

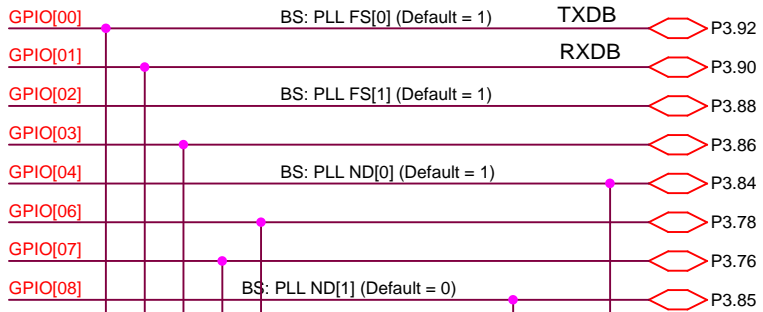
Rev	Drawn	Description of change(s)	Date
A	DJS	Initial Schematic	09/21/07
B	DJS	BootStrap isolation sheet - NAND boot connection to GPIO[6] External Ethernet connector sheet - Changed 12pF to 3.3pF	12/26/07
C	DJS	Added new sheet - USB Hub ports 3 & 4	02/20/08
C	DJS	Clarified Note 1 on BootStrap isolation sheet	03/04/08
D	DJS	Added New sheet - USB Dev with ext PHY Added New sheet - External USB Device using DM1 & DM2 Added Cover sheet - TOC, and Revision history Added page numbers to all sheets - All sheets to Rev D	03/27/08

## Table of Contents:

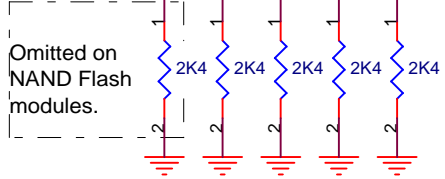
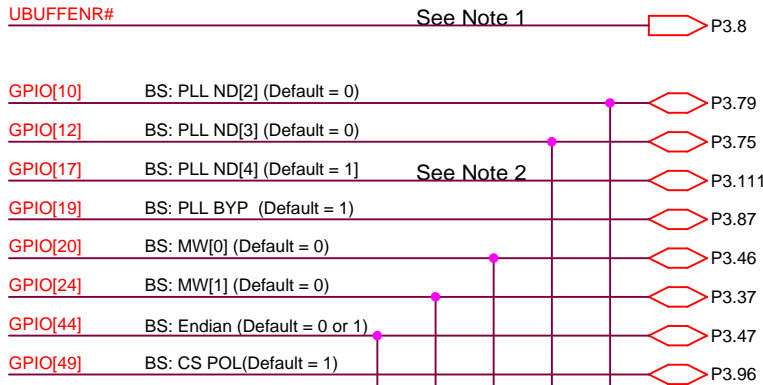
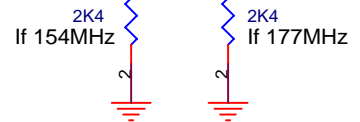
1. Rev D TOC & Revision History (this sheet)
2. Rev D BootStrap Isolation Considerations
3. Rev D Special Attention GPIOs
4. Rev D External Ethernet Connector (Ethernet PHY is on Module)
5. Rev D External USB Host using DM1 & DP1 (No HUB or USB on module)
6. Rev D External USB Device using DM1 & DP1 (No HUB or USB on module)
7. Rev D USB Device using External PHY (All modules)
8. Rev D External USB HUB Host Ports 3 & 4 (Ports 1 & 2 on module's USB HUB)

Digi International, Inc.		
Title CC9C/Wi-9C Design Aid Schematics		
Size A	Document Number CC9C_WI-9C_BASEBOARD_DESIGN_AIDS	Rev D
Date: Thursday, March 27, 2008		
Sheet		1 of 8

