

NOTES, UNLESS OTHERWISE SPECIFIED:

1. RESISTANCE VALUES IN OHMS.
2. CAPACITANCE VALUES IN MICROFARADS.
3. REFERENCE DESIGNATORS USED:
4. ALL 0.1 uF AND 0.01uF CAPACITORS ARE DECOUPLING CAPS UNLESS OTHERWISE NOTED. THEY ARE SHOWN ON THE PAGE WITH THE INTEGRATED CIRCUITS THEY SHOULD BE PLACED NEAR.

5. OBSERVE THE FOLLOWING LAYOUT NOTES:

6. BOARD PROPERTIES

- A. ROUTE TO WITHIN 10% OF MANHATTAN DISTANCE
- B1. General layers 50 +/- 5 OHM MATCHED IMPEDANCE
- B2. USB layer 90 ohm differential
- C. OUTER LAYERS 0.5 OZ CU /W 0.5 OZ AU PLATING
- D. INNER LAYERS 1.0 OZ CU
- E. FR4 BOARD MATERIAL
- F. MINIMUM TRACE WIDTH/SPACING 4 MILS
- G. MINIMUM VIA SIZE 10/19 MIL
- H. LAYER STACKUP:

1. TOP - SIGNAL ROUTING
2. GROUND PLANE
3. INNER1 - SIGNAL ROUTING
4. VCC3 PLANE (3.3V BOARD)
5. INNER2 - SIGNAL ROUTING
6. INNER3 - SIGNAL ROUTING
7. VCC PLANE 2
8. INNER4 - SIGNAL ROUTING
9. GROUND PLANE
10. BOTTOM - SIGNAL ROUTING

SCHEMATIC CONTENTS

- 01 DM357 EVM TITLE SHEET
- 02 DM357 EVM BLOCK DIAGRAM
- 03 DM357 EMIF INTERFACE
- 04 DM357 DDR INTERFACE
- 05 DM357 VIDEO INTERFACE
- 06 DM357 I/O INTERFACE
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- 30 POWER SUPPLY (1.8V & CPU_CORE) & EVM POWER CONNECTOR

REV	DESCRIPTION	DATE	APPROVED
A	Initial schematic ready for layout - Alpha Release	10/15/08	RRP

BASE	I2C ADDRESS TABLE	SHEET
0x50	I2C ROM	6
0x1B	AIC33	22
0x5D	TVP5146	20
0x38	IO EXPANDER 0 (LED)	23
0x39	IO EXPANDER 1 (PLL/USER_SW)	24
0x3A	IO EXPANDER 2 (USB/CD_RESET)	24
0x23	MSP430	24

REVISION STATUS OF SHEETS

REV	A	A	A	A	A	A	A	A	A	A	A	DATE	BY	DESCRIPTION
												02/17/2005	DWN	R.R.P.
												02/17/2005	CHK	T.W.K.
SH	21	22	23	24	25	26	27	28	29	30		02/17/2005	ENGR	R.R.P.
REV	A	A	A	A	A	A	A	A	A	A		02/17/2005	ENGR-MGR	R.R.P.
SH	11	12	13	14	15	16	17	18	19	20		03/01/2004	QA	C.M.D.
REV	A	A	A	A	A	A	A	A	A	A	NEXT ASSY	02/17/2005	MFG	R.R.P.
SH	1	2	3	4	5	6	7	8	9	10	APPLICATION	02/17/2005	RLSE	R.R.P.

SPECTRUM DIGITAL INCORPORATED			
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Page Contents: Title Block			
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Power Supply (3.3V)
& System Reset Logic
SH:29

