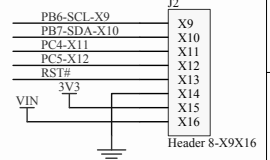
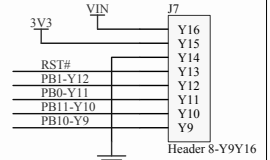
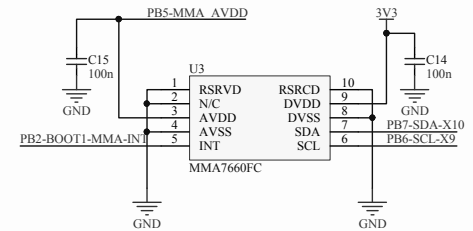
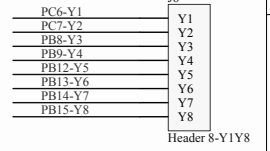
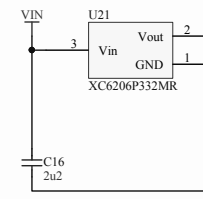
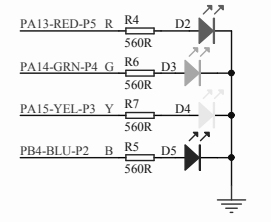
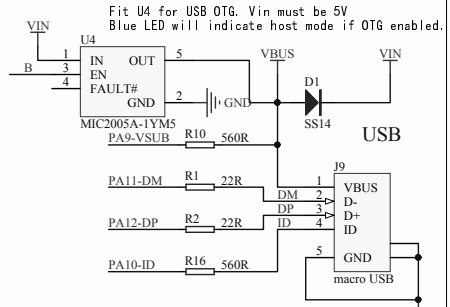
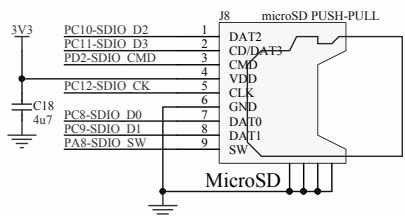
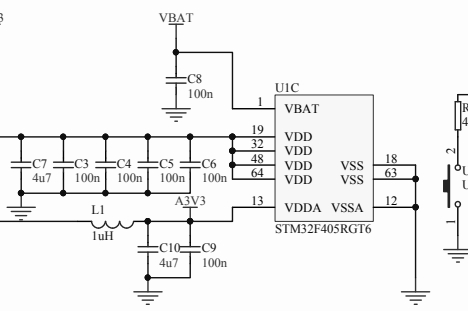




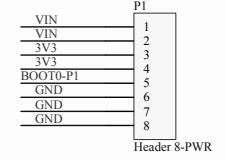
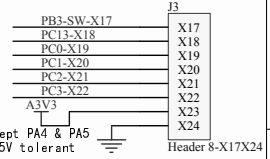
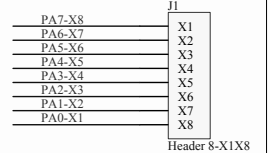
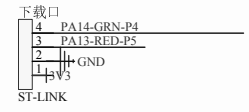
USB DFU requires stable levels on PA10, PB5, PB11 & PC11. PB2 must be low during boot.  
 R12, R13, R20 & R21 provide stable input levels for DFU.



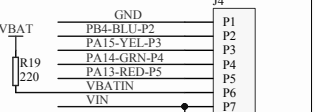
STM32F405RGT6



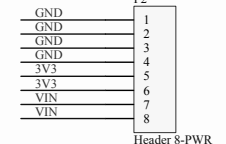
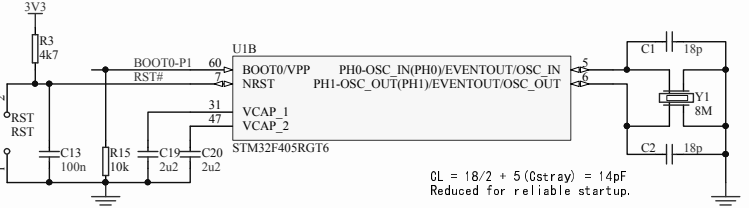
$CL = 2.2/2 + 5 \text{ (Cstray)} = 6.1\text{pF}$



All pins are 5V tolerant except PA4 & PA5  
 Therefore X skin SPI is not 5V tolerant  
 PC13 is limited to 3mA out



R19 prevents a silicon failure from short circuiting the backup battery.



Test points for JTAG debug available on bottom connector  
 Note: LED resistors may need to be removed for debug (tbd).

Title		Cannot open file	
TPYBoard STM32F405 48Pin Schematic	Size	Number	Revision
A3			TPYBoard V10X
Date: 2017/3/7	Sheet of		