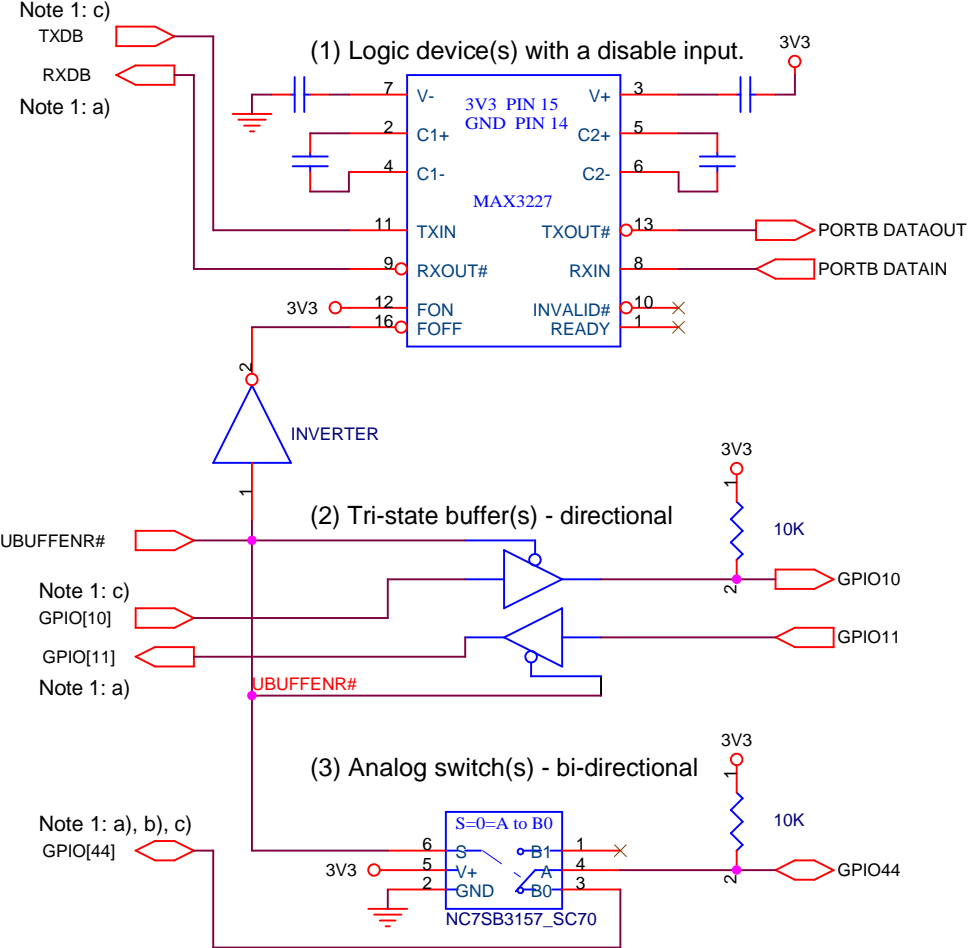
# CC9C / Wi-9C Module



Used on NAND flash modules. Isolated when UBUFFENR# = 0.



# Baseboard - 3 Isolation Examples

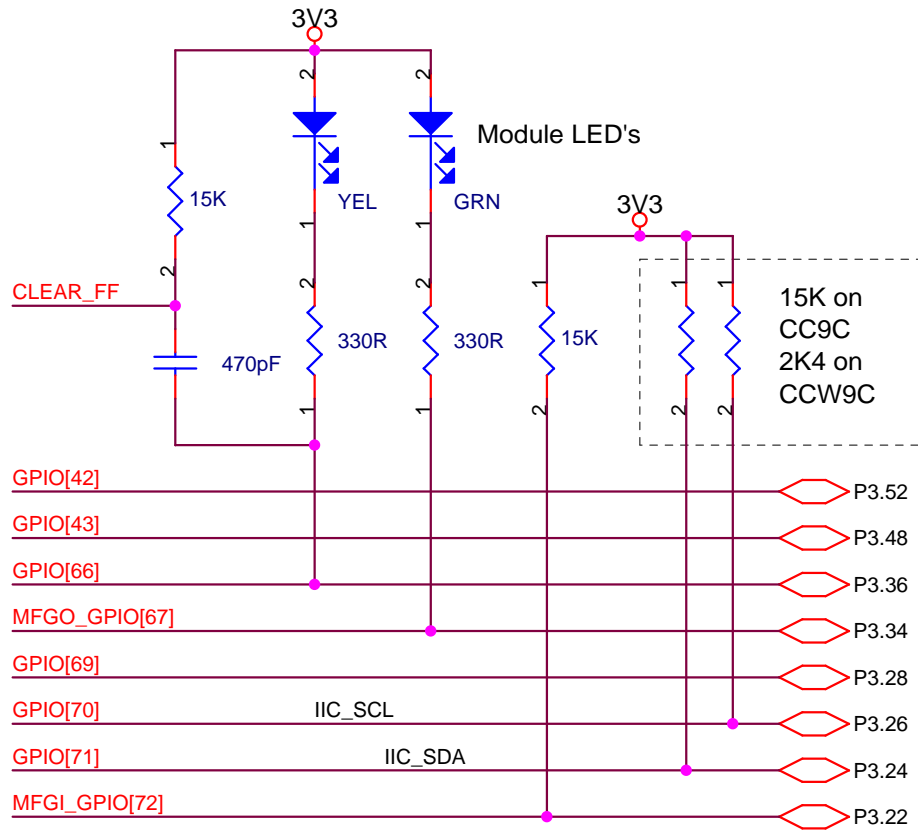


Note 1:  
 UBUFFENR# - 24ma driver used to hold baseboard drivers off until boot is done.  
 a) Inputs must not be driven until this output = "0". b) Isolation protects GPIO pins with bootstrap(BS) from being latched incorrectly during boot, and c) Conversely protects baseboard outputs from being effected by bootstrap 2K4 pull-down resistors.

