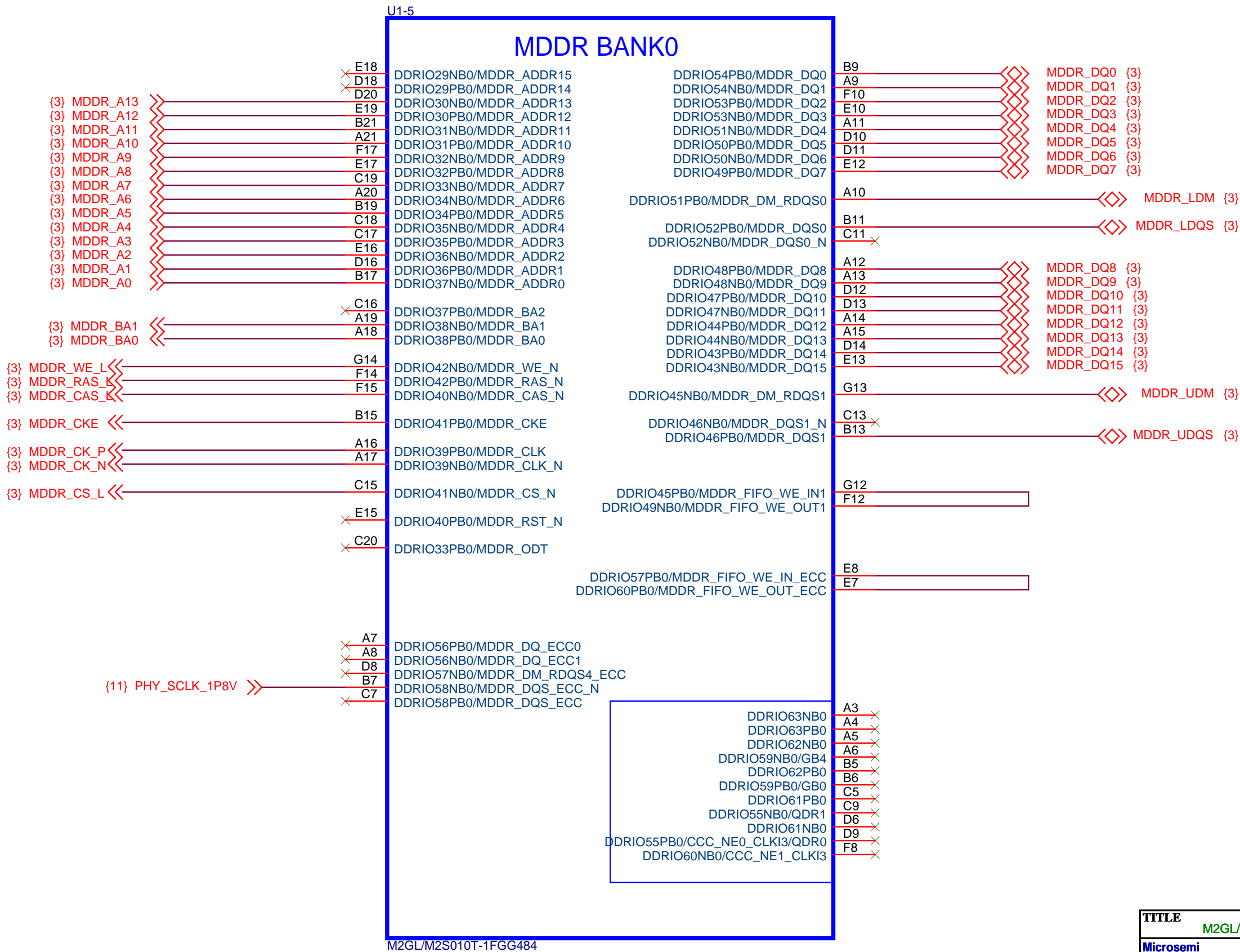


# M2GL/M2S-EVAL-KIT

## DVP-100-000402-001 RevD

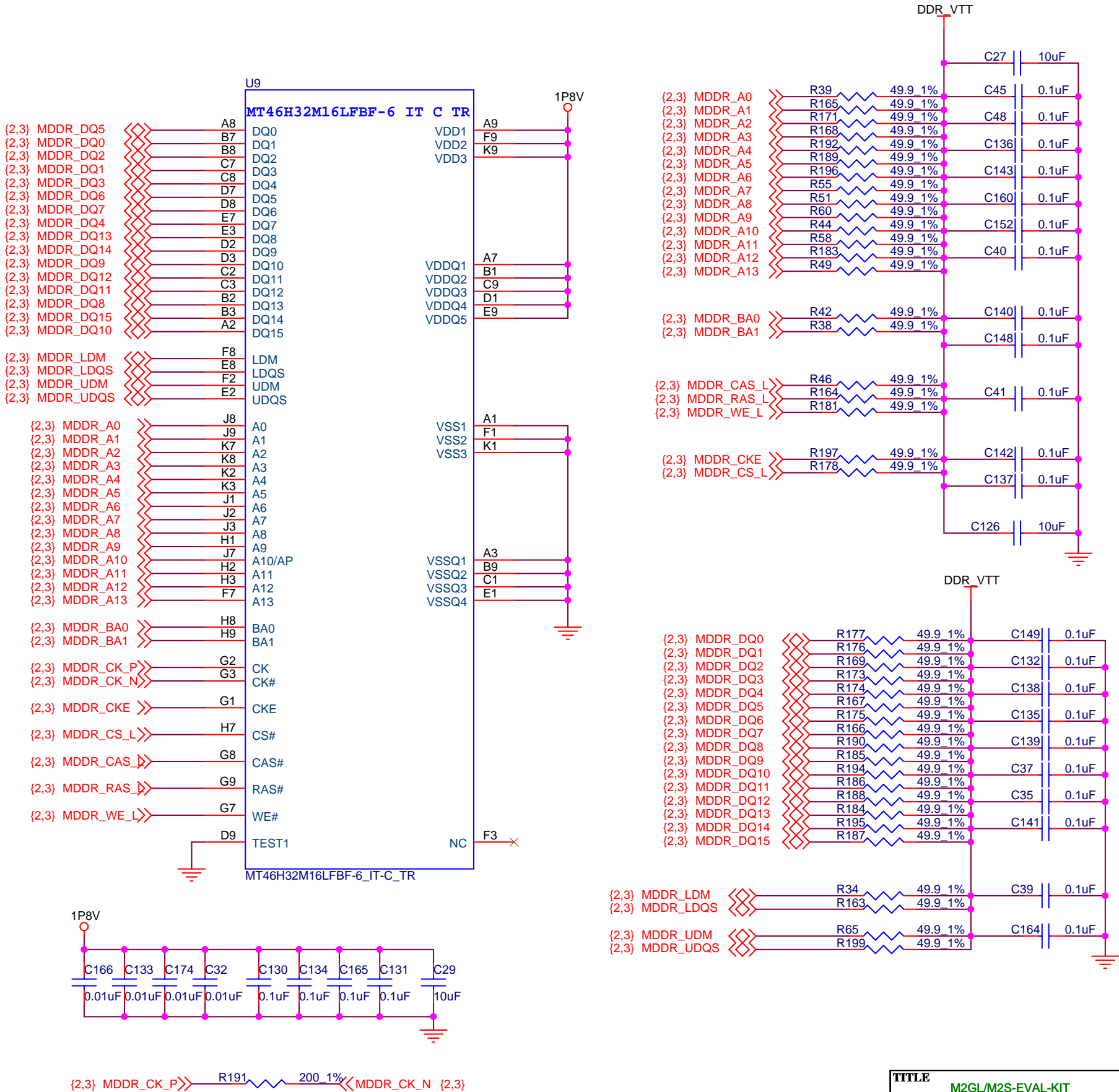
Microsemi Corporation	
Page	Schematic Title
01	TITLE AND INDEX
02	FG484 DDR INTERFACE
03	LPDDR MEMORY INTERFACE
04	SERDES 0 INTERFACE
05	BANK 1 & 2 CONNECTION
06	BANK 4,6 &7 CONNECTION
07	GPIO HEADER
08	JTAG,I2C & SPI INTERFACE
09	SF2-POWER AND GROUND CONNECTION
10	USB INTERFACE
11	MARVELL PHY INTERFACE
12	MARVELL PHY INTERFACE
13	PROGRAMMING CIRCUITRY
14	FT4232H CONNECTION
15	DEBUGGING CIRCUITRY
16	POWER SUPPLIES 1
17	POWER SUPPLIES 2
18	POWER SUPPLIES 3
19	POWER SUPPLIES 4
20	POWER SUPPLIES 5
21	POWER SUPPLIES 6
22	POWER SUPPLIES 7 & LED

# MDDR - BANK0 INTERFACES



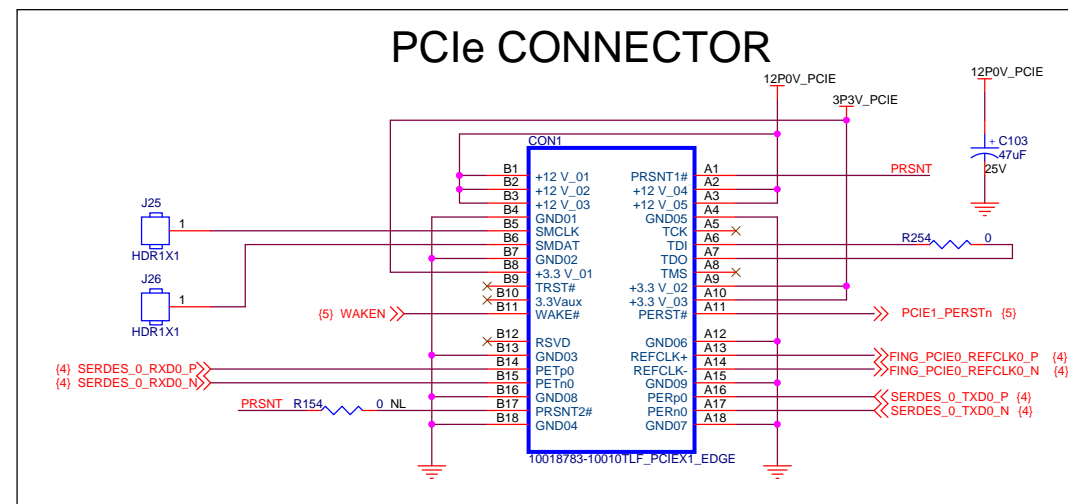
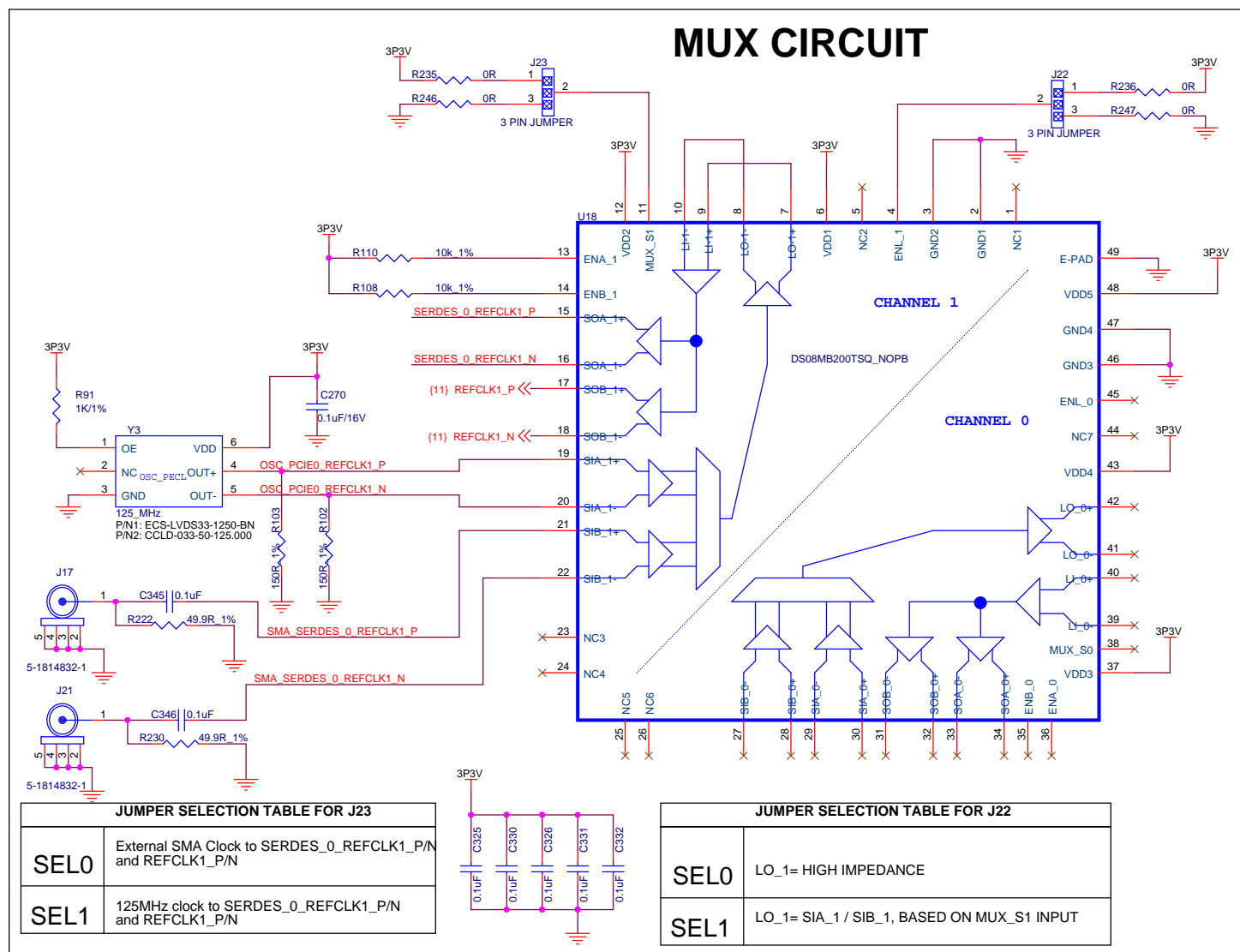
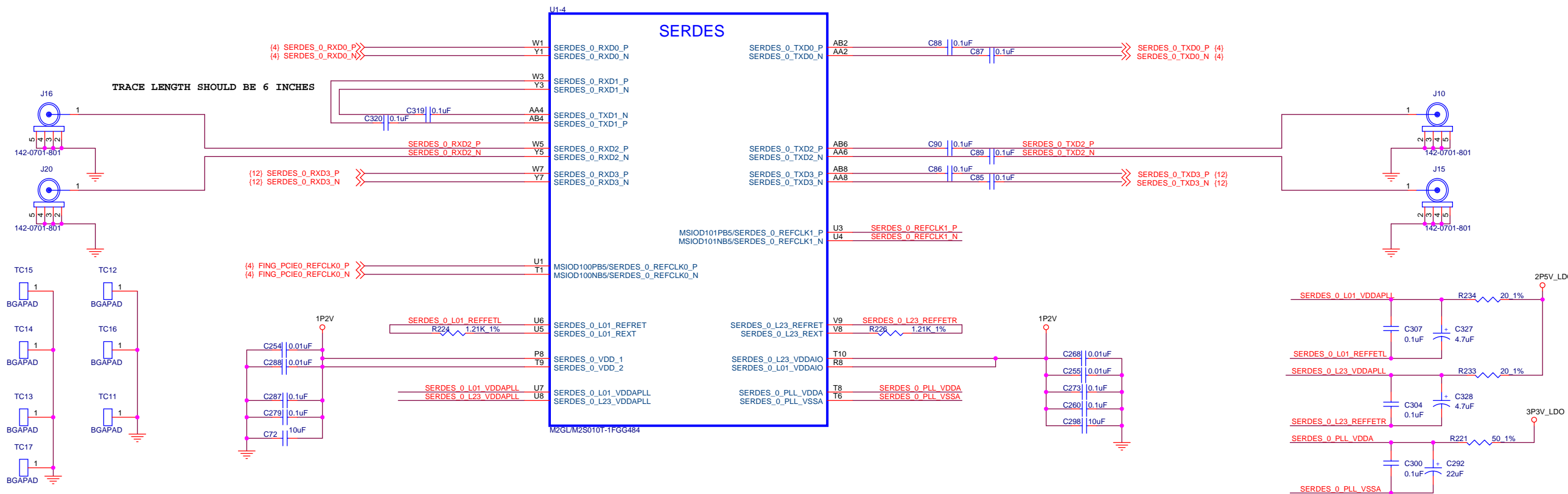
TITLE		
M2GL/M2S-EVAL-KIT		
Microsemi		
SIZE	DOCUMENT NO.	REV
Custom		D
DATE:	Wednesday, January 15, 2014	SH 2 OF 22