Power Supply (1.8V & CPU Core)
& DC #7 Connector
SH:30

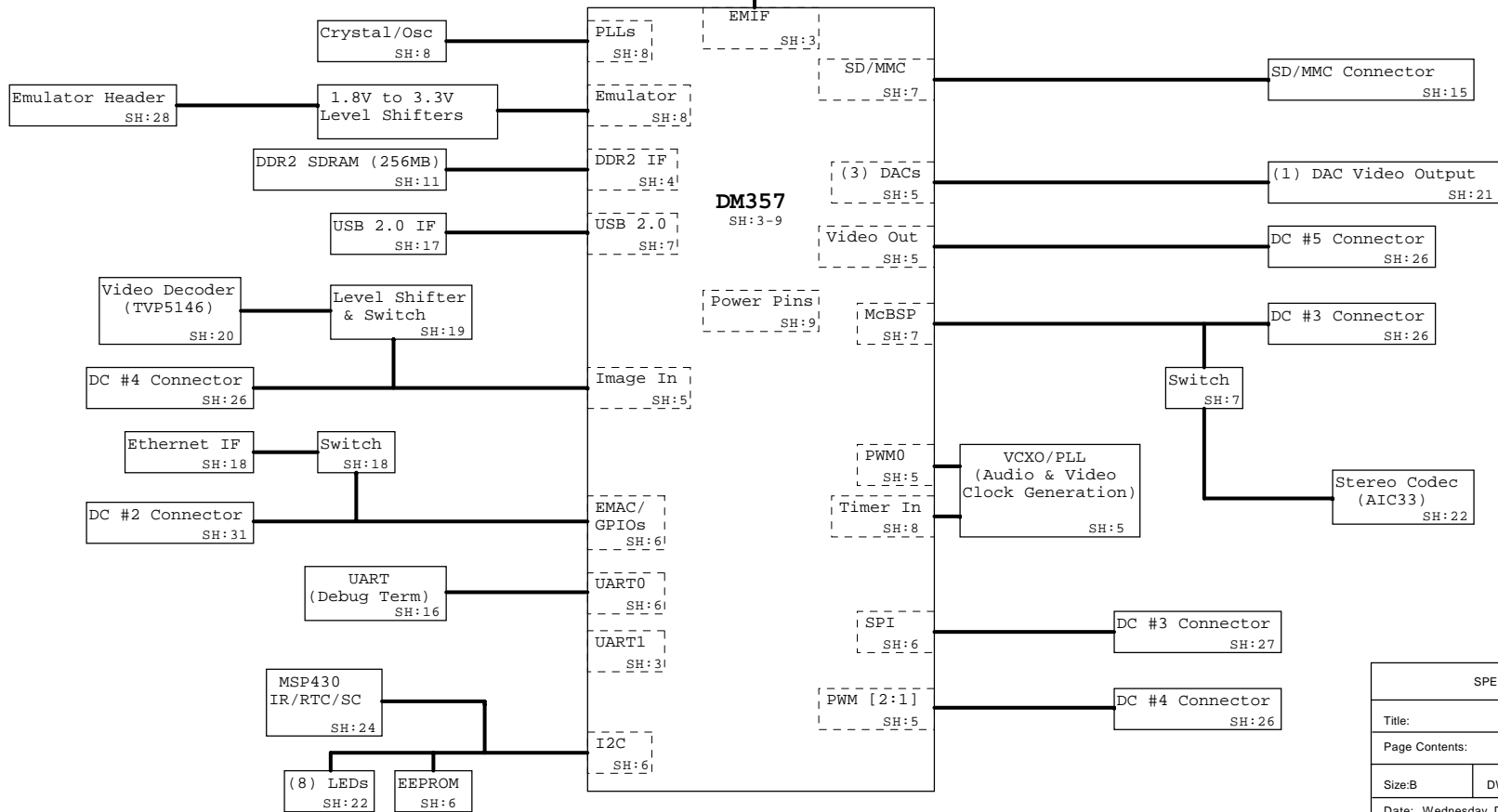
Config Control &
EM_CS2 Select
SH:10

DC #1 Connector
SH:29

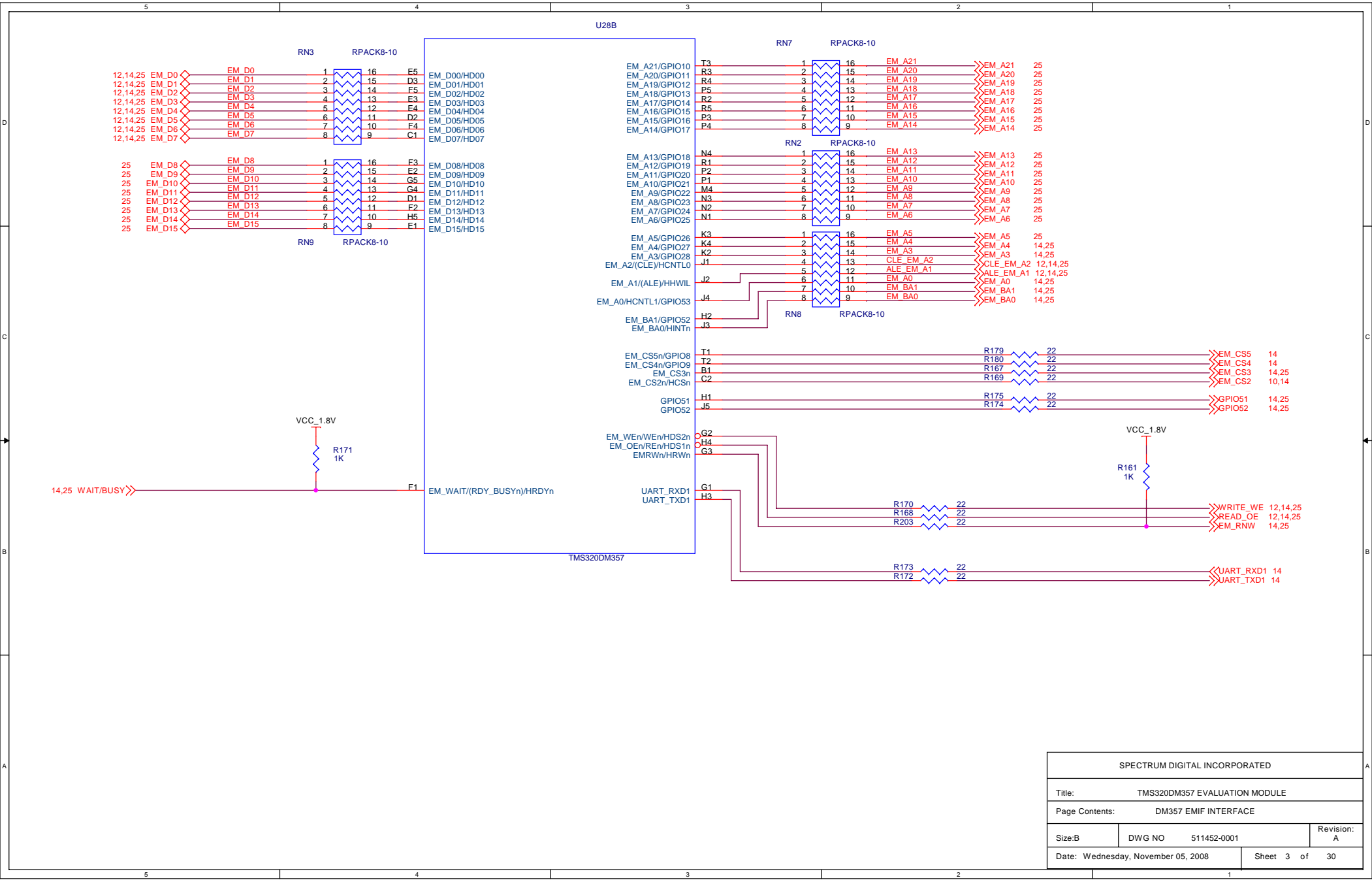
1.8V to 3.3V
Level Shifters
SH:14

NAND Flash (1 OR 2 GB)
SH:13

NAND Flash (64MB)
SH:12



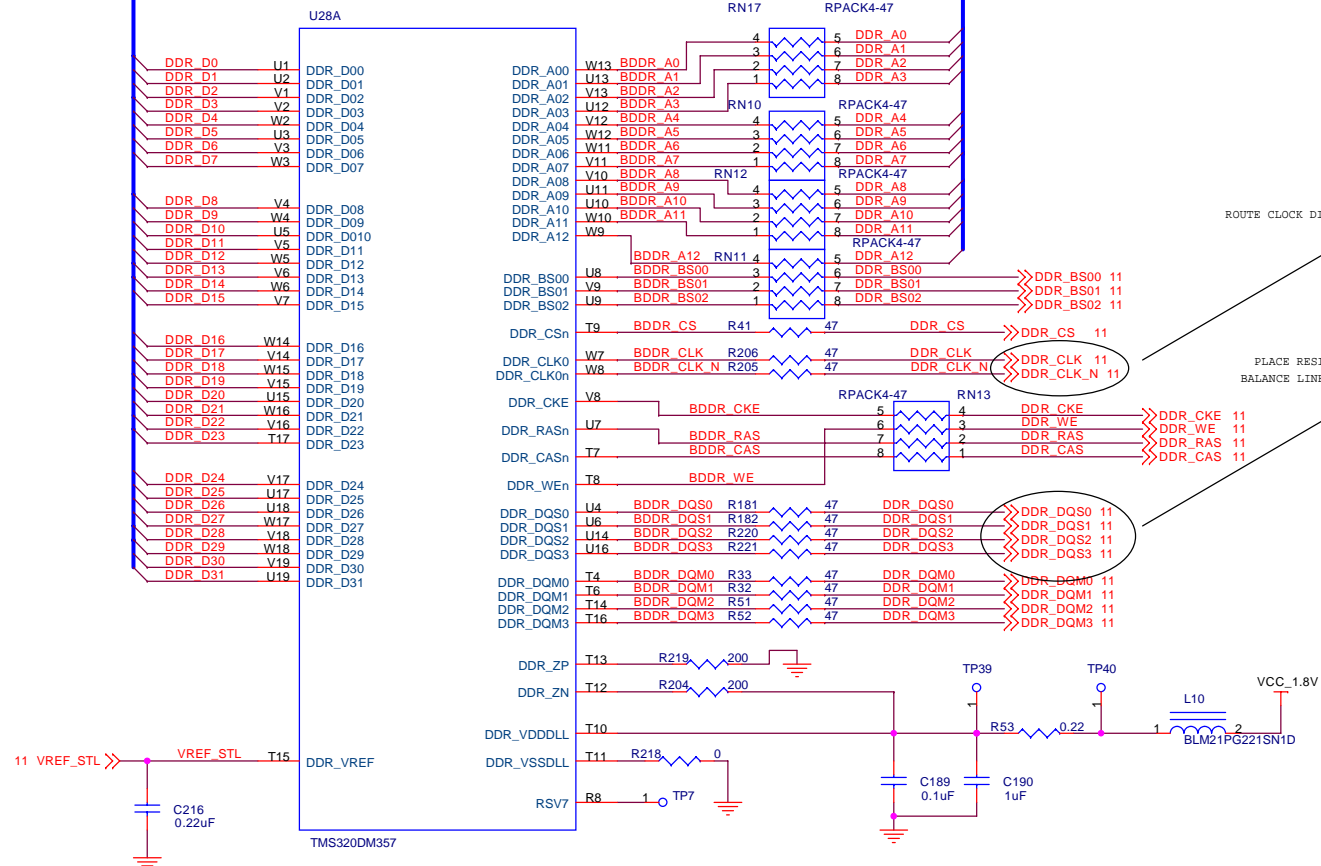
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Title: TMS320DM357 EVALUATION MODULE			
Page Contents: DM357 BLOCK DIAGRAM			
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Page Contents: DM357 EMIF INTERFACE			
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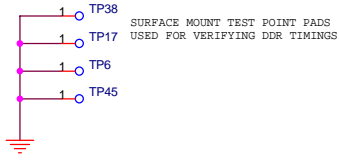
11 DDR_D[0:31]