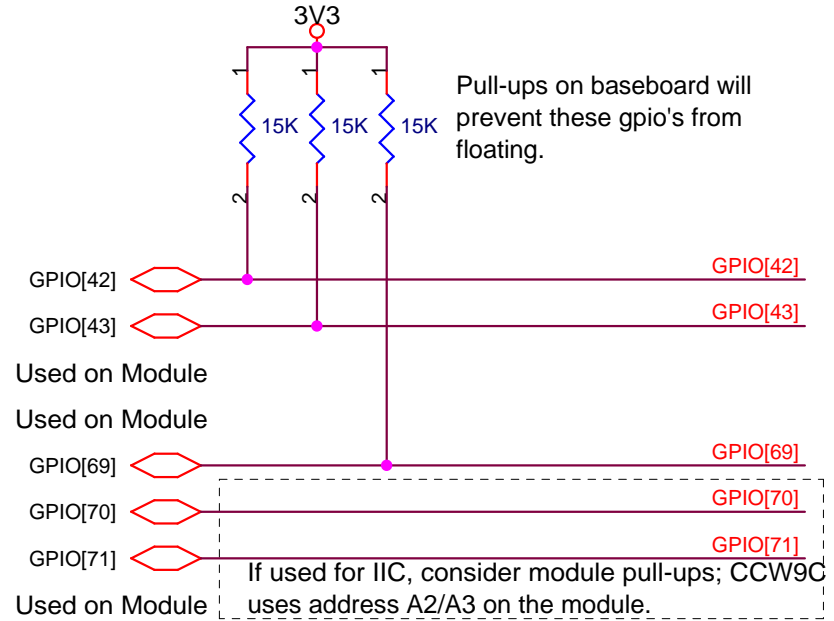
Note 2:  
 GPIO[17] and GPIO[16] are normally reserved for external USB host functions. See Ext. USB Host drawing.