LPDDR MEMORY INTERFACE



TITLE		
M2GL/M2S-EVAL-KIT		
Microsemi		
SIZE	DOCUMENT NO.	REV
Custom		D
DATE:	Wednesday, January 15, 2014	SH 3 OF 22

## SERDES0 (PCIe & SMA INTERFACES)



<b>TITLE</b>		M2GL/M2S-EVAL-KIT	
Microsemi			
<b>SIZE</b> C		<b>DOCUMENT NO.</b>	
<b>DATE:</b> Wednesday, January 15, 2014		SH 4 OF 22	

BANK1 & BANK2 CONNECTIONS

U1-9

BANK 1

MSIO22NB1/MMUART\_1\_RXD/GPIO\_26\_B/USB\_DATA3\_C  
MSIO21NB1/MMUART\_1\_TXD/GPIO\_24\_B/USB\_DATA2\_C

G18 H19 >>> UART0\_TXD {14}  
H19 <<< UART0\_RXD {14}

MSIO21PB1/GB5/USB\_XCLK\_C

H20 ✕

MSIO22PB1/GB6/MMUART\_1\_CLK/GPIO\_25\_B/USB\_DATA4\_C  
MSIO23PB1/MMUART\_0\_RTS/GPIO\_17\_B/USB\_DATA5\_C  
MSIO23NB1/MMUART\_0\_DTR/GPIO\_18\_B/USB\_DATA6\_C  
MSIO24PB1/MMUART\_0\_CTS/GPIO\_19\_B/USB\_DATA7\_C

G19 F21 >>> ETM\_TRACECLK {13}  
F21 >>> ETM\_TRACEDATA0 {13}  
F20 >>> ETM\_TRACEDATA1 {13}  
F19 >>> ETM\_TRACEDATA2 {13}  
F18 >>> ETM\_TRACEDATA3 {13}  
E22 >>> WAKEN {4}

MSIO24NB1/MMUART\_0\_DSR/GPIO\_20\_B  
MSIO25PB1/MMUART\_0\_RI/GPIO\_21\_B  
MSIO25NB1/MMUART\_0\_DCD/GPIO\_22\_B  
MSI26NB1/MMUART\_0\_TXD/GPIO\_27\_B/USB\_DIR\_C  
MSIO27PB1/MMUART\_0\_RXD/GPIO\_28\_B/USB\_STP\_C  
MSIO27NB1/MMUART\_0\_CLK/GPIO\_29\_B/USB\_NXT\_C

E21 D21 ✕  
C22 ✕  
B22 >>> MSIO27PB1 {7}  
B22 >>> MSIO27NB1 {7}

MSIO28NB1/I2C\_0\_SCL/GPIO\_31\_B/USB\_DATA1\_C  
MSIO28PB1/I2C\_0\_SDA/GPIO\_30\_B/USB\_DATA0\_C

G16 G17 >>> I2C0\_SCL {8}  
G17 >>> I2C0\_SDA {8}

NC\_30 G21 ✕  
NC\_31 G22 ✕  
NC\_32 H21 ✕  
NC\_32 H22 ✕  
NC\_33 J19 ✕  
NC\_34 J20 ✕  
NC\_35

M2GL/M2S010T-1FGG484

U1-8

BANK 2

MSIO12PB2/SPI\_0\_CLK/USB\_XCLK\_A  
MSIO12NB2/SPI\_0\_SDI/GPIO\_5\_A/USB\_DIR\_A  
MSIO13PB2/SPI\_0\_SDO/GPIO\_6\_A/USB\_STP\_A  
MSIO13NB2/SPI\_0\_SS0/GPIO\_7\_A/USB\_NXT\_A  
MSIO18PB2/SPI\_0\_SS1/GPIO\_8\_A/USB\_DATA5\_A  
MSIO18NB2/SPI\_0\_SS2/GPIO\_9\_A/USB\_DATA6\_A  
MSIO19PB2/SPI\_0\_SS3/GPIO\_10\_A/USB\_DATA7\_A  
MSIO7NB2/CAN\_TX/GPIO\_2\_A/USB\_DATA0\_A  
MSIO8PB2/CAN\_RX/GPIO\_3\_A/USB\_DATA1\_A  
MSIO8NB2/CAN\_TX\_EN\_N/GPIO\_4\_A/USB\_DATA2\_A

{8} SPI\_SCK >>> N19  
{8} SPI\_SDI >>> N20  
{8} SPI\_SDO >>> N21  
{8} SPI\_SS >>> N22  
{8} SPI\_WP >>> L16  
{8} SPI\_RESET >>> K15

{4} PCIE1\_PERSTn <<< P18  
U19 ✕

MSIO6NB2  
MSIO0PB2

J22 ✕ NC\_29  
K22 ✕ NC\_30  
M16 ✕ NC\_31  
M17 ✕ NC\_32  
M18 ✕ NC\_33  
M19 ✕ NC\_34

MSIO11NB2/CCC\_NE0\_CLKI2/I2C\_1\_SCL/GPIO\_1\_A/USB\_DATA4\_A  
MSIO11PB2/CCC\_NE0\_CLKI1/I2C\_1\_SDA/GPIO\_0\_A/USB\_DATA3\_A

MSIO3PB2/USB\_DATA0\_B  
MSIO3NB2/USB\_DATA1\_B  
MSIO4PB2/USB\_DATA2\_B  
MSIO4NB2/USB\_DATA3\_B  
MSIO5PB2/USB\_DATA4\_B  
MSIO5NB2/USB\_DATA5\_B  
MSIO6PB2/USB\_DATA6\_B  
MSIO0NB2/USB\_DATA7\_B  
MSIO1NB2/USB\_DIR\_B  
MSIO1PB2/USB\_XCLK\_B  
MSIO2NB2/USB\_NXT\_B  
MSIO2PB2/USB\_STP\_B  
MSIO7PB2

V22 <<< USB\_DATA0 {10}  
V21 <<< USB\_DATA1 {10}  
U22 <<< USB\_DATA2 {10}  
U21 <<< USB\_DATA3 {10}  
T20 <<< USB\_DATA4 {10}  
T21 <<< USB\_DATA5 {10}  
P17 <<< USB\_DATA6 {10}  
V19 <<< USB\_DATA7 {10}  
R18 <<< USB\_DIR {10}  
R17 <<< USB\_CLKOUT {10}  
T19 <<< USB\_NXT {10}  
T18 <<< USB\_STP {10}  
R16 <<< USB\_RESET {10}

R22 <<< I2C1\_SCL {8}  
P22 <<< I2C1\_SDA {8}

MSIO15NB2/SPI\_1\_SS0/GPIO\_13\_A  
MSIO19NB2/SPI\_1\_SS1/GPIO\_14\_A  
MSIO20PB2/SPI\_1\_SS2/GPIO\_15\_A  
MSIO20NB2/SPI\_1\_SS3/GPIO\_16\_A  
MSIO16PB2/SPI\_1\_SS4/GPIO\_17\_A  
MSIO16NB2/SPI\_1\_SS5/GPIO\_18\_A  
MSIO17PB2/SPI\_1\_SS6/GPIO\_23\_A  
MSIO17NB2/SPI\_1\_SS7/GPIO\_24\_A  
MSIO14NB2/SPI\_1\_SDI/GPIO\_11\_A  
MSIO15PB2/SPI\_1\_SDO/GPIO\_12\_A  
MSIO14PB2/SPI\_1\_CLK

L20 <<< SWITCH1 {15}  
K16 <<< SWITCH2 {15}  
K18 <<< SWITCH3 {15}  
J18 <<< SWITCH4 {15}  
L19 <<< DIP1 {15}  
L18 <<< DIP2 {15}  
K21 <<< DIP3 {15}  
K20 <<< DIP4 {15}