DDR_A[0:12] 11

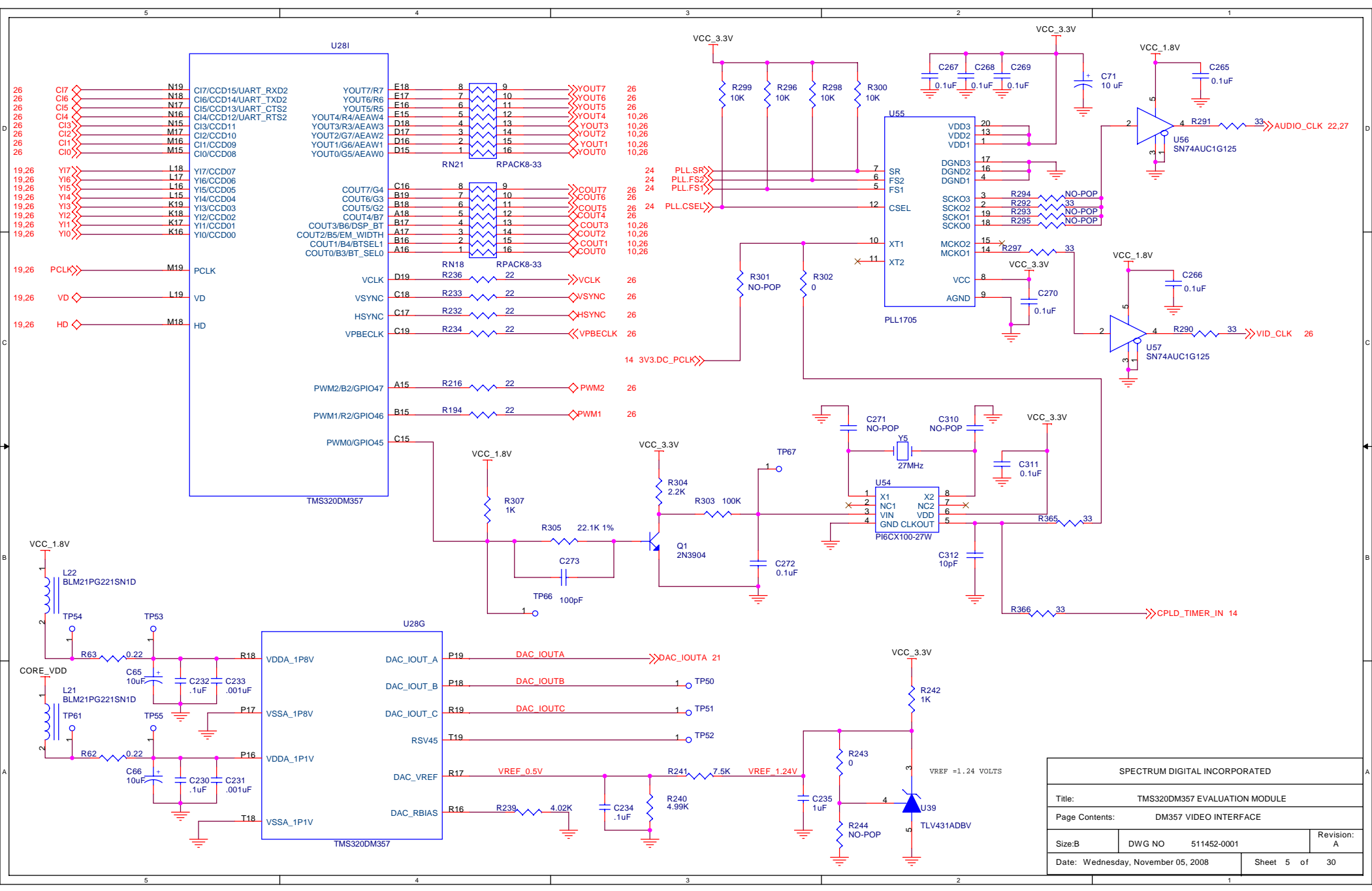


ROUTE CLOCK DIFFERENTIAL WITH 15 MIL SPACING BETWEEN

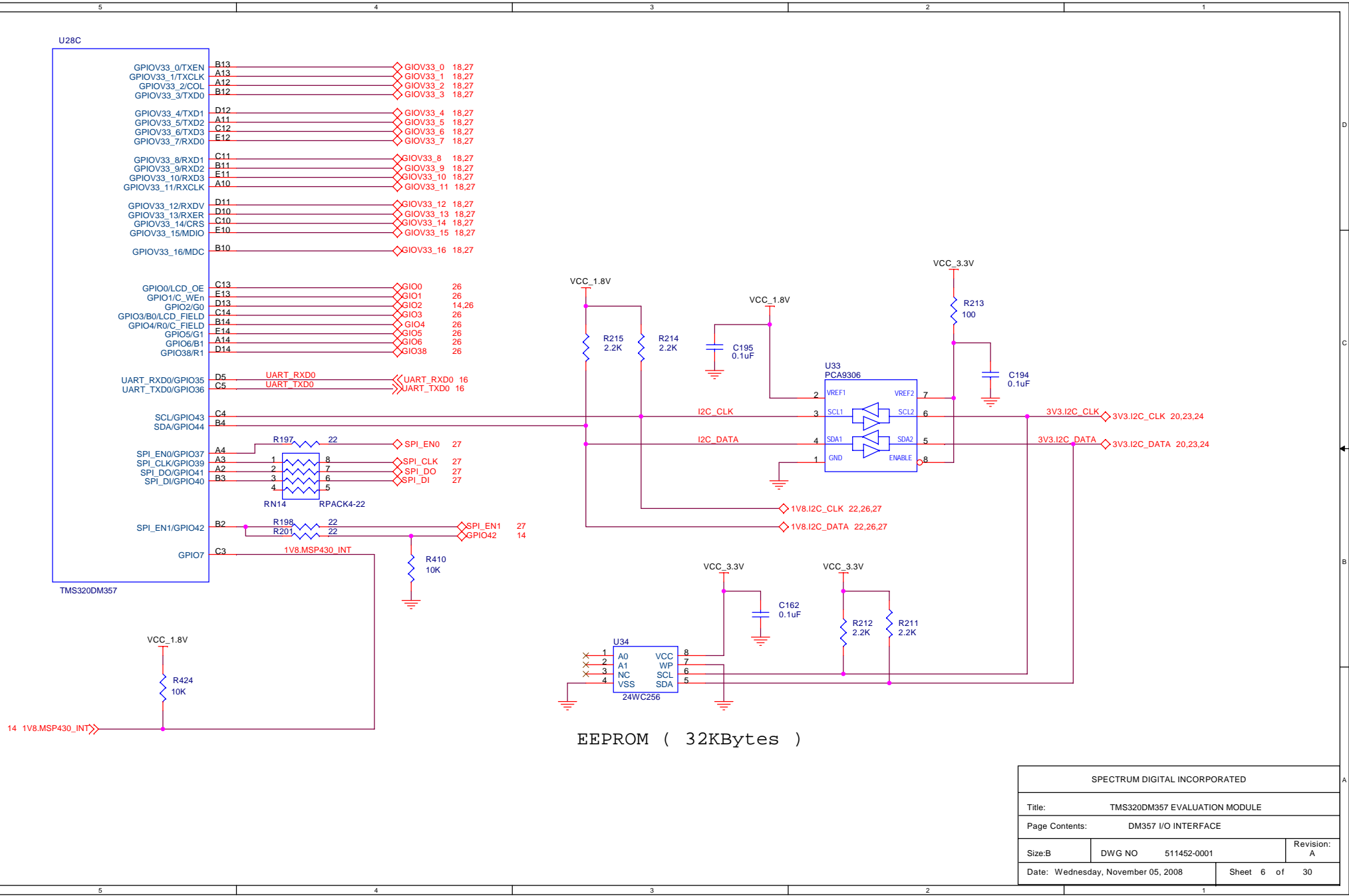
PLACE RESISTOR BY DATA TERMINATOR PINS
BALANCE LINE LENGTHS WITH DATA BYTES LENGTHS