## BootStrap Isolation Considerations

# CC9C / Wi-9C Module

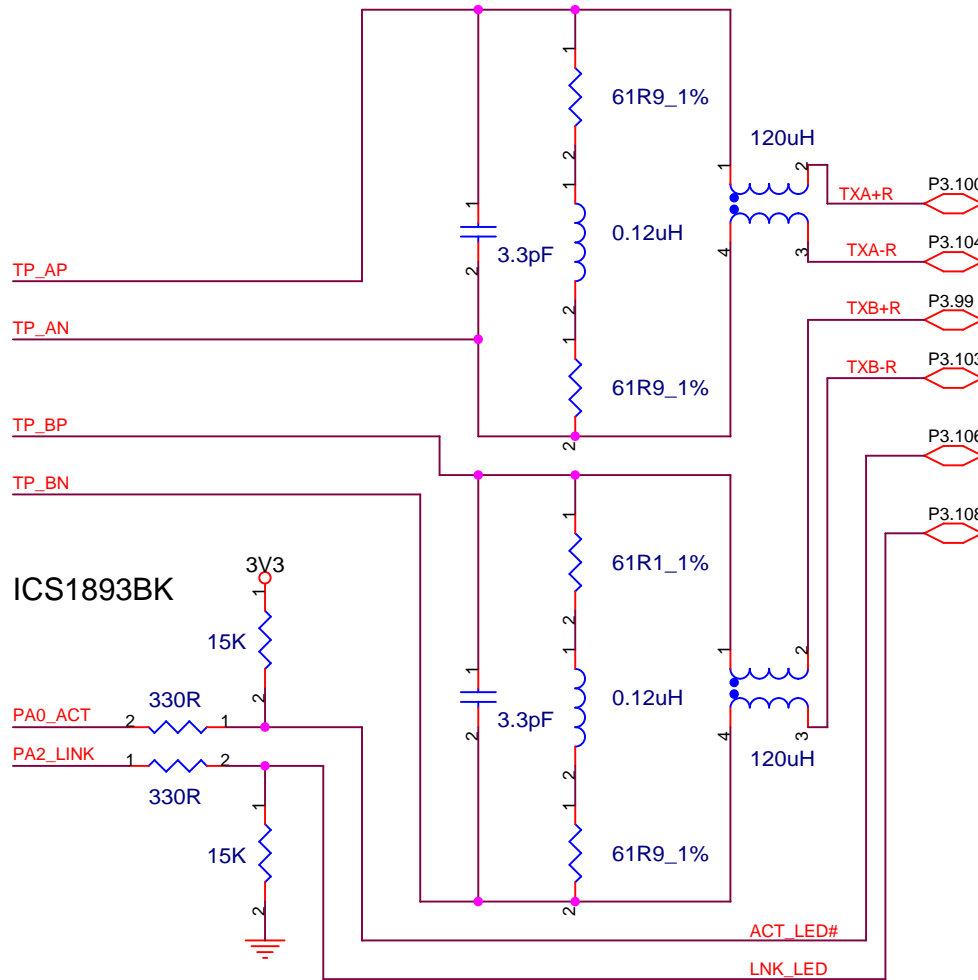


# Baseboard



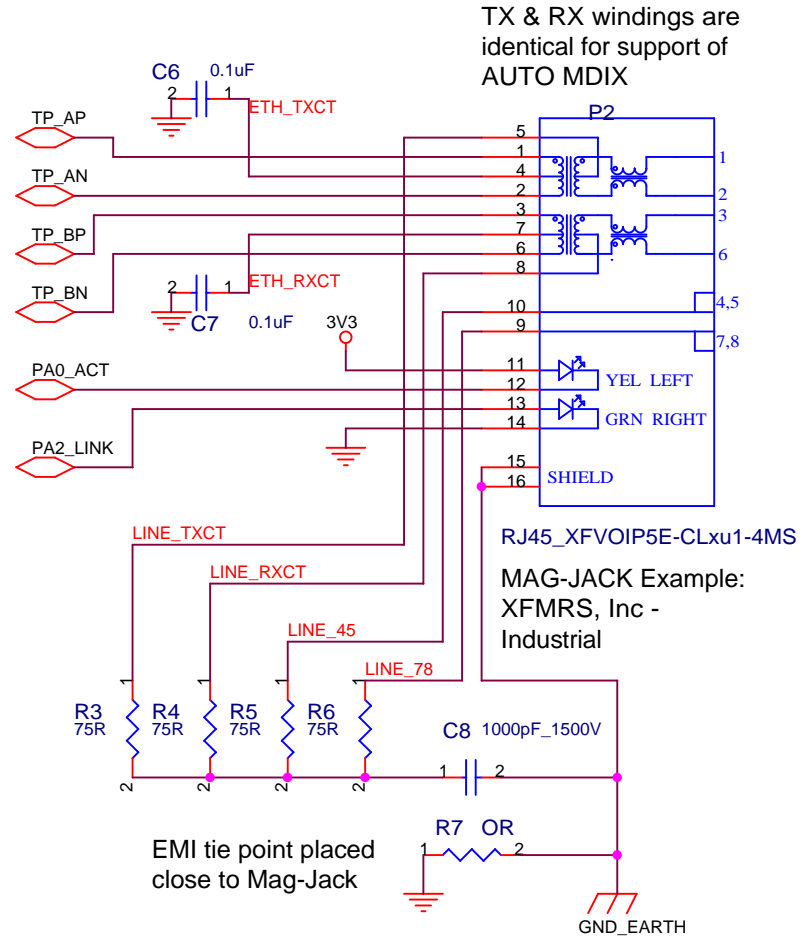
## Special Attention GPIOs

### CC9C / Wi-9C Module



LED pins also function as PHY address bootstraps during power-up.

### Baseboard



TX & RX windings are identical for support of AUTO MDIX

EMI tie point placed close to Mag-Jack

### External Ethernet Connector

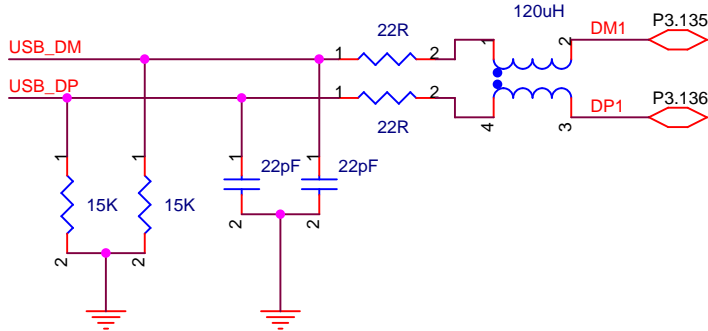
# CC9C / Wi-9C Module

Code initializes USB registers, then sets GPIO[16] and GPIO[17] to mode 0 - USB, with the inversion function enabled for both.