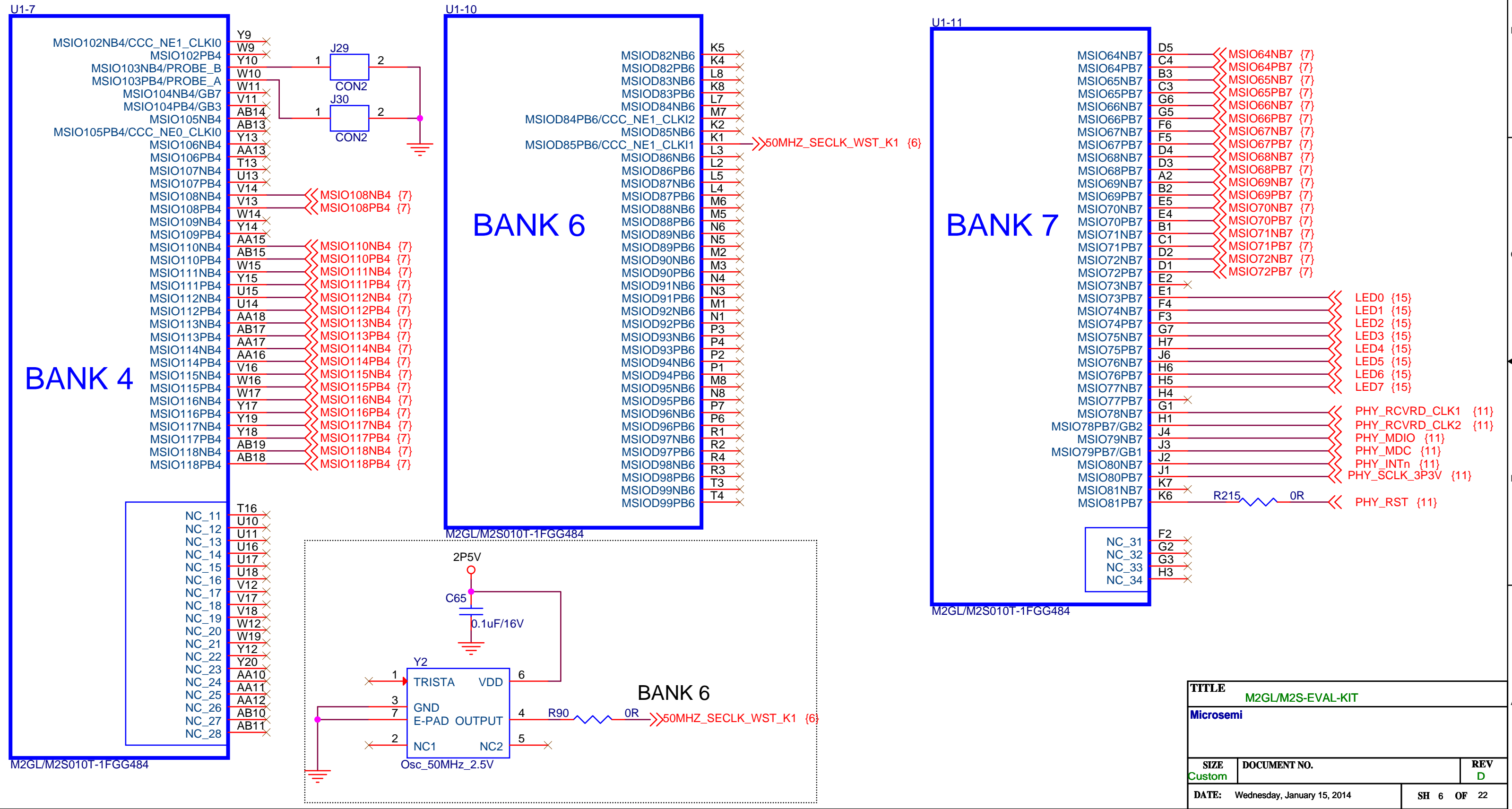
M22 ✕  
L21 ✕  
M21 ✕

M2GL/M2S010T-1FGG484

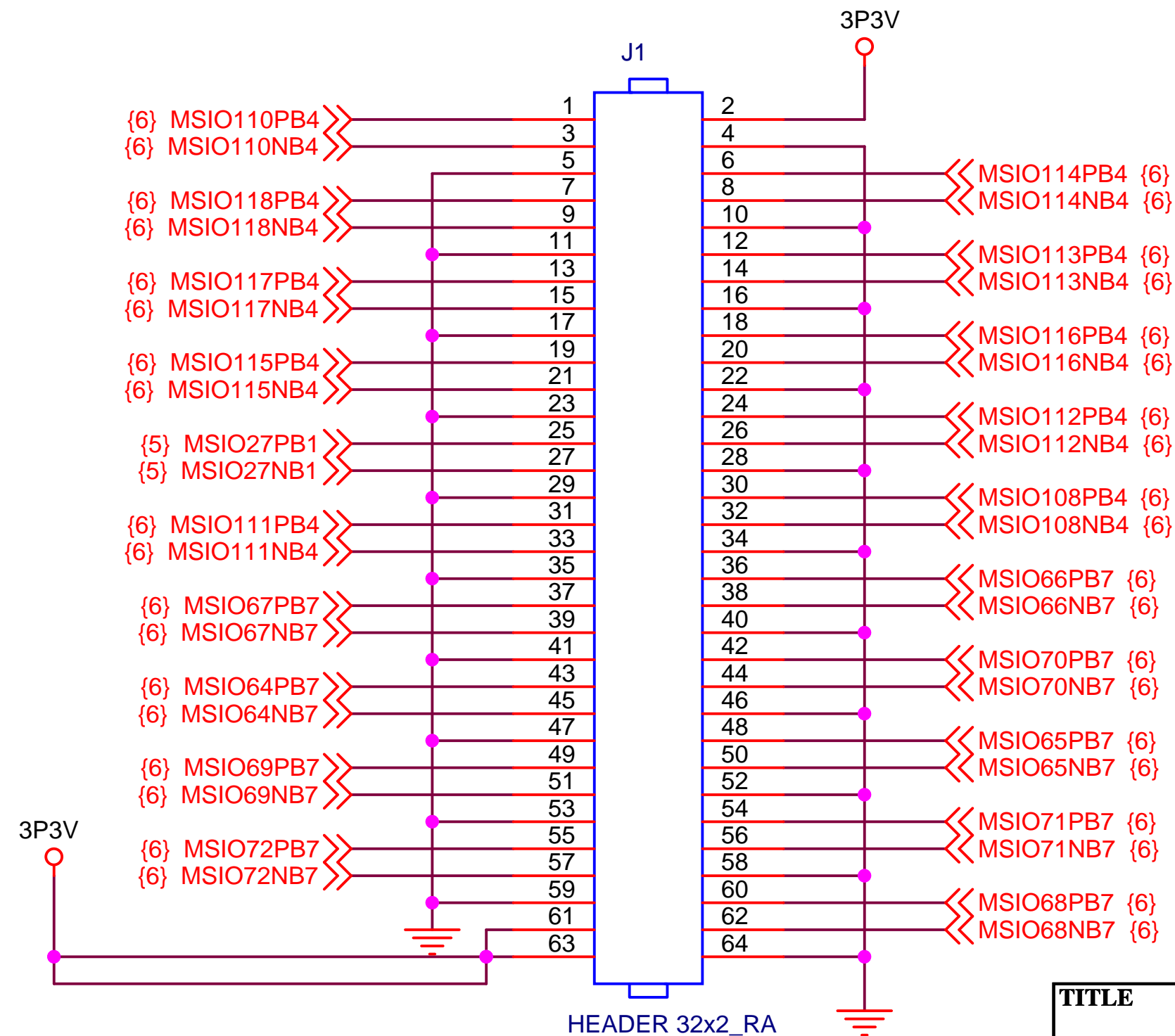
TITLE		
M2GL/M2S-EVAL-KIT		
Microsemi		
SIZE	DOCUMENT NO.	REV
Custom		D
DATE:	Wednesday, January 15, 2014	SH 5 OF 22



# BANK 4, 6 and 7 CONNECTIONS



# GPIO HEADER

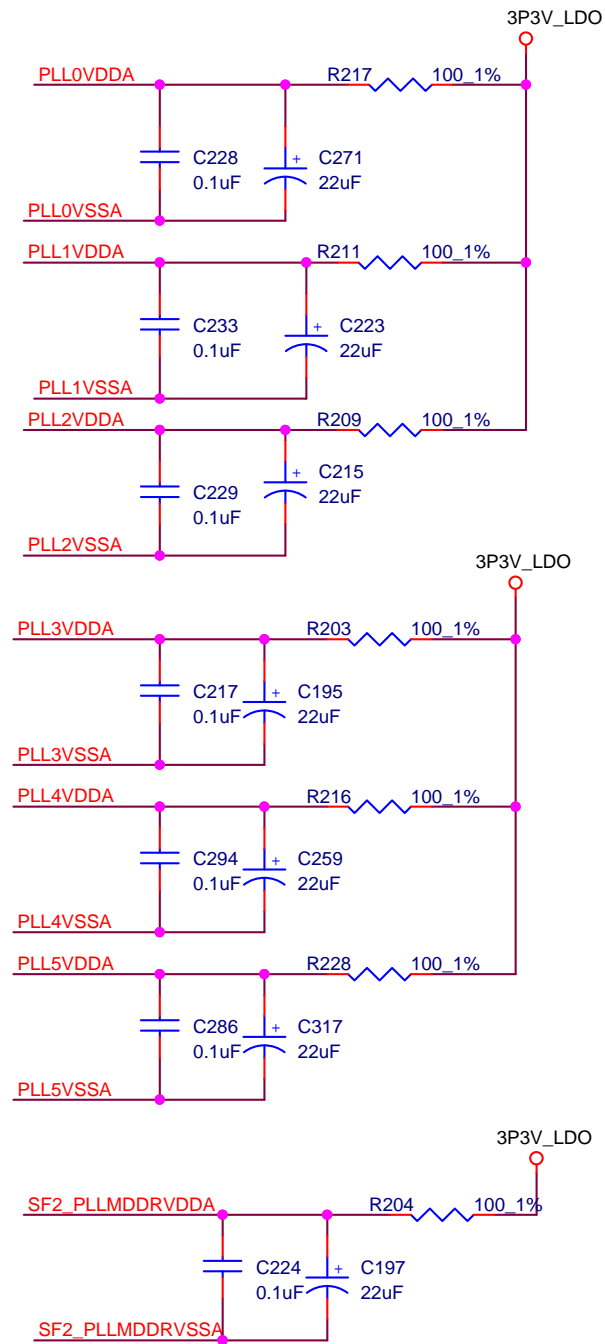
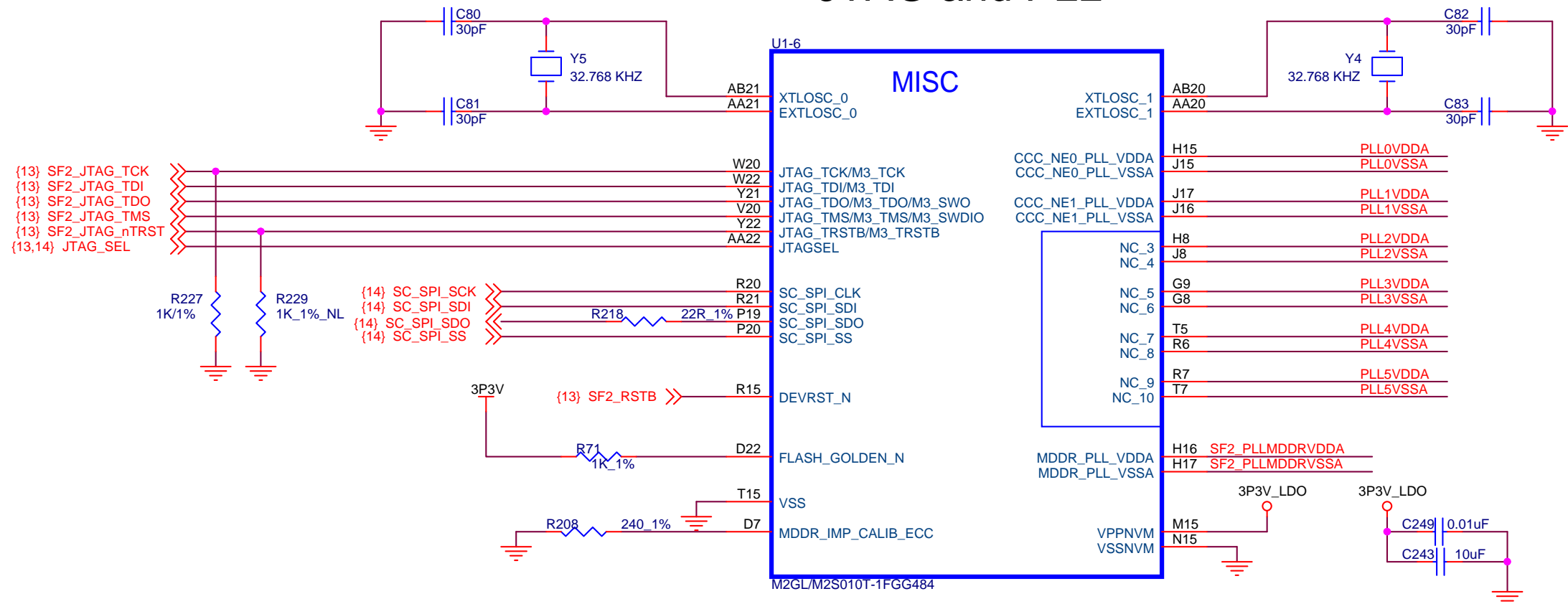


MANUFACTURER P/N = TSW-132-08-T-D-RA  
MANUFACTURER = Samtec

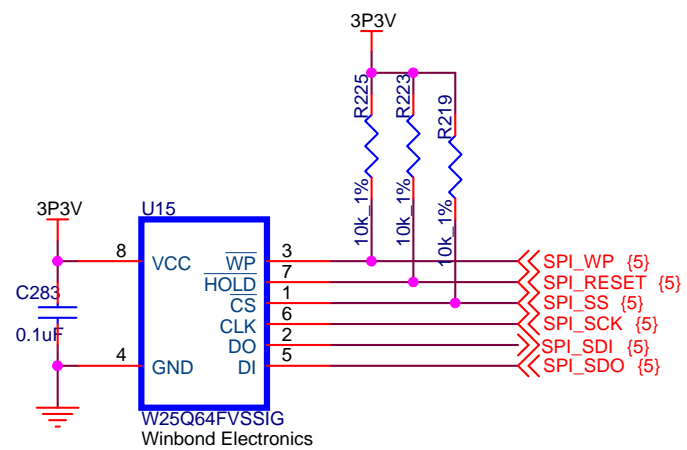
MATING RECEPTACLE P/N: SSW-132-02-S-D-RA  
MANUFACTURER: Samtec

TITLE		
M2GL/M2S-EVAL-KIT		
Microsemi		
SIZE	DOCUMENT NO.	REV
Custom		D
DATE:	Wednesday, January 15, 2014	SH 7 OF 22

