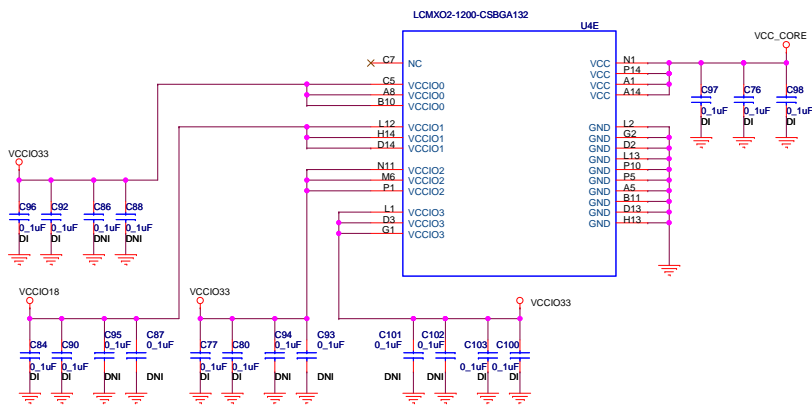


PWM Analog Signal Output



Title		
AUDIO IN / AUDIO OUT		
Size	Document Number	Rev
B	MachX02 Control Board	A
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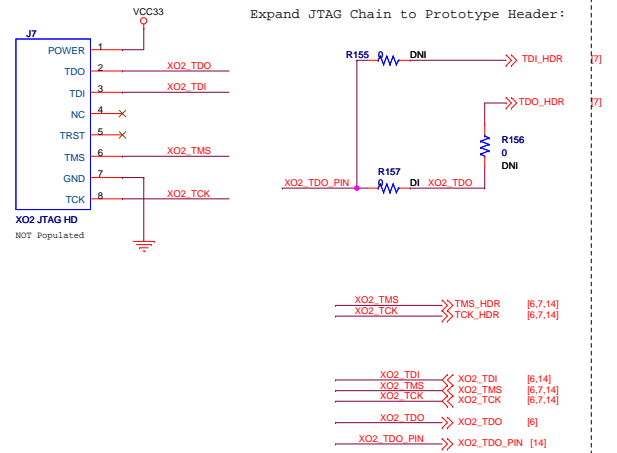
MachXO2 Power



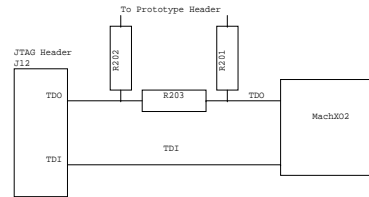
Socket (080SQ 132U6618A) Mounting Holes



MachXO2 JTAG Port



Expand JTAG Chain to Prototype Header:



Title		
XO2 Supplies, JTAG		
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