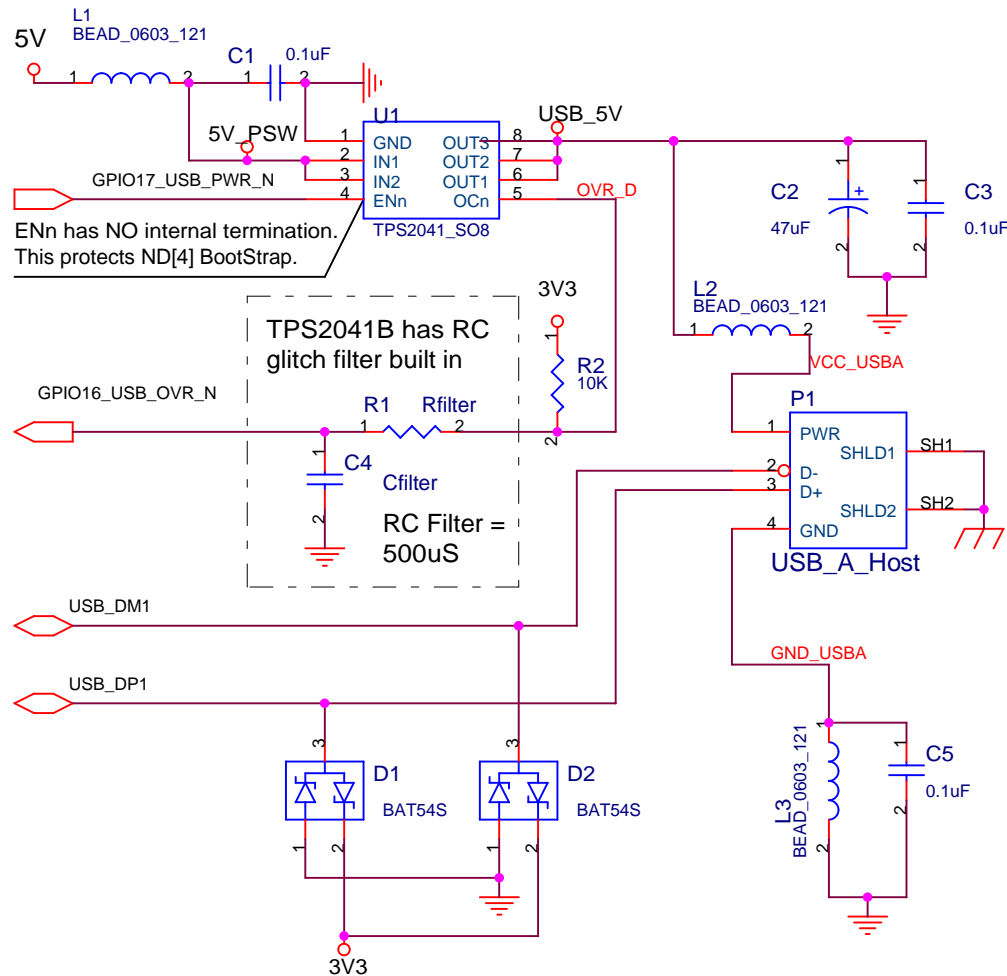
GPIO17\_PONH BS: PLL ND[4] (Default = 1) P3.111

If using USB Host, gpio[16] and gpio[17] must be reserved for the USB functions.

GPIO16\_OVRH P3.109



# Baseboard



External USB Host using DM1 & DP1 (No HUB or USB on module)