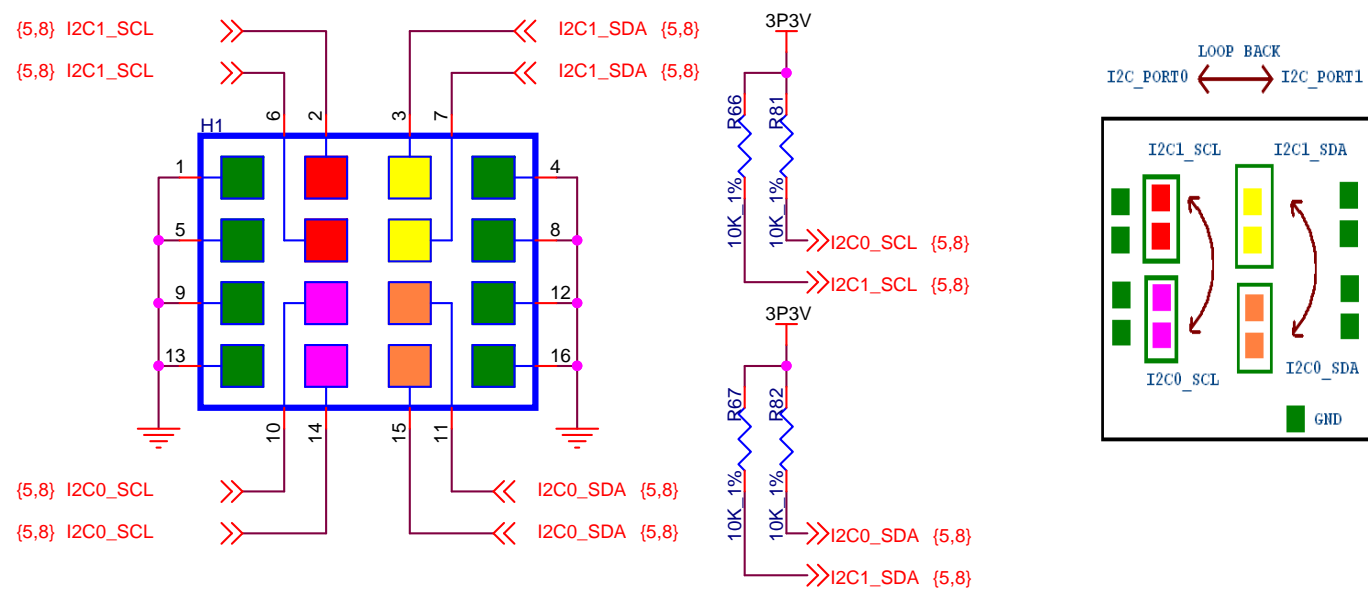
# JTAG and PLL



## SPI FLASH INTERFACE



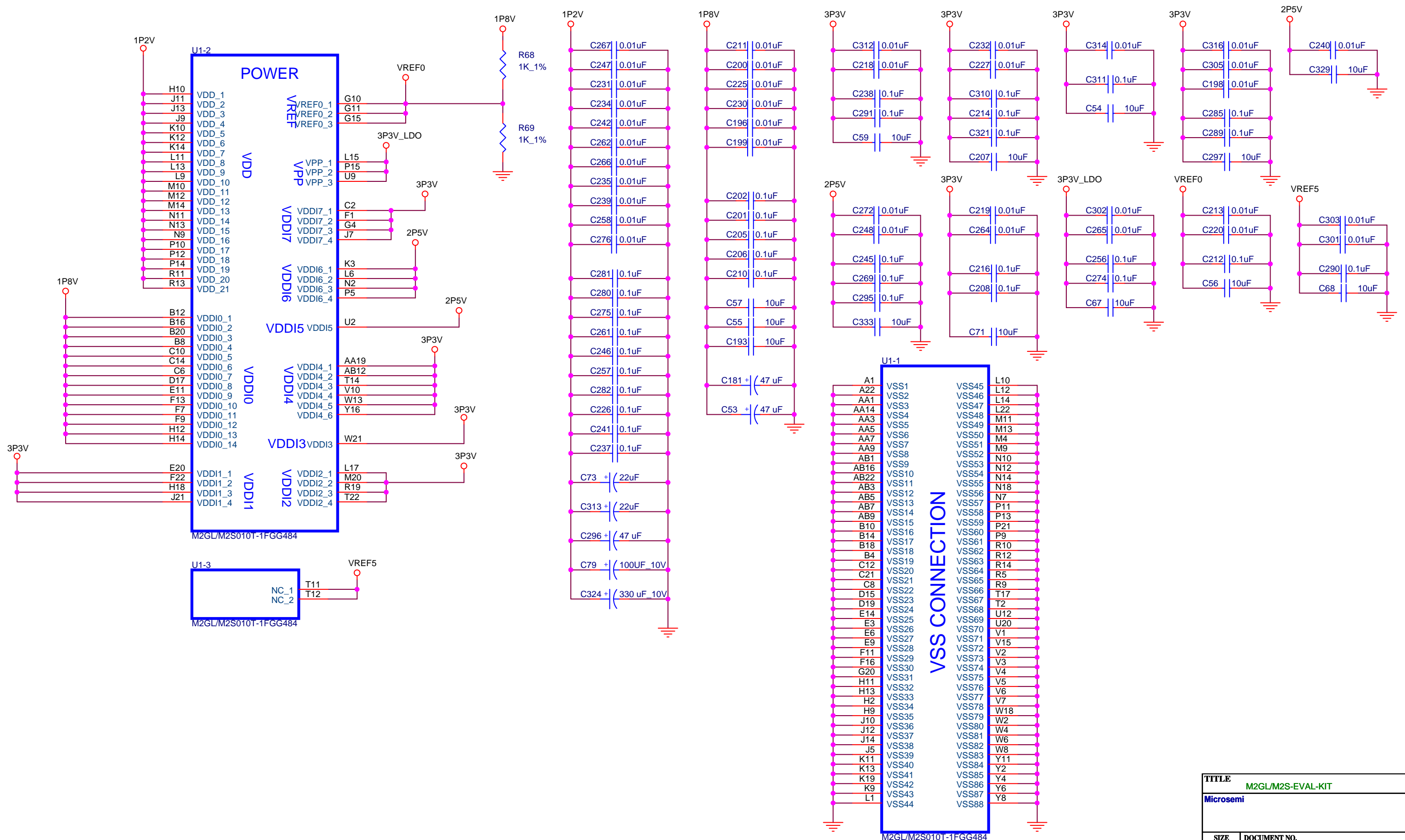
## I2C PORT HEADER



TITLE		
M2GL/M2S-EVAL-KIT		
Microsemi		
SIZE	DOCUMENT NO.	REV
Custom		D
DATE:	Wednesday, January 15, 2014	SH 8 OF 22



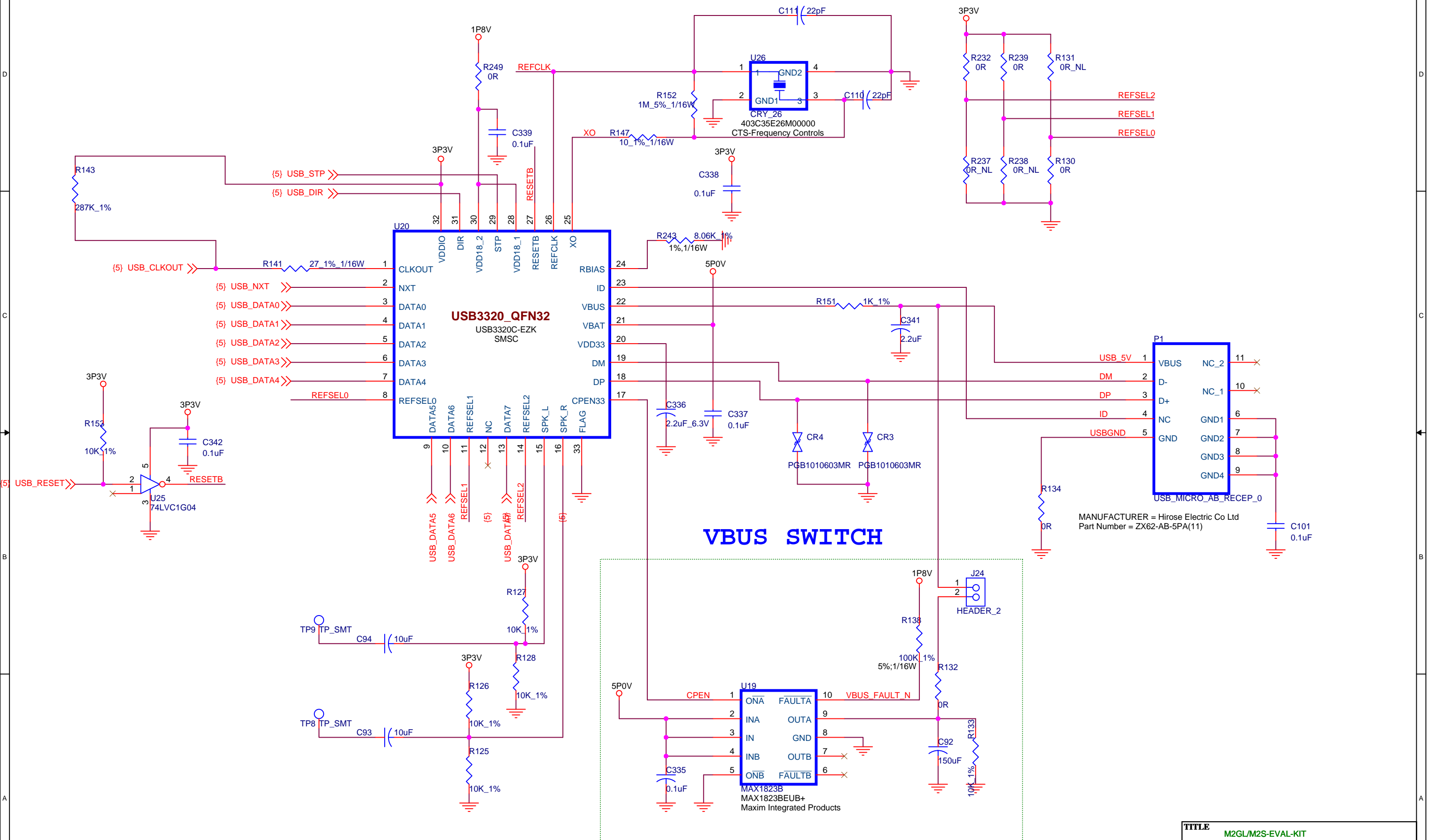
## SF2-POWER, GND AND DECOUPLING CAPACITORS



<b>TITLE</b>		<b>M2GL/M2S-EVAL-KIT</b>	
<b>Microsemi</b>			
<b>SIZE</b> <b>B</b>	<b>DOCUMENT NO.</b>		<b>REV</b> <b>D</b>
<b>DATE:</b> Wednesday, January 15, 2014		<b>SH 9 OF 22</b>	