SPECTRUM DIGITAL INCORPORATED			
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Page Contents: DM357 DDR INTERFACE			
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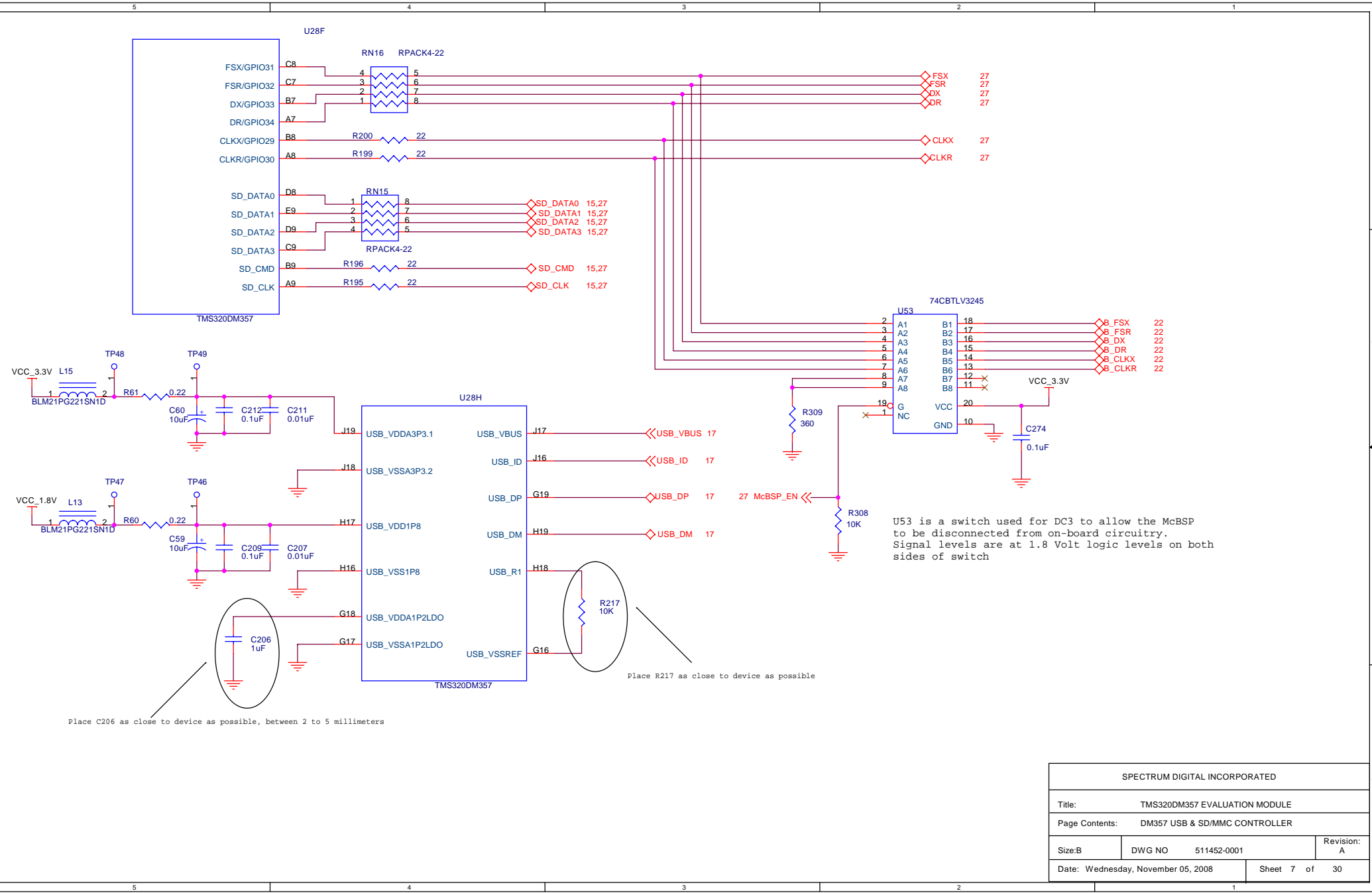


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Title: TMS320DM357 EVALUATION MODULE			
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EEPROM (32KBytes)

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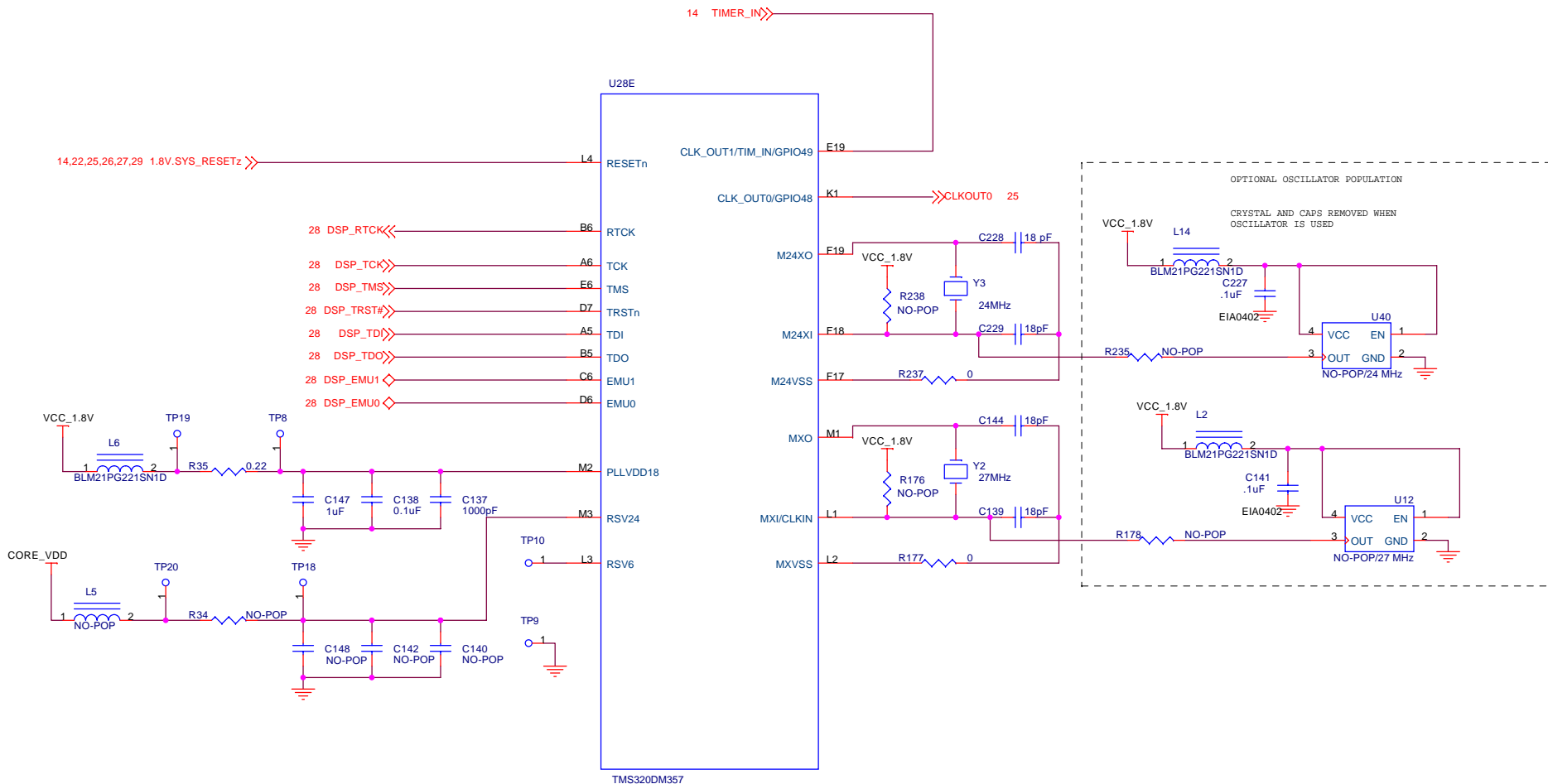