CC9C / Wi-9C Module

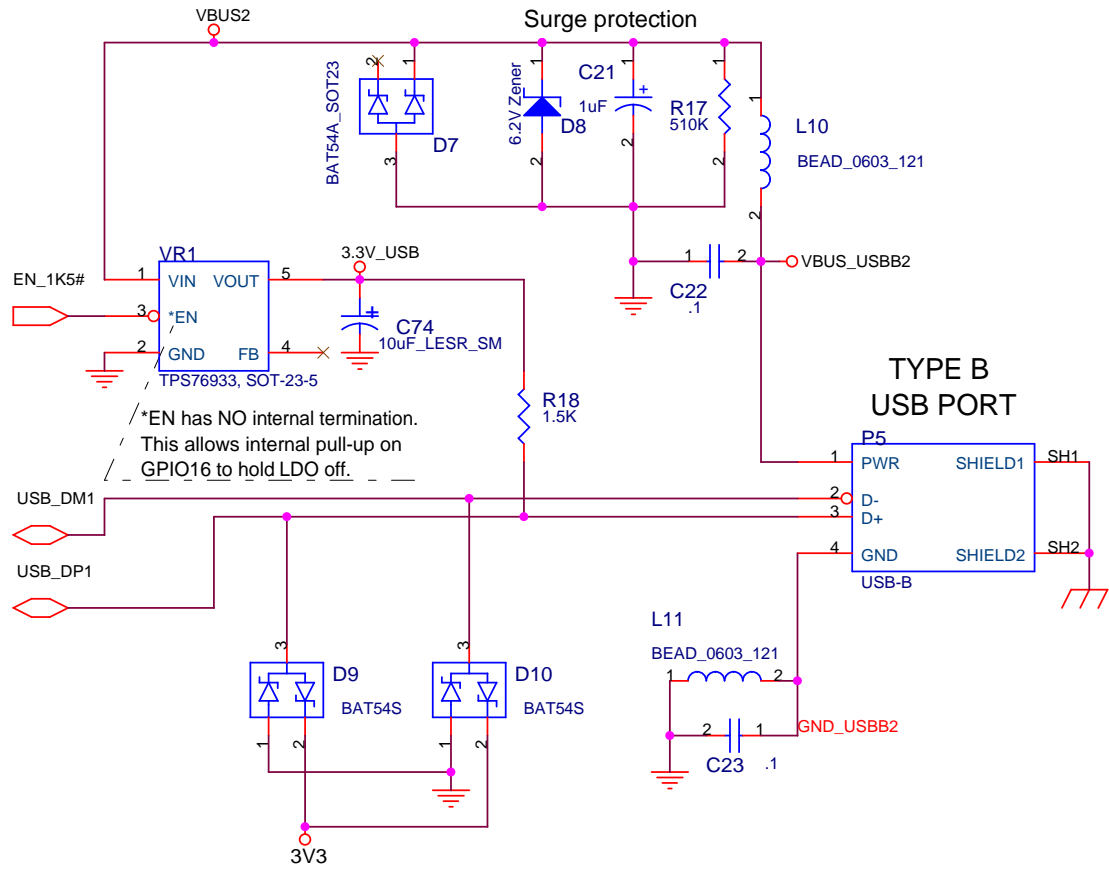
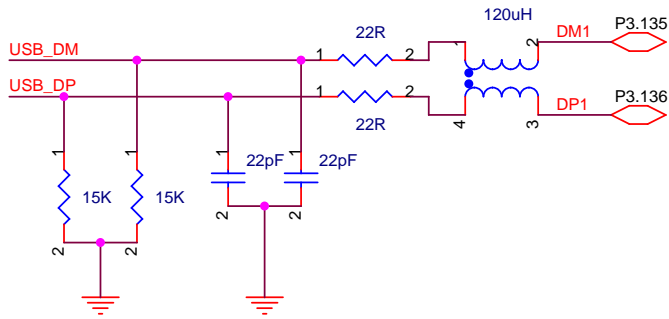
Baseboard

**This USB Device design requires a code update to the Module.**

Code initializes USB registers, then sets GPIO[16] to mode 3 (GPIO), Output = 0.

GPIO16\_GPIO Mode

USB driver Enables LDO which powers the 1.5K when code is ready



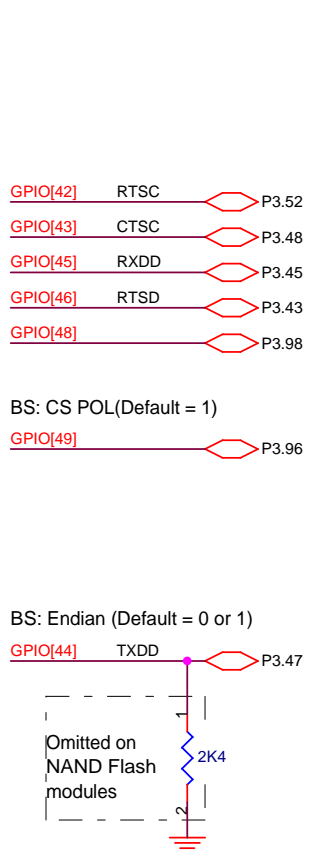
VR1  
VIN VOUT 5  
\*EN 3  
GND FB 4  
TPS76933, SOT-23-5