# USB Interface

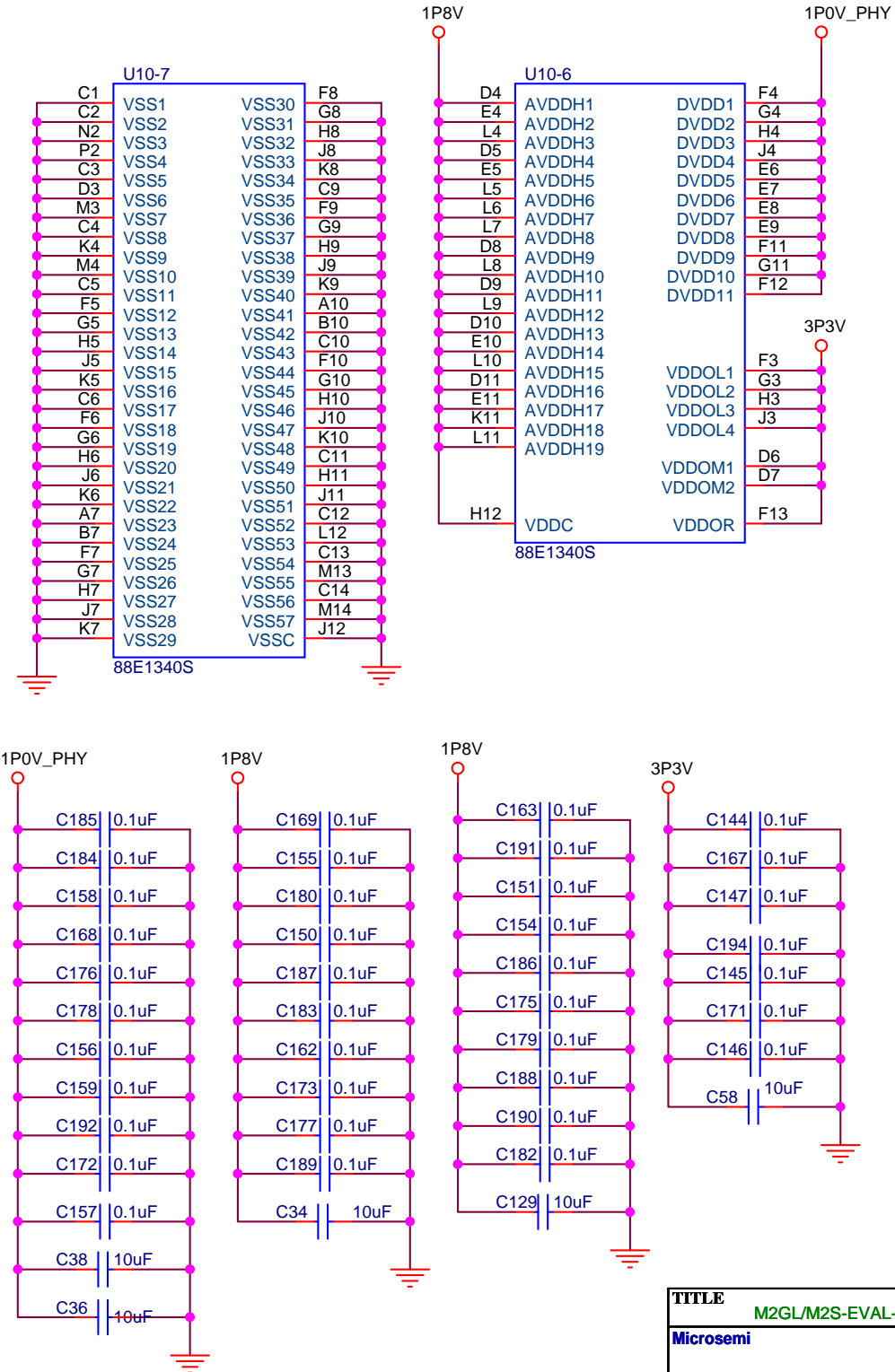
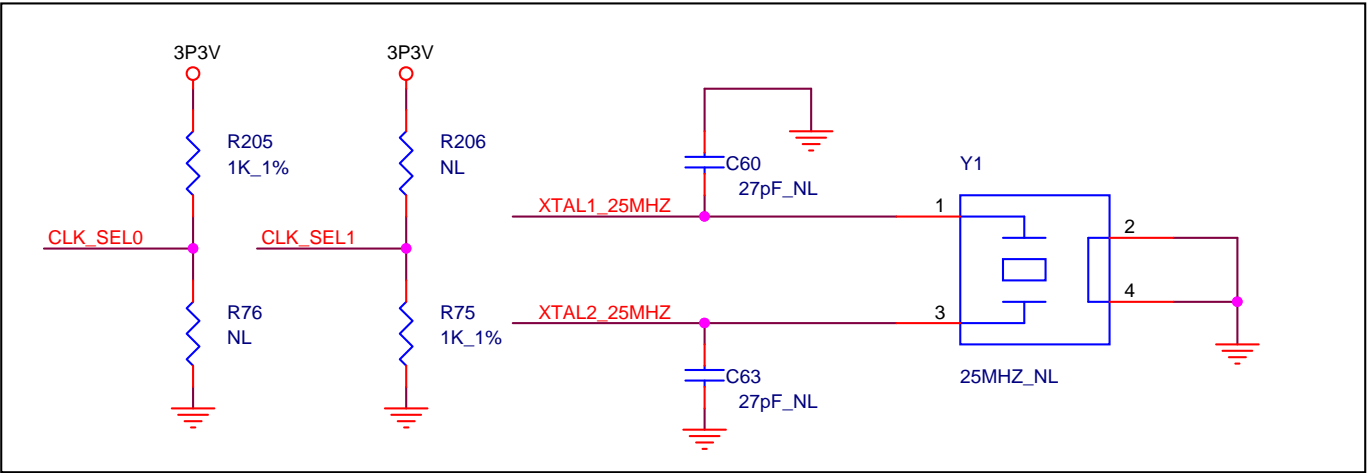
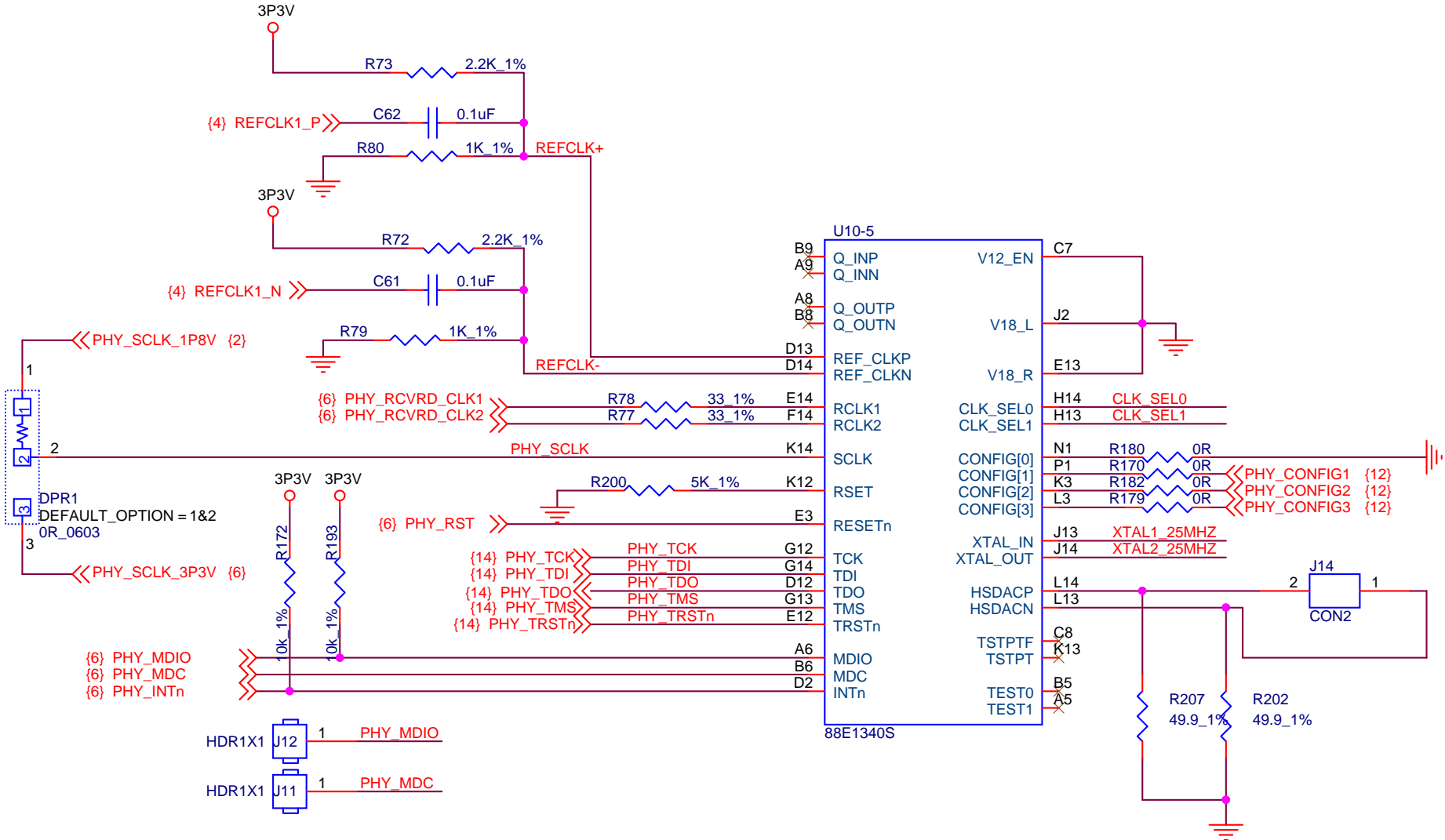
Schematic shows 26.0 MHz Configuration  
REFCLK[2:0] = 110



TITLE			M2GL/M2S-EVAL-KIT		
Microsemi					
SIZE		DOCUMENT NO.			REV
Custom					D
DATE: Wednesday, January 15, 2014				SH 10 OF 22	

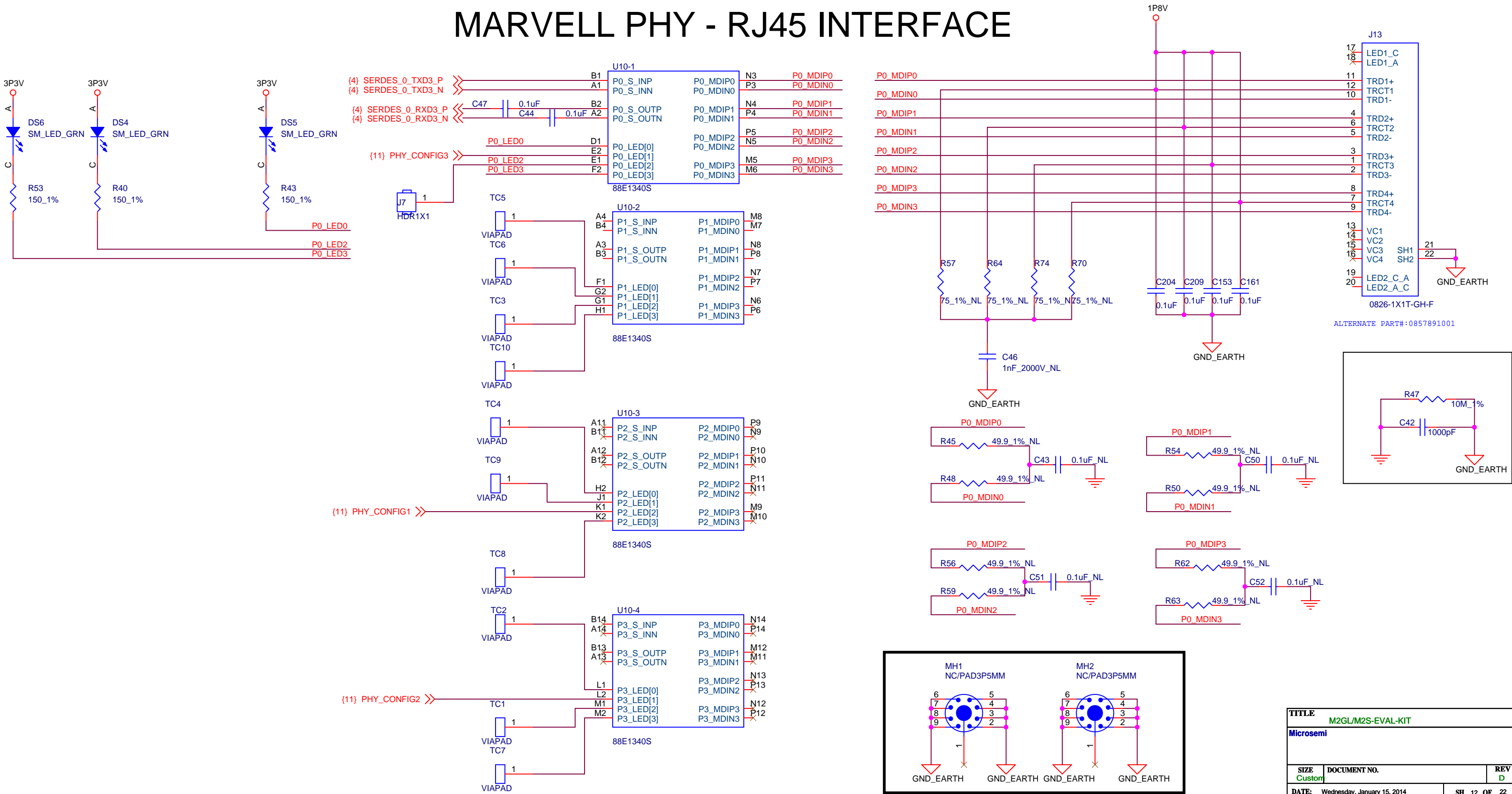
# MARVELL PHY INTERFACE

need to check voltage swing level



TITLE		
M2GL/M2S-EVAL-KIT		
Microsemi		
SIZE	DOCUMENT NO.	REV
B		D
DATE:	Wednesday, January 15, 2014	SH 11 OF 22

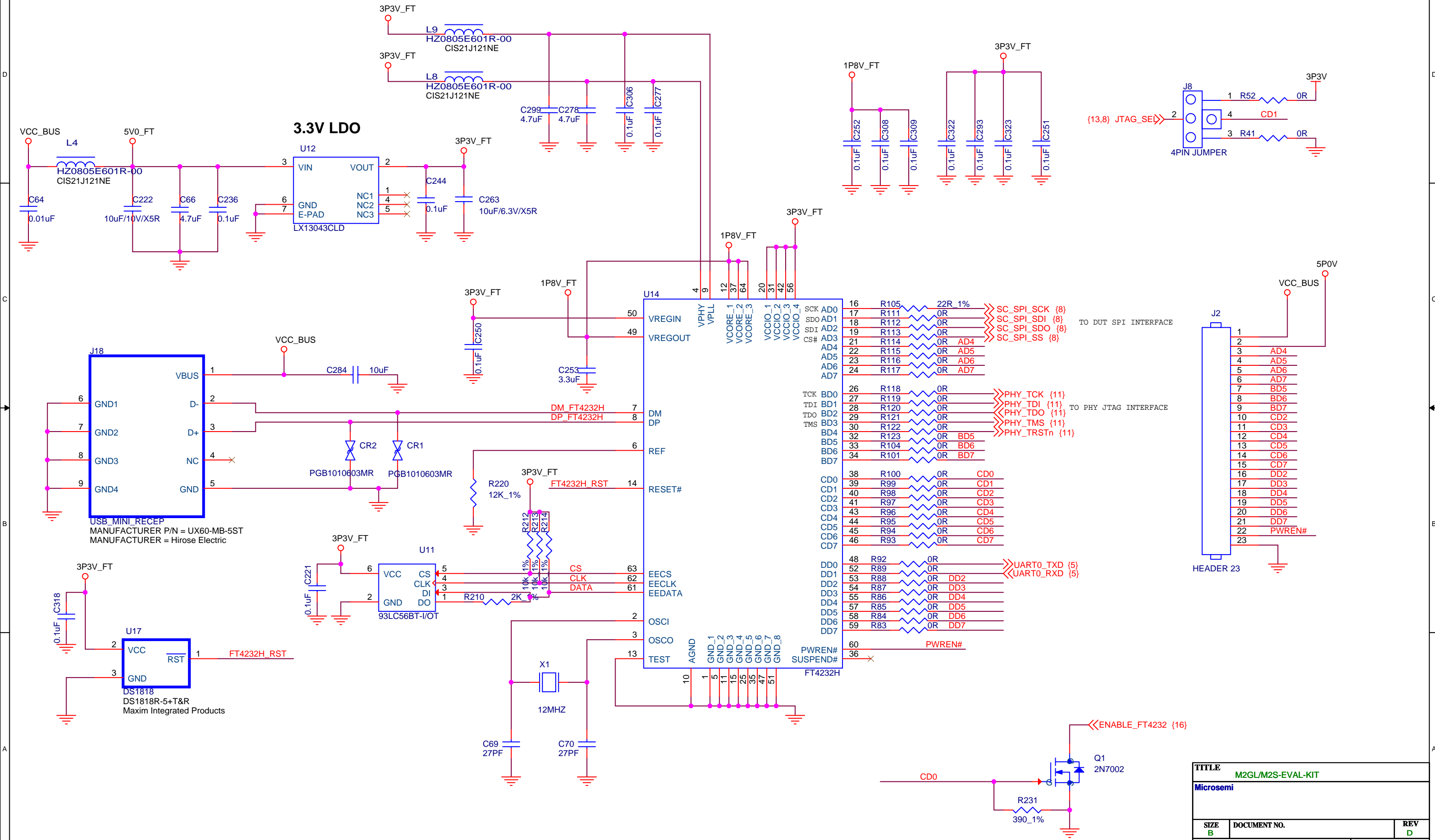
# MARVELL PHY - RJ45 INTERFACE



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Microsemi		
SIZE	DOCUMENT NO.	REV
Custom		D
DATE:	Wednesday, January 15, 2014	SH 12 OF 22