U53 is a switch used for DC3 to allow the McBSP to be disconnected from on-board circuitry. Signal levels are at 1.8 Volt logic levels on both sides of switch

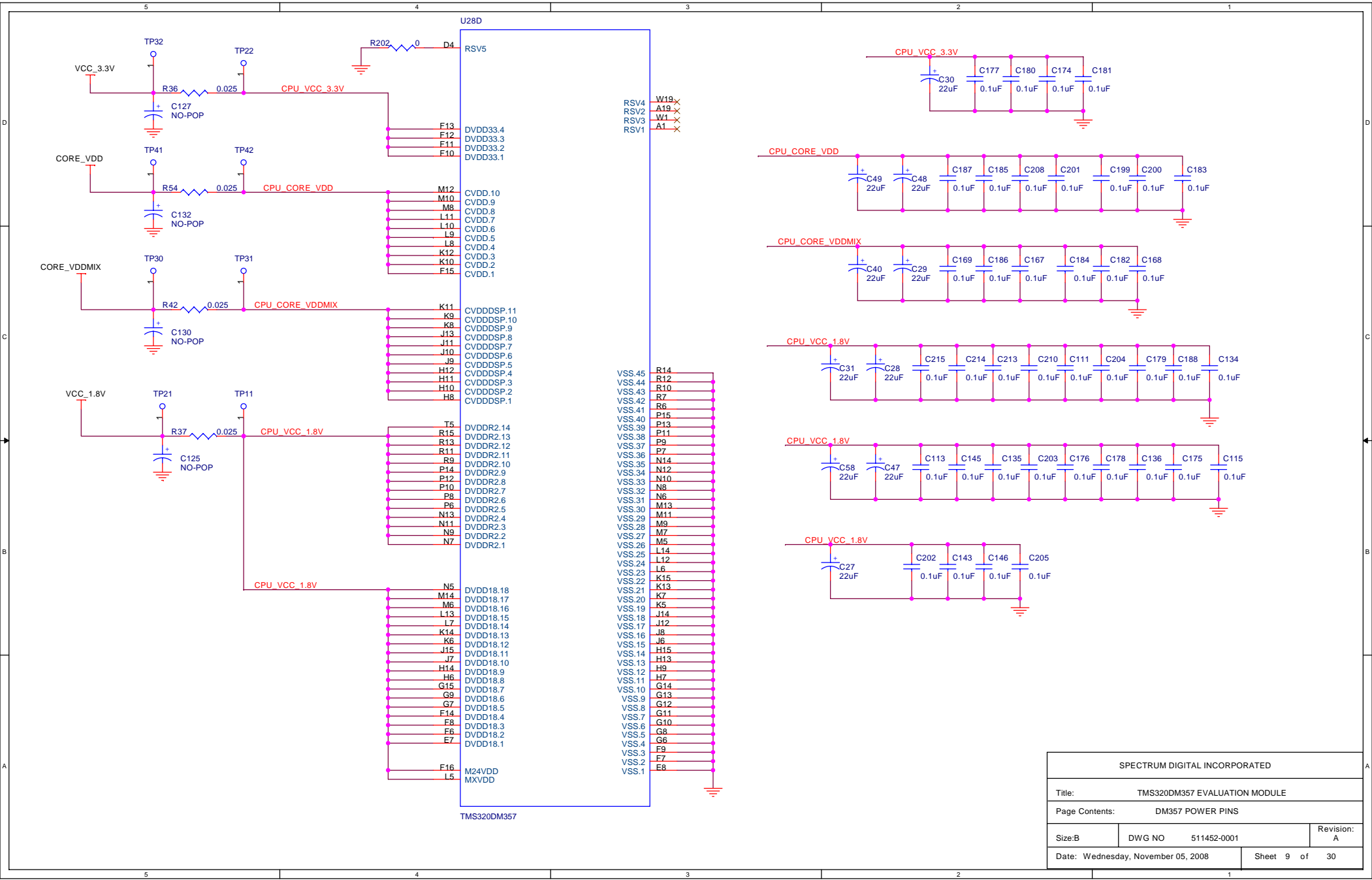
Place C206 as close to device as possible, between 2 to 5 millimeters

Place R217 as close to device as possible

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Title: TMS320DM357 EVALUATION MODULE			
Page Contents: DM357 USB & SD/MMC CONTROLLER			
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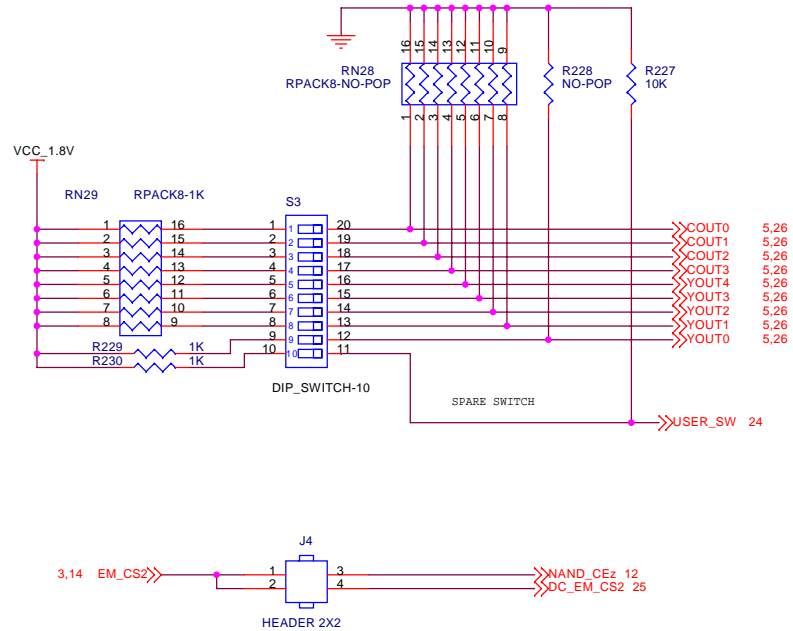
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Title: TMS320DM357 EVALUATION MODULE			
Page Contents: DM357 EMULATION & CLOCKS			
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Page Contents: DM357 POWER PINS			
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BOOT CONFIGURATION SWITCH			
PINS	MODE	FUNCTION	SWITCH S1
COUT[1:0]	BTSEL[1:0]	Selects ARM Boot Mode	
		Non-secure device	
		00 = Boot from ROM (NAND)	S1-2=OFF S1-1=OFF *
		01 = Boot from AEM IF	S1-2=OFF S1-1=ON
		10 = Boot from ROM (HPI)	S1-2=ON S1-1=OFF
		11 = Boot from ROM (UART)	S1-2=ON S1-1=ON
COUT2	8_16	Selects AEM IF CS2 Bus Width	
		0 = 8-bit	S1-3=OFF *
		1 = 16-bit	S1-3=ON
COUT3	RESERVED	PULL LOW	S1-4=OFF *
YOUT[4:0]	AEMW [4:0]	Address Bus Width	
		ALL ADDRESS LINES GPIO	S1-5=ON *
			S1-6=ON *
			S1-7=ON *
			S1-8=ON *
S1-9=ON *			
USER	DEMO	0 = NTSC	S1-10=OFF *
		1 = PAL	S1-10=ON

* DEFAULT



ONLY ONE DEVICE CAN BE SELECTED
AT A TIME AT POWER UP.
TO RECONFIGURE BOARD
POWER DOWN EVM,
CHANGE JUMPER TO DESIRED DEVICE.

SPECTRUM DIGITAL INCORPORATED			
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Page Contents: DM357 CONFIGURATION CONTROL/BOOT OPTIONS			
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4 DDR_A[0:12]

4 DDR_BS02 >> DDR_BS02
4 DDR_BS01 >> DDR_BS01
4 DDR_BS00 >> DDR_BS00

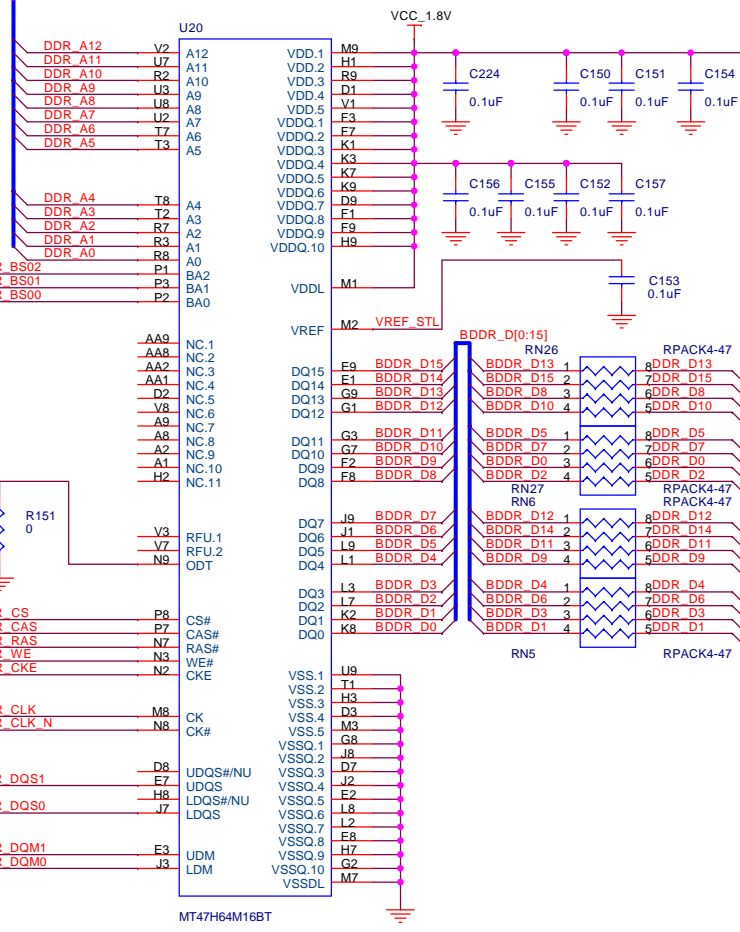
4 DDR_CS >> DDR_CS
4 DDR_CAS >> DDR_CAS
4 DDR_RAS >> DDR_RAS
4 DDR_WE >> DDR_WE
4 DDR_CKE >> DDR_CKE

4 DDR_CLK >> DDR_CLK
4 DDR_CLK_N >> DDR_CLK_N

4 DDR_DQS1 >> DDR_DQS1
4 DDR_DQS0 >> DDR_DQS0

4 DDR_DQM1 >> DDR_DQM1
4 DDR_DQM0 >> DDR_DQM0

4 DDR_D[0:31]



128 MEGABYTES

4 DDR_A[0:12]

4 DDR_BS02 >> DDR_BS02
4 DDR_BS01 >> DDR_BS01
4 DDR_BS00 >> DDR_BS00

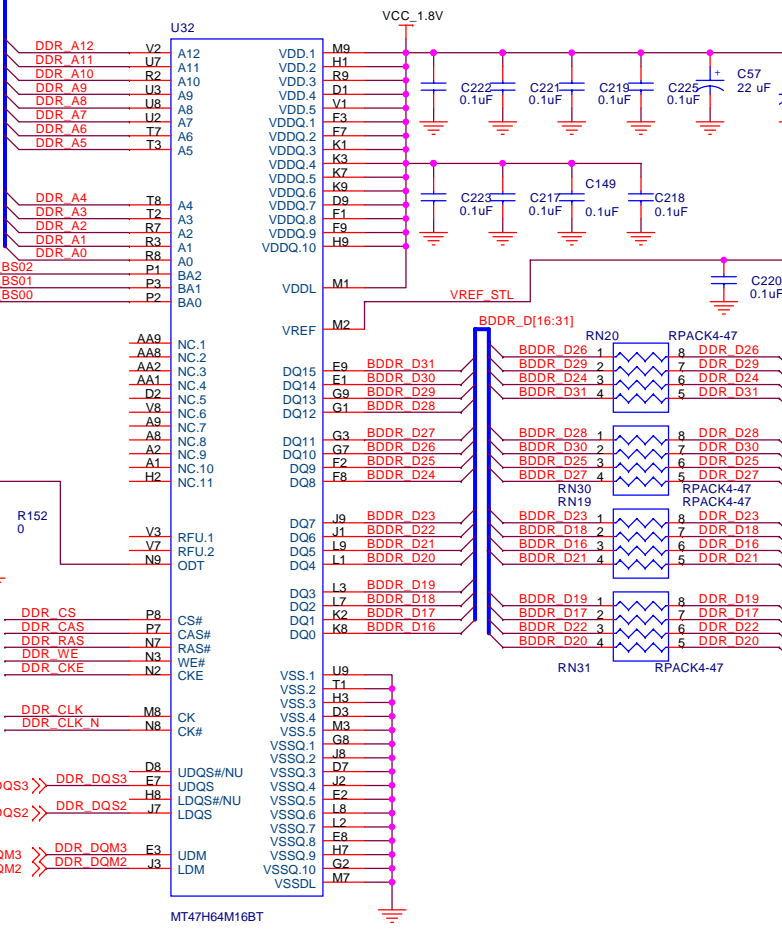
4 DDR_CS >> DDR_CS
4 DDR_CAS >> DDR_CAS
4 DDR_RAS >> DDR_RAS
4 DDR_WE >> DDR_WE
4 DDR_CKE >> DDR_CKE

4 DDR_CLK >> DDR_CLK
4 DDR_CLK_N >> DDR_CLK_N

4 DDR_DQS3 >> DDR_DQS3
4 DDR_DQS2 >> DDR_DQS2

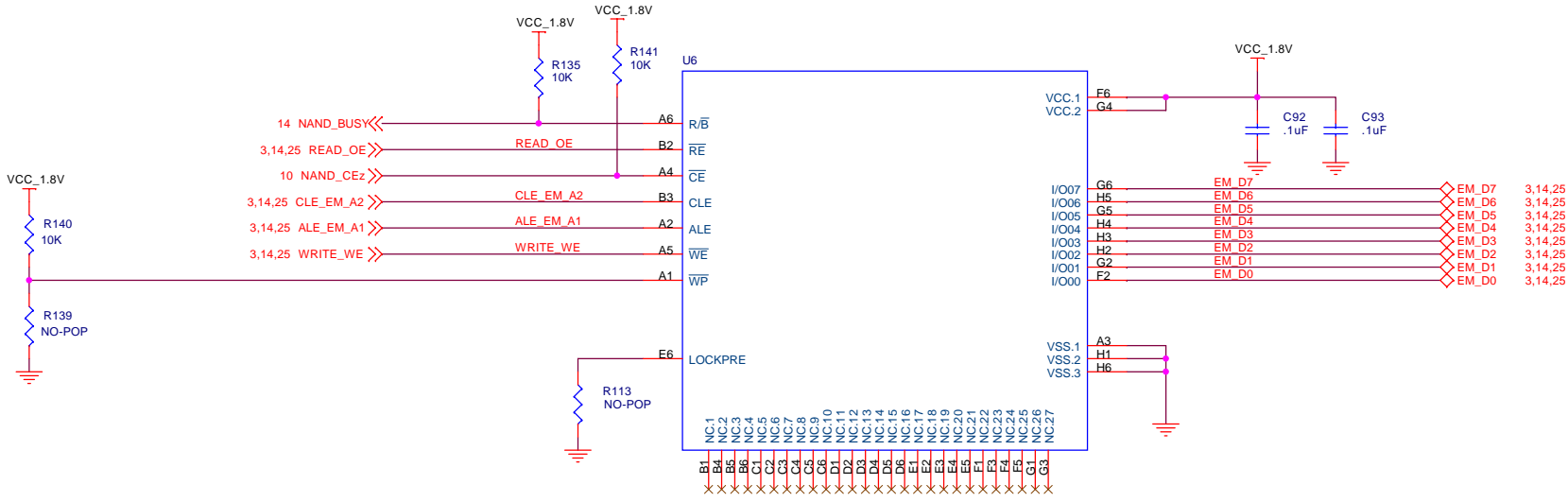
4 DDR_DQM3 >> DDR_DQM3
4 DDR_DQM2 >> DDR_DQM2

4 DDR_D[0:31]



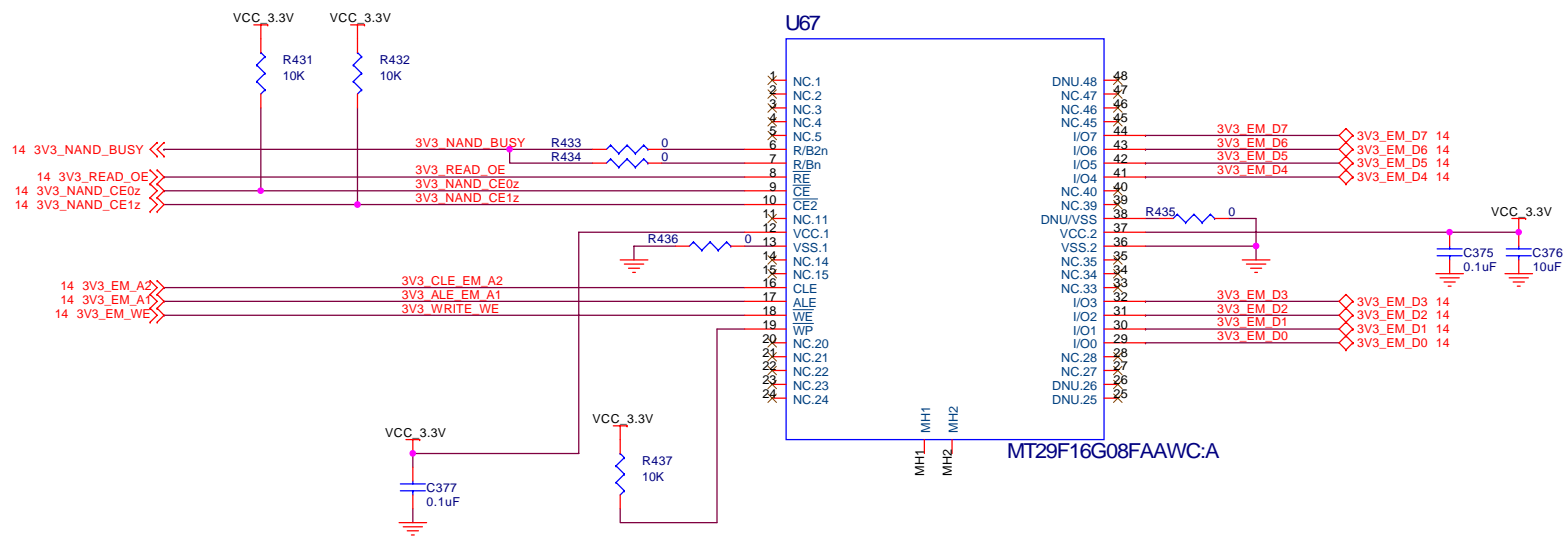
128 MEGABYTES

SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM357 EVALUATION MODULE			
Page Contents: DDR2 MEMORY			
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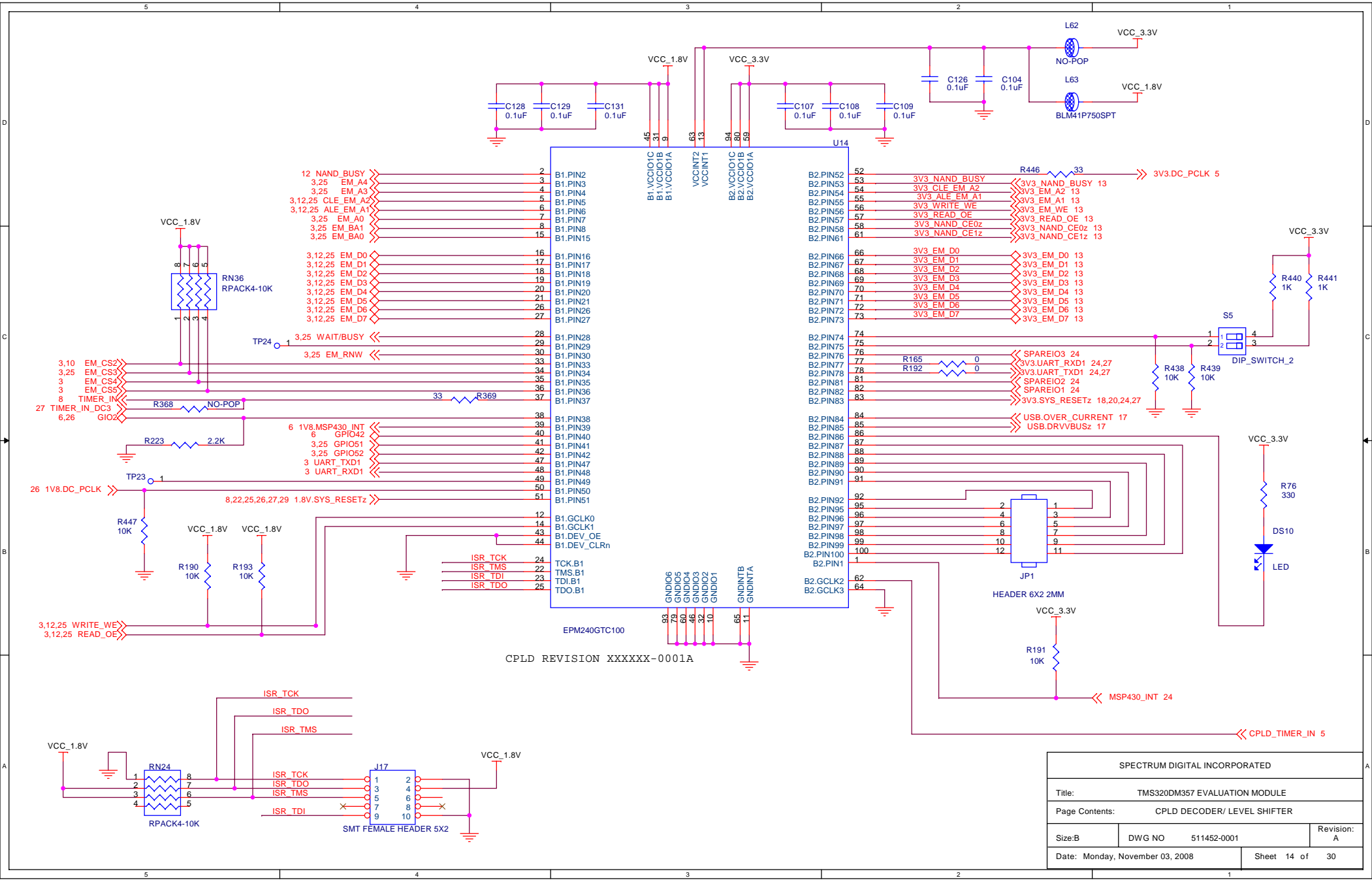