3.3V\_USB  
C74  
10uF\_LESR\_SM

R18  
1.5K

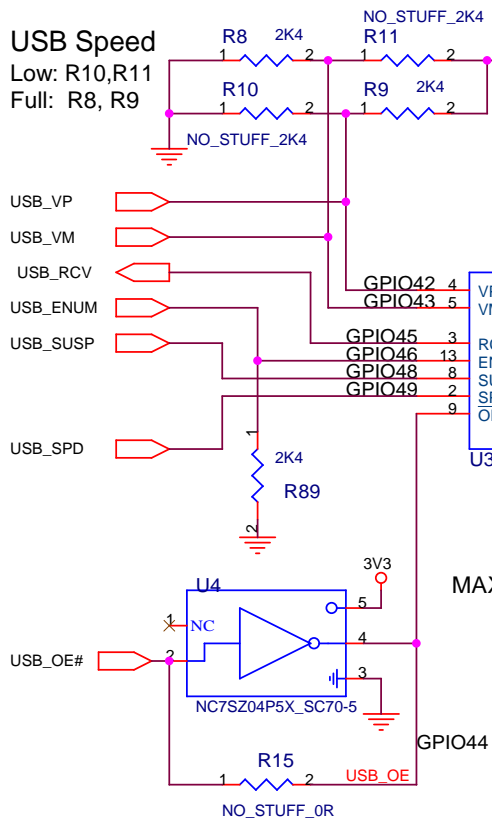
/\*EN has NO internal termination.  
This allows internal pull-up on  
GPIO16 to hold LDO off.

External USB Device using DM1 & DP1 (No HUB or USB on module)