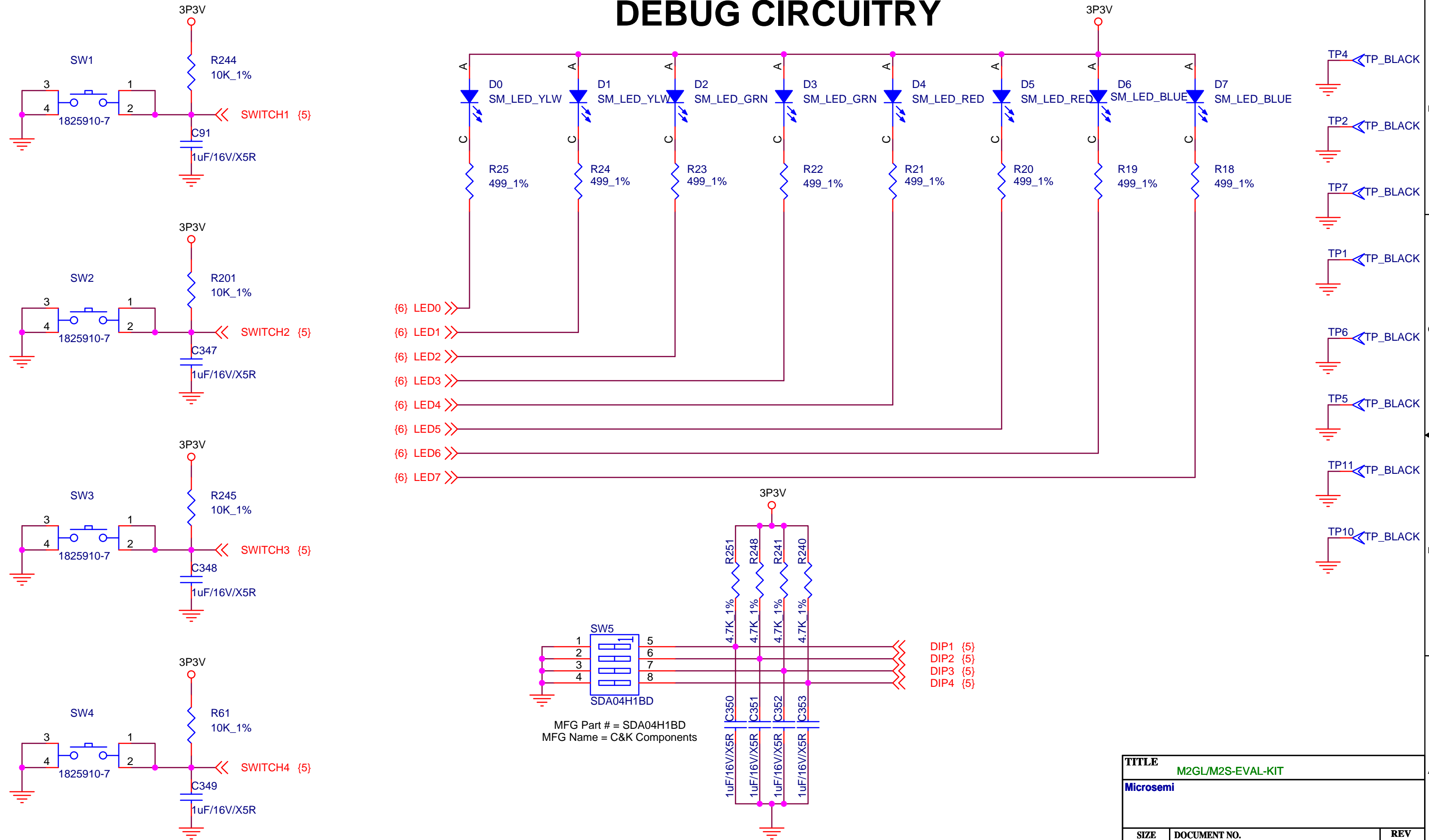
# FT4232H CIRCUITRY



TITLE		
M2GL/M2S-EVAL-KIT		
Microsemi		
SIZE	DOCUMENT NO.	REV
B		D
DATE:	Wednesday, January 15, 2014	SH 14 OF 22

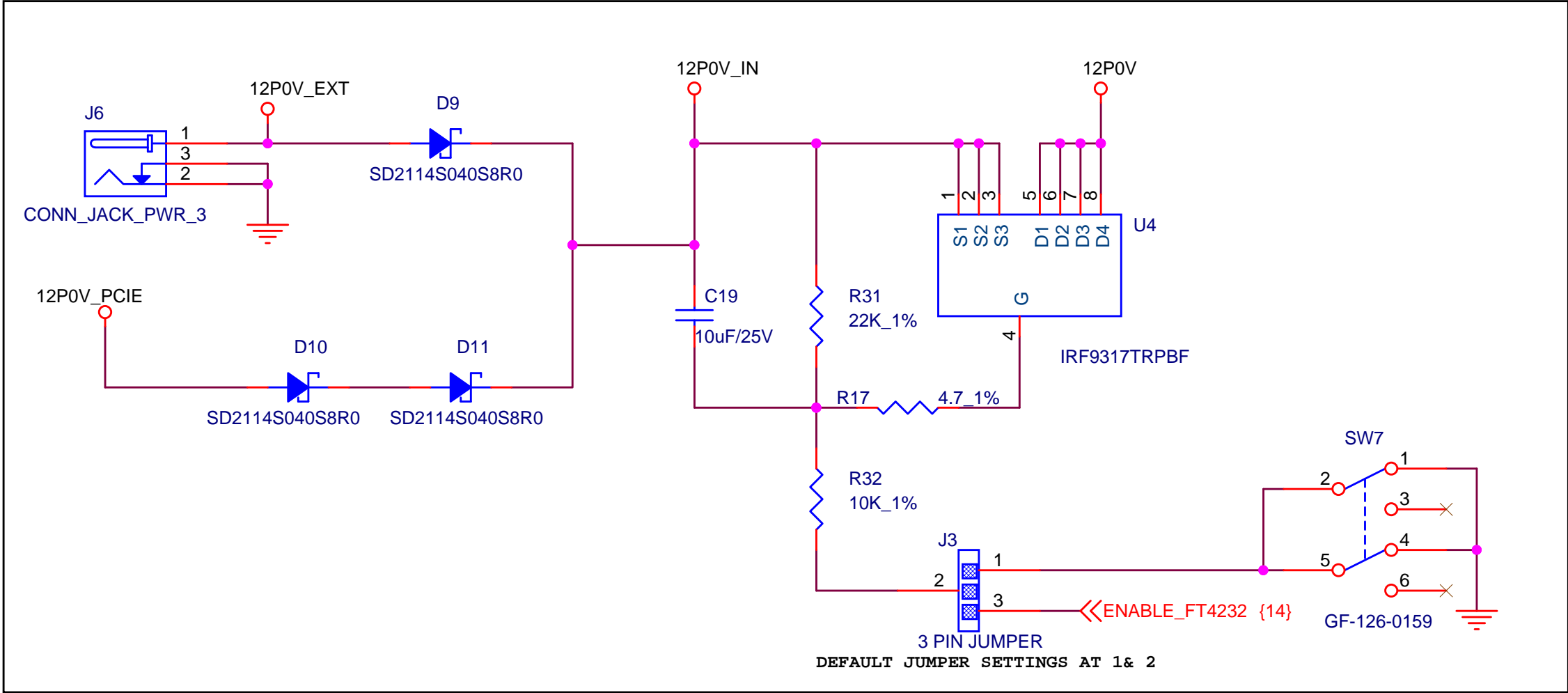


# DEBUG CIRCUITRY



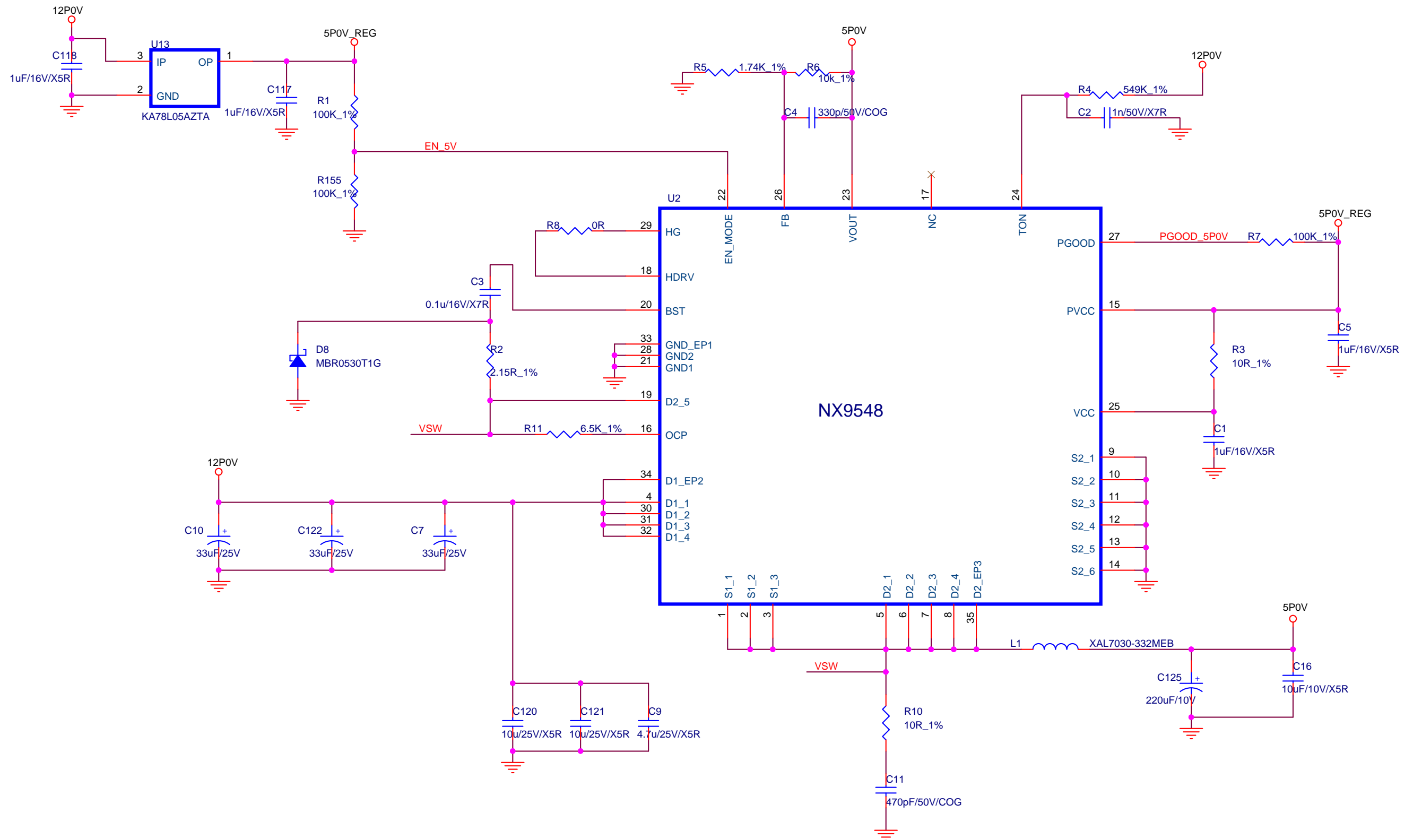
TITLE		
M2GL/M2S-EVAL-KIT		
Microsemi		
SIZE	DOCUMENT NO.	REV
Custom		D
DATE:		SH 15 OF 22
Wednesday, January 15, 2014		

# POWER SUPPLY 1



TITLE		
M2GL/M2S-EVAL-KIT		
Microsemi		
SIZE	DOCUMENT NO.	REV
A		D
DATE:	Wednesday, January 15, 2014	SH 16 OF 22