SAMSUNG K9K1208/Q/D/U/0C
NAND FLASH (64MBytes)
 K9K1G08 supports 128 MEGABYTES

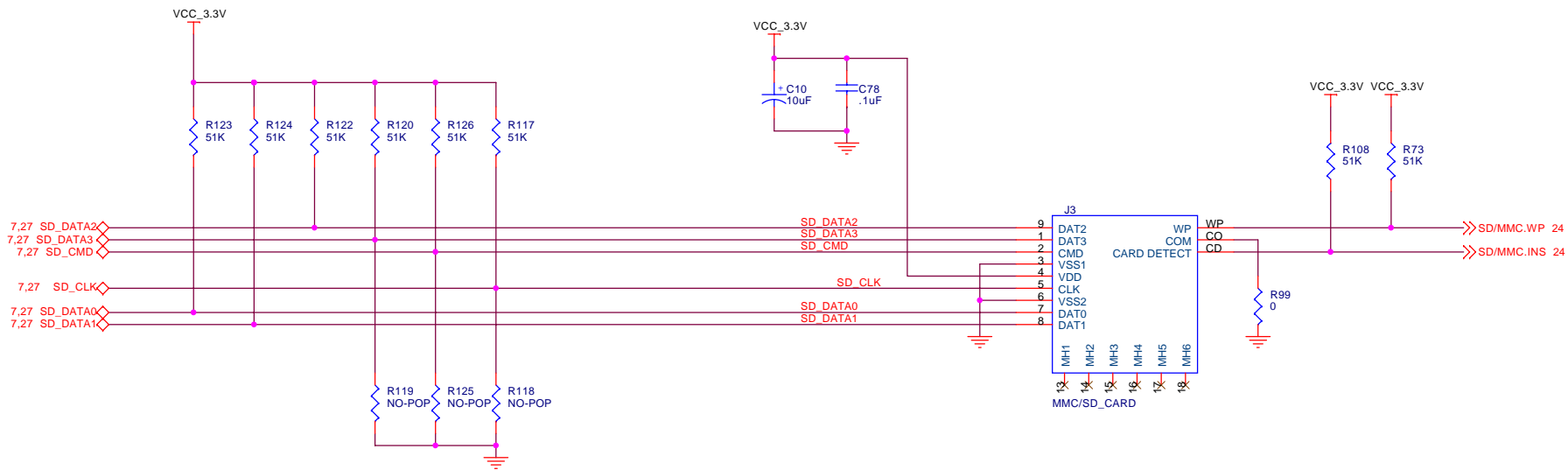
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Title: TMS320DM357 EVALUATION MODULE			
Page Contents: SRAM/NAND FLASH			
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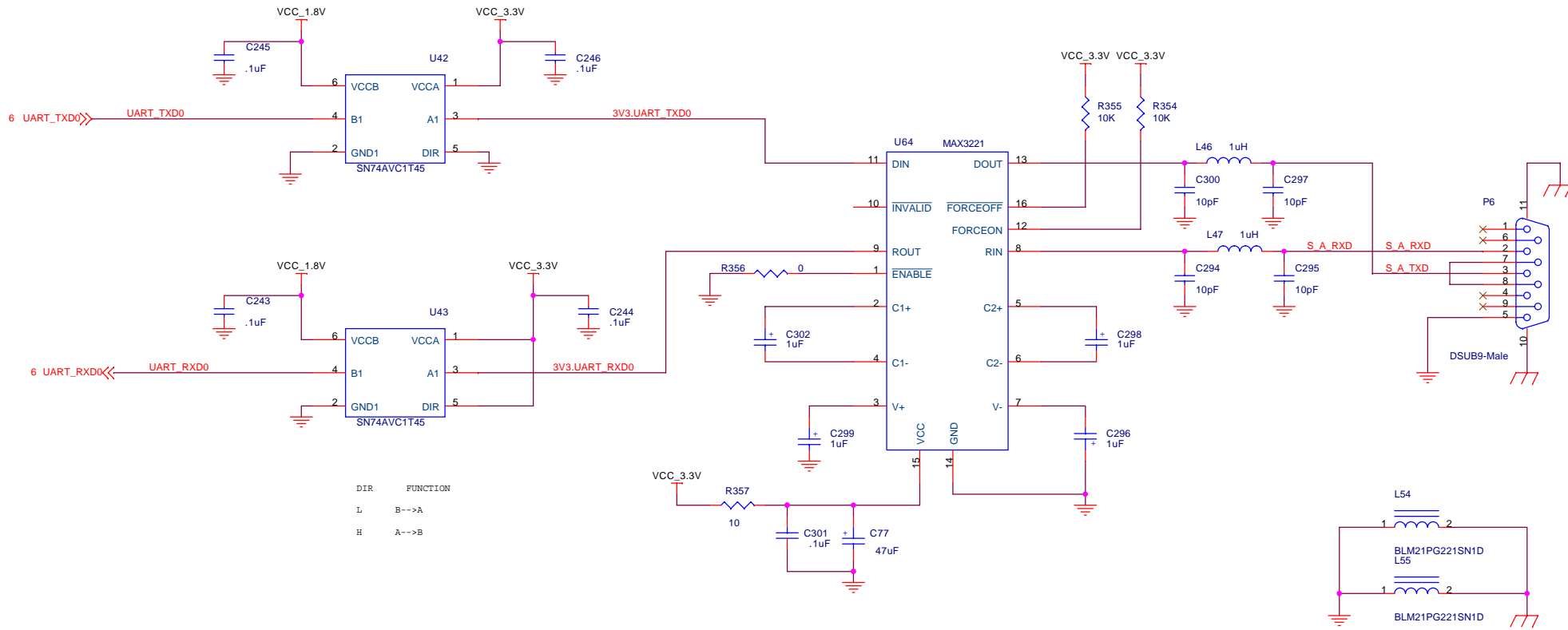
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Title: TMS320DM357 EVALUATION MODULE			
Page Contents: EMIF LEVEL SHIFTER			
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