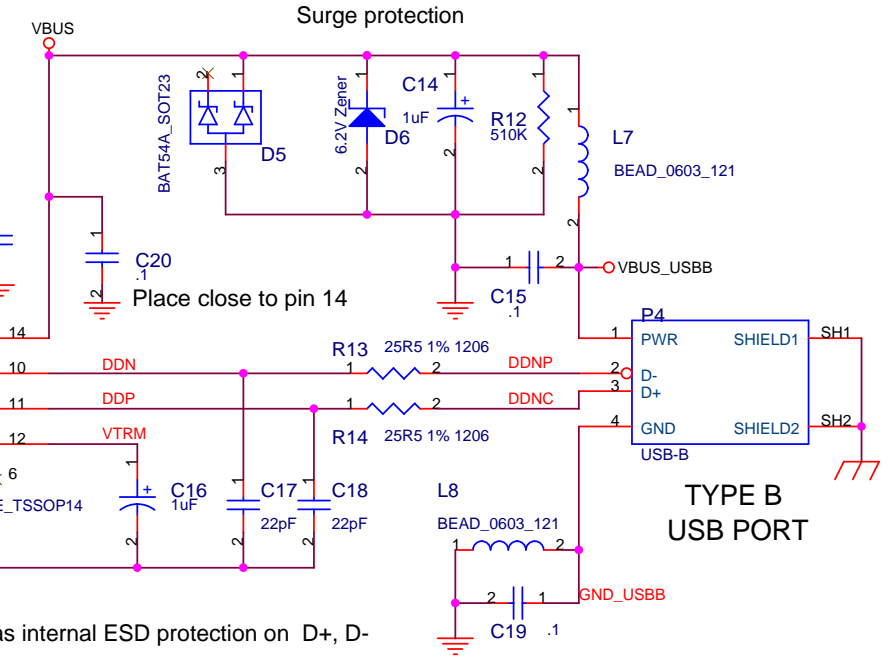


USB Speed

Low: R10,R11  
Full: R8, R9



Inverter is required except for NAND Flash modules



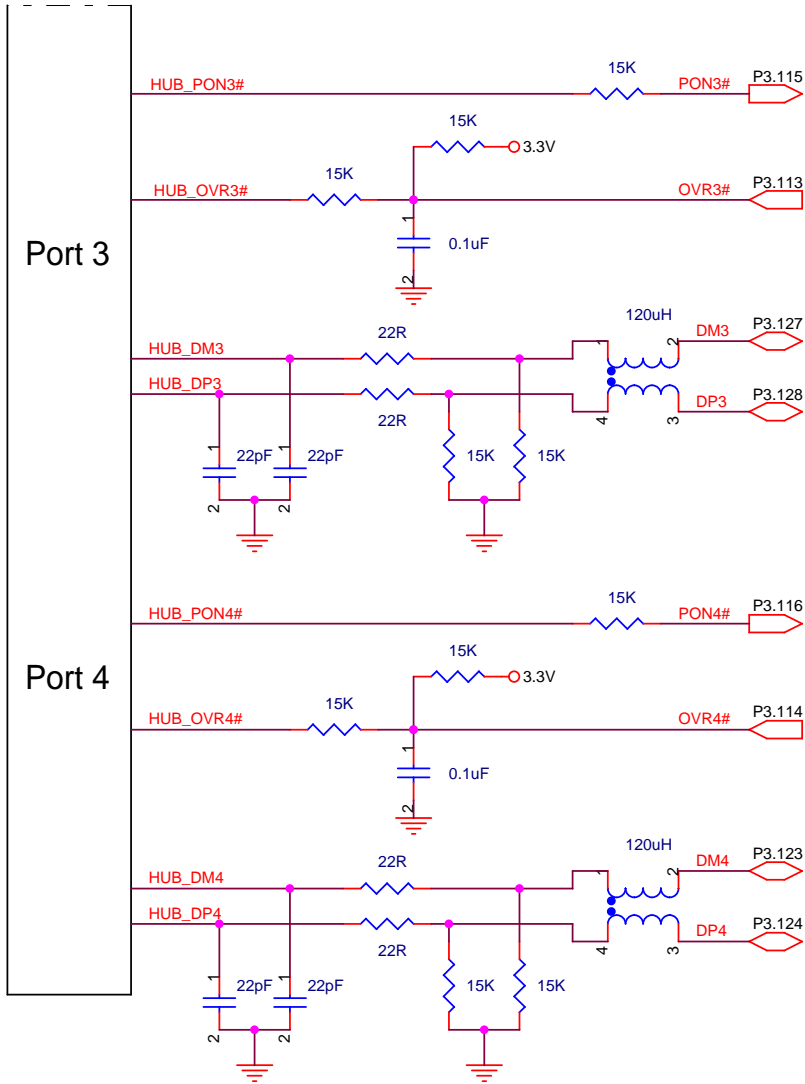
MAX3454E has internal ESD protection on D+, D-

- Notes:
1. Serial port D cannot be used when this USB device interface is implemented.
  2. Serial port C loses RTS and CTS
  3. May require USB driver update to module.

USB Device using External PHY

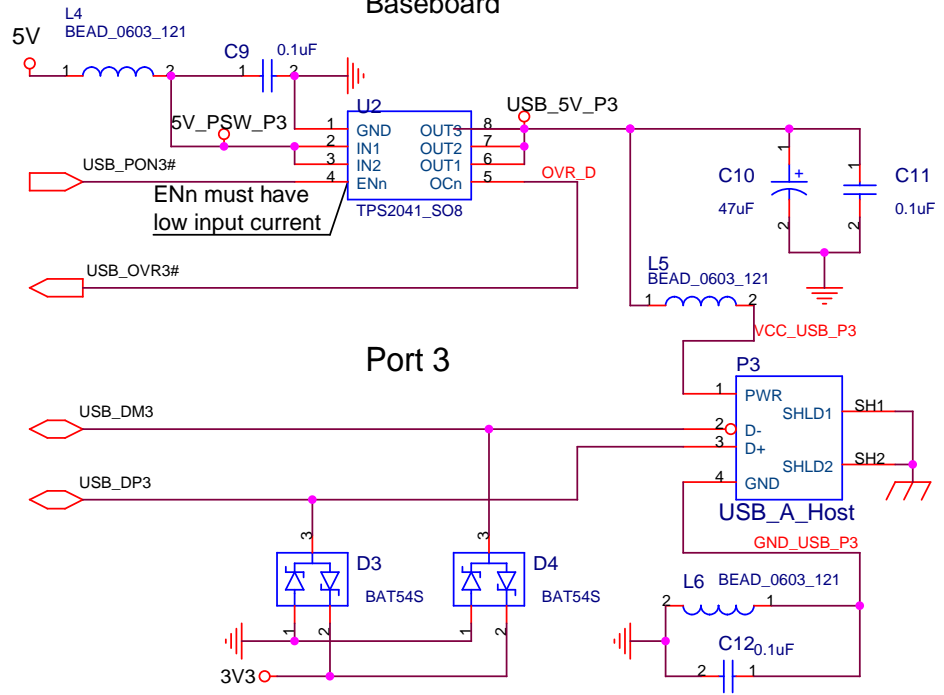
## CC9C / Wi-9C Module

### TUSB2046B



External USB HUB Host Ports 3 & 4 (Ports 1 & 2 on module's USB HUB)

## Baseboard



Port 4 is identical to Port 3; If both ports are implemented a dual power switch (TPS2042) and dual USB connector can be used.

### Notes:

1. Be aware that each USB port requires 500ma for a total of 2 Amps - 1 Amp for the module, 1 amp for the baseboard.
2. Support of ports 3 and 4 may require a code update to the module.