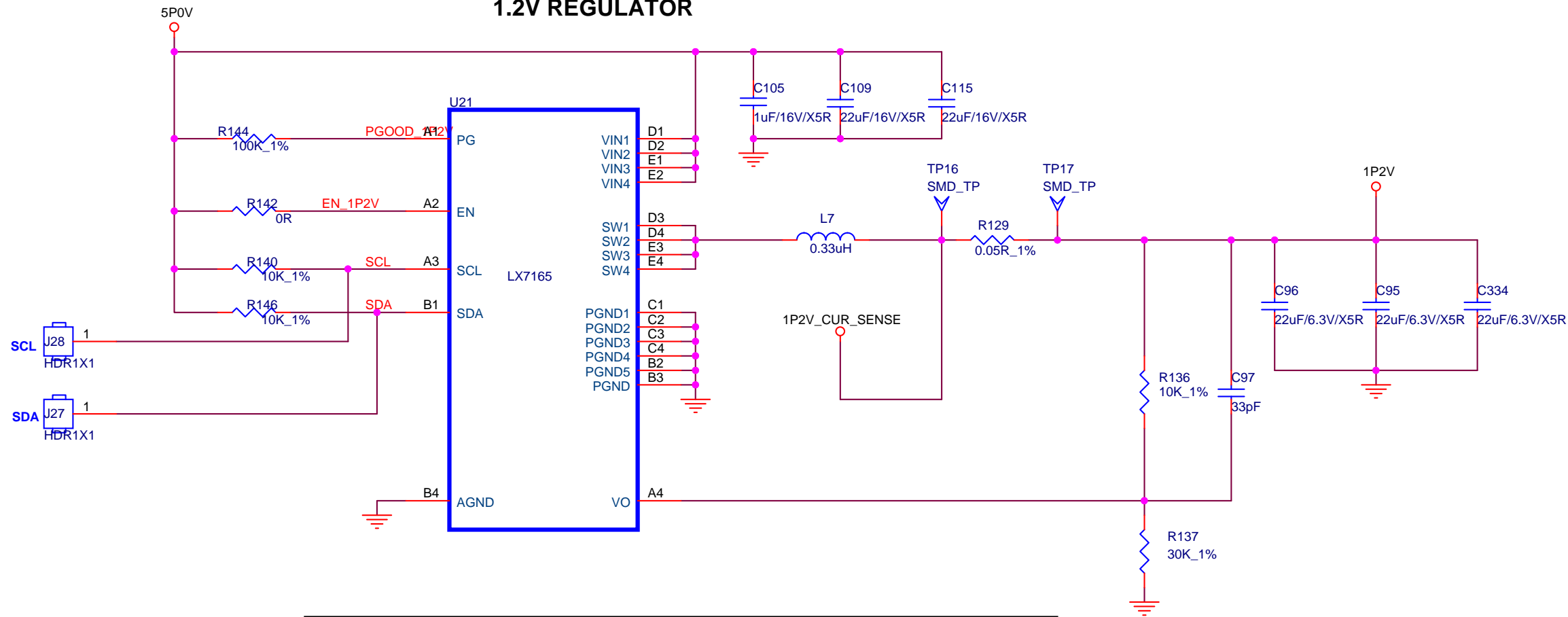
## POWER SUPPLY 2



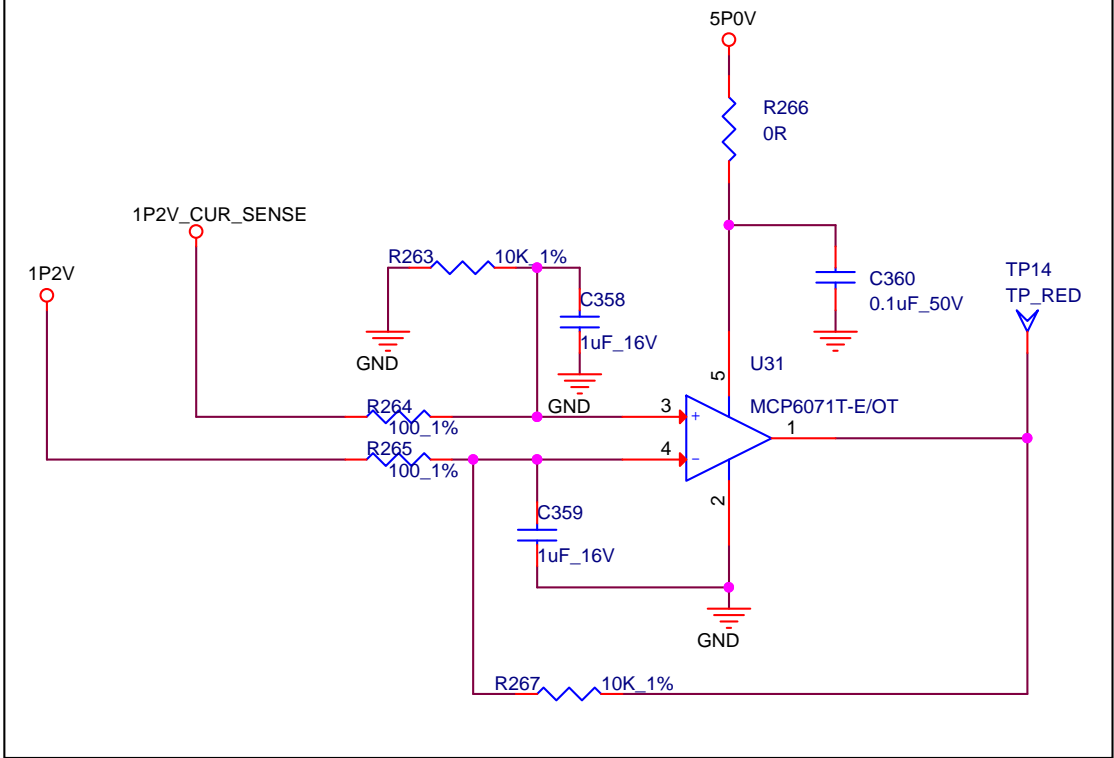
<b>TITLE</b>			
M2GL/M2S-EVAL-KIT			
Microsemi			
<b>SIZE</b> B	<b>DOCUMENT NO.</b>		<b>REV</b> D
<b>DATE:</b> Wednesday, January 15, 2014		<b>SH 17 OF 22</b>	

# POWER SUPPLY 3

## 1.2V REGULATOR



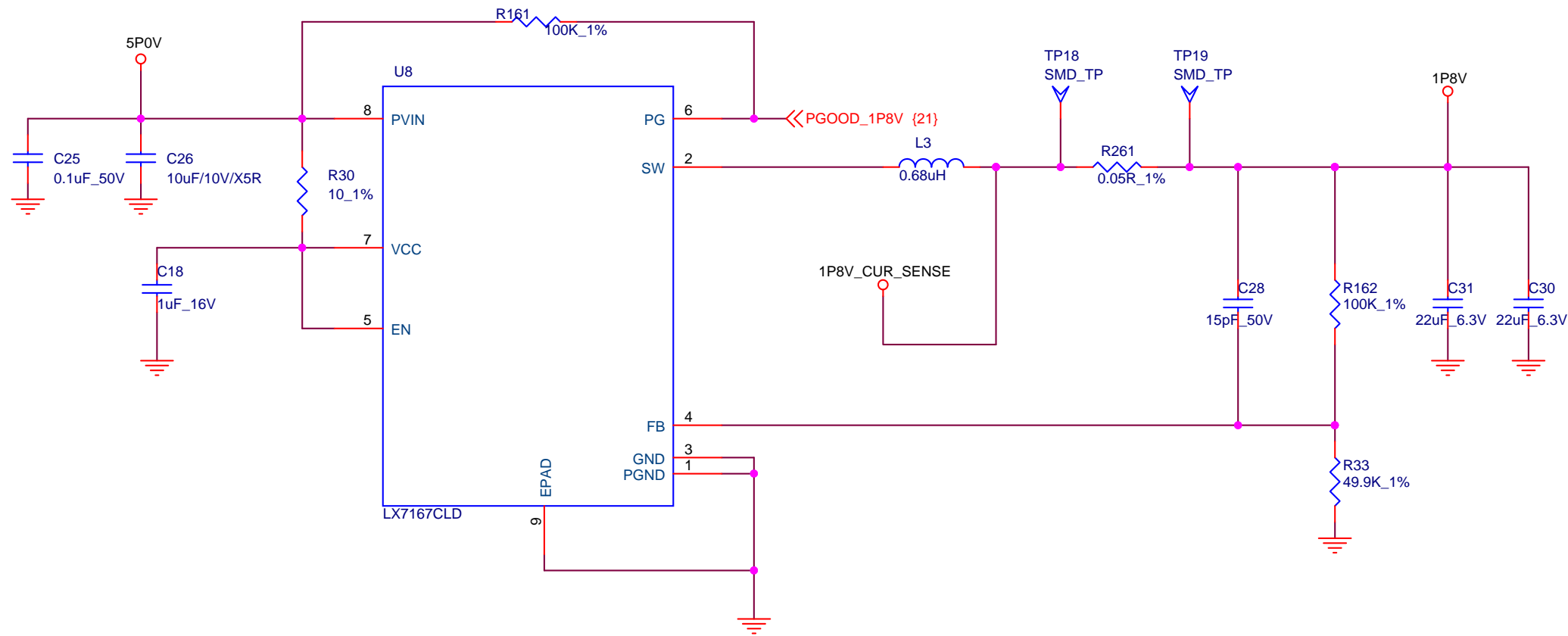
## 1.2V CURRENT SENSING CIRCUIT



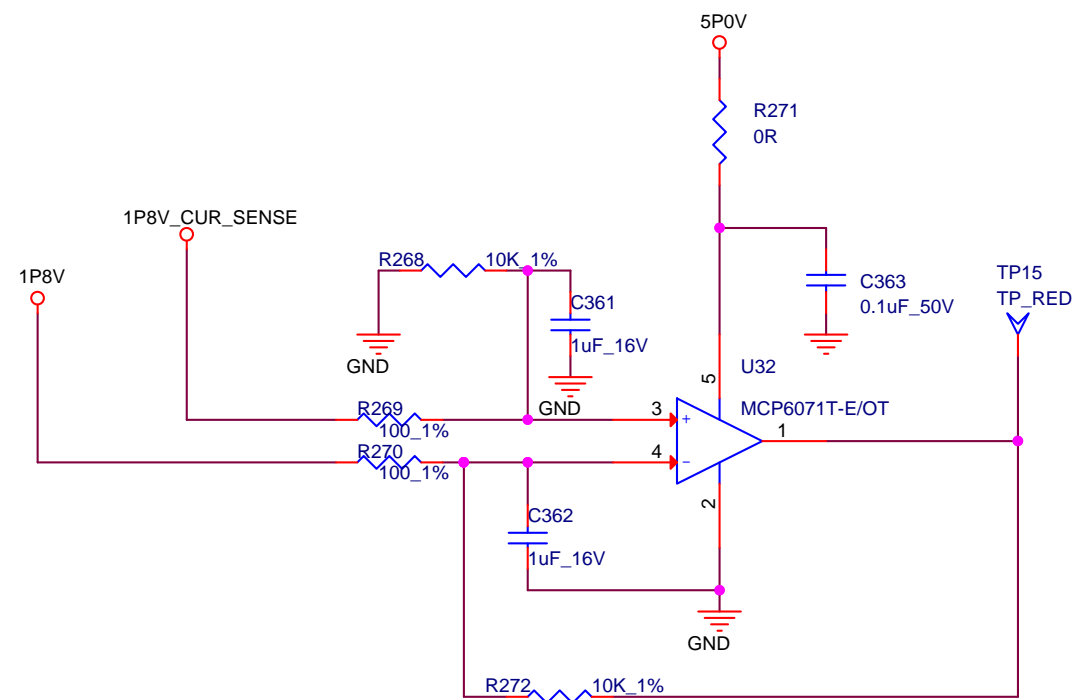
TITLE		
M2GL/M2S-EVAL-KIT		
Microsemi		
SIZE	DOCUMENT NO.	REV
B		D
DATE:	Wednesday, January 15, 2014	SH 18 OF 22

# POWER SUPPLY 4

## 1.8V REGULATOR



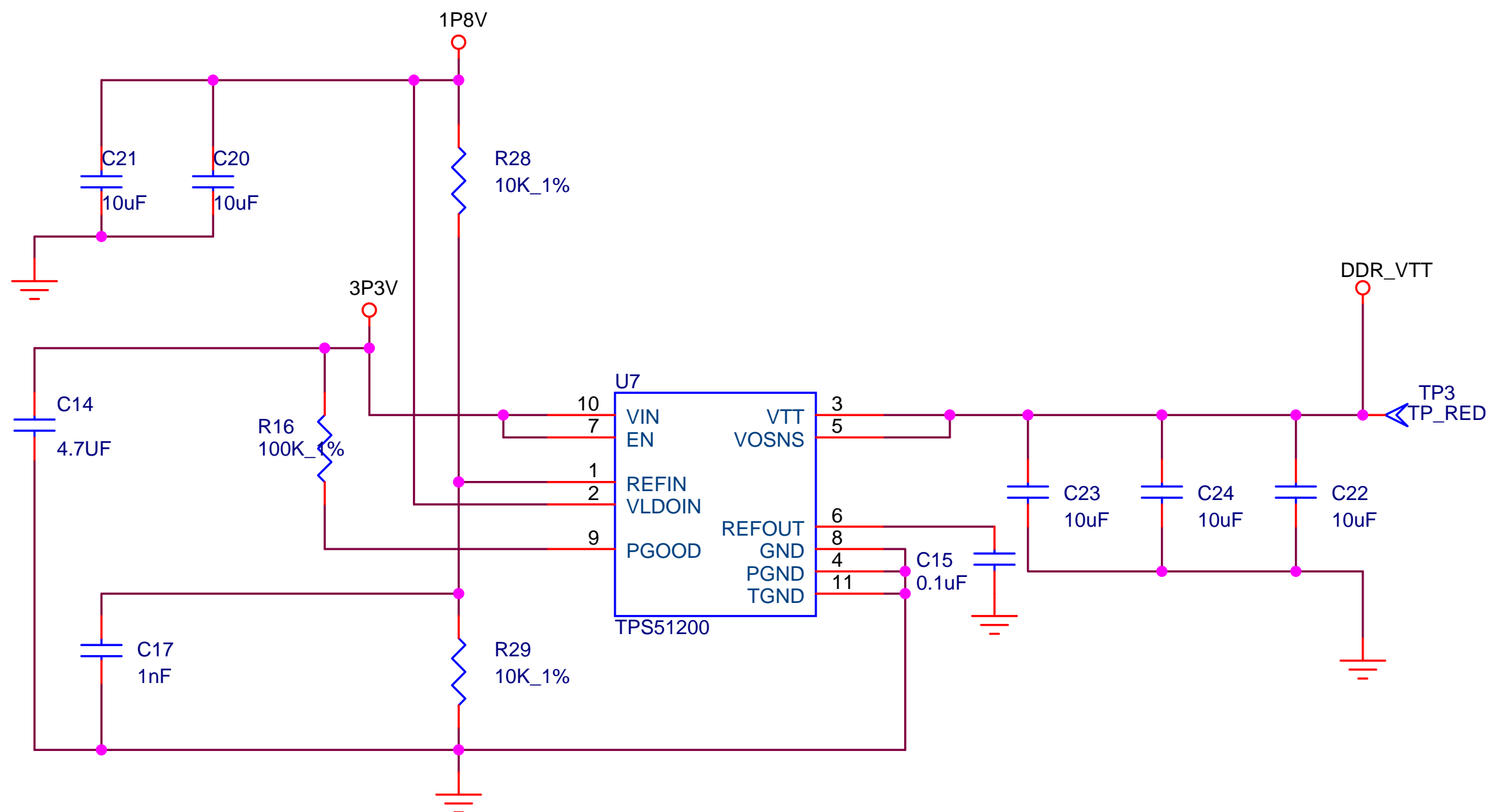
## 1.8V CURRENT SENSING CIRCUIT



TITLE		
M2GL/M2S-EVAL-KIT		
Microsemi		
SIZE	DOCUMENT NO.	REV
B		D
DATE:	Wednesday, January 15, 2014	SH 19 OF 22

# POWER SUPPLY 5

## 0.9V FOR DDR

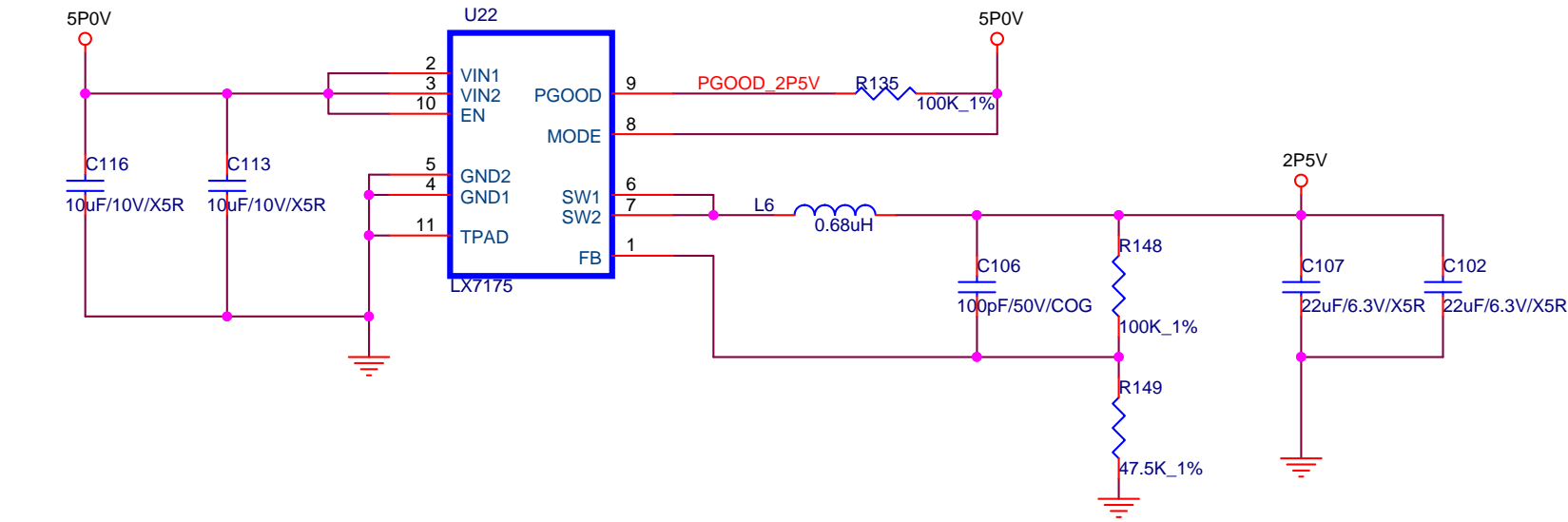


TITLE			M2GL/M2S-EVAL-KIT		
Microsemi					
SIZE	DOCUMENT NO.		REV		
Custom			D		
DATE:	Wednesday, January 15, 2014		SH	20	OF 22

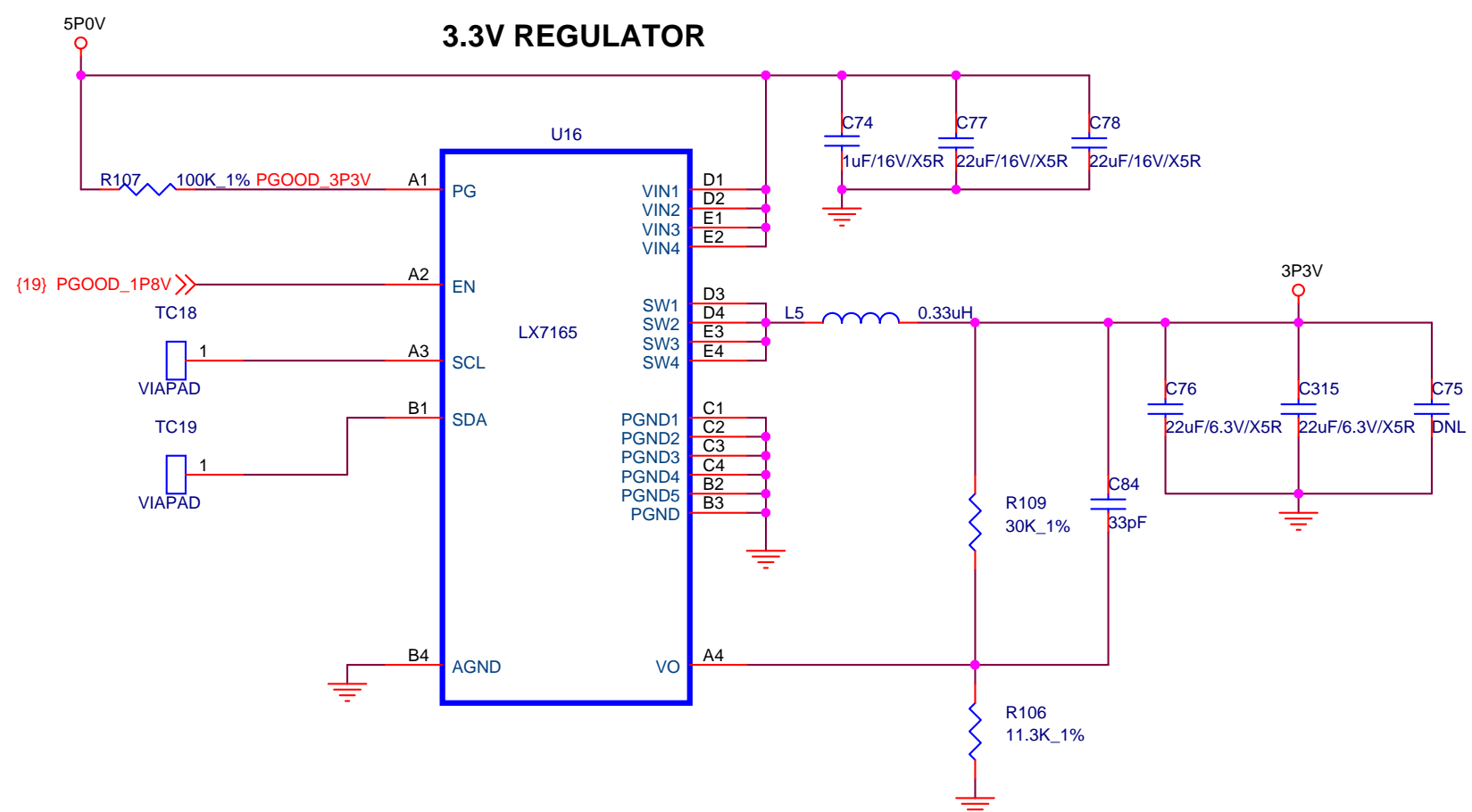


# POWER SUPPLY 6

## 2.5V REGULATOR

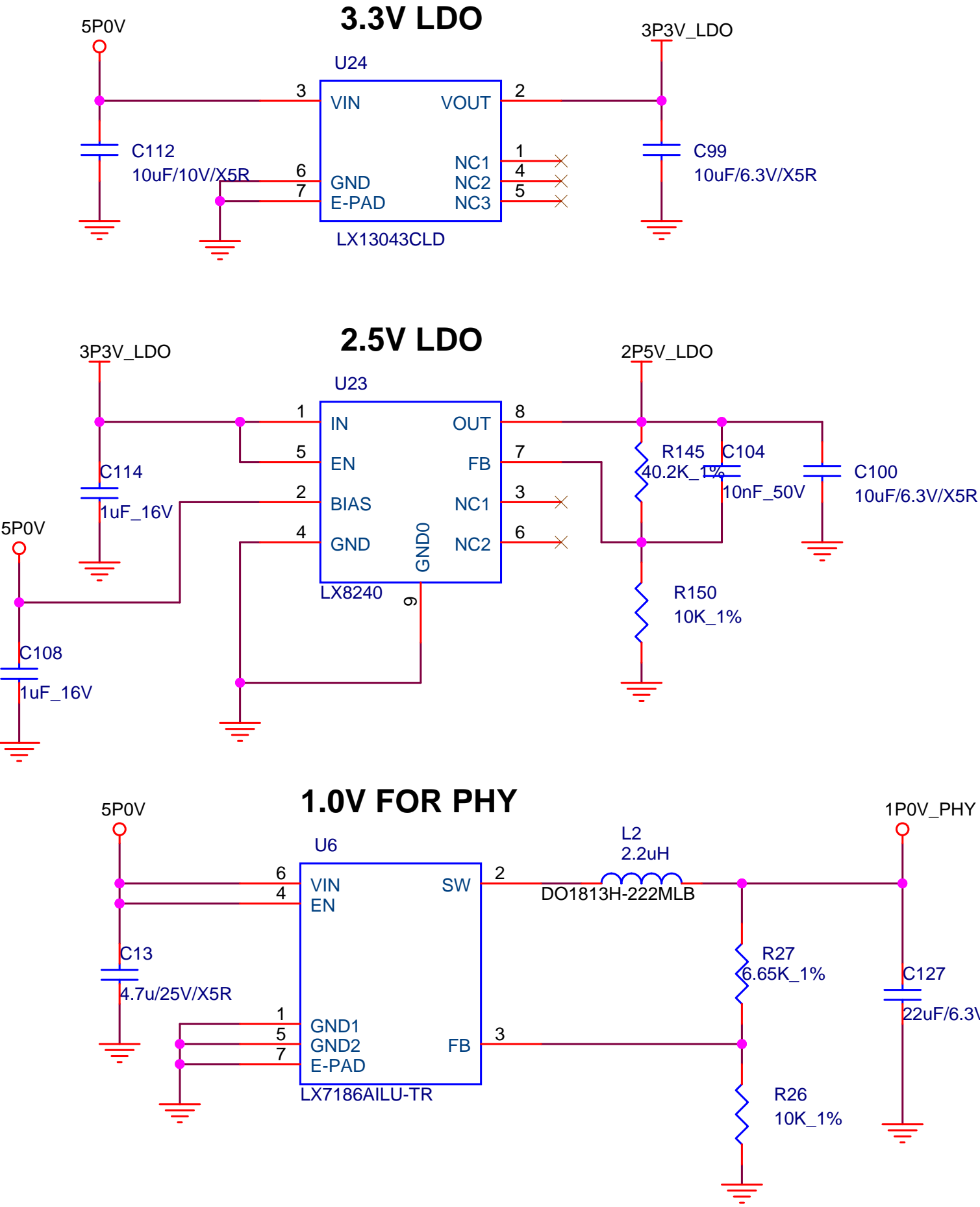


## 3.3V REGULATOR



TITLE		
M2GL/M2S-EVAL-KIT		
Microsemi		
SIZE	DOCUMENT NO.	REV
B		D
DATE:	Wednesday, January 15, 2014	SH 21 OF 22

# POWER SUPPLY 7 & LED



TITLE		
M2GL/M2S-EVAL-KIT		
Microsemi		
SIZE	DOCUMENT NO.	REV
Custom		D
DATE:	Wednesday, January 15, 2014	SH 22 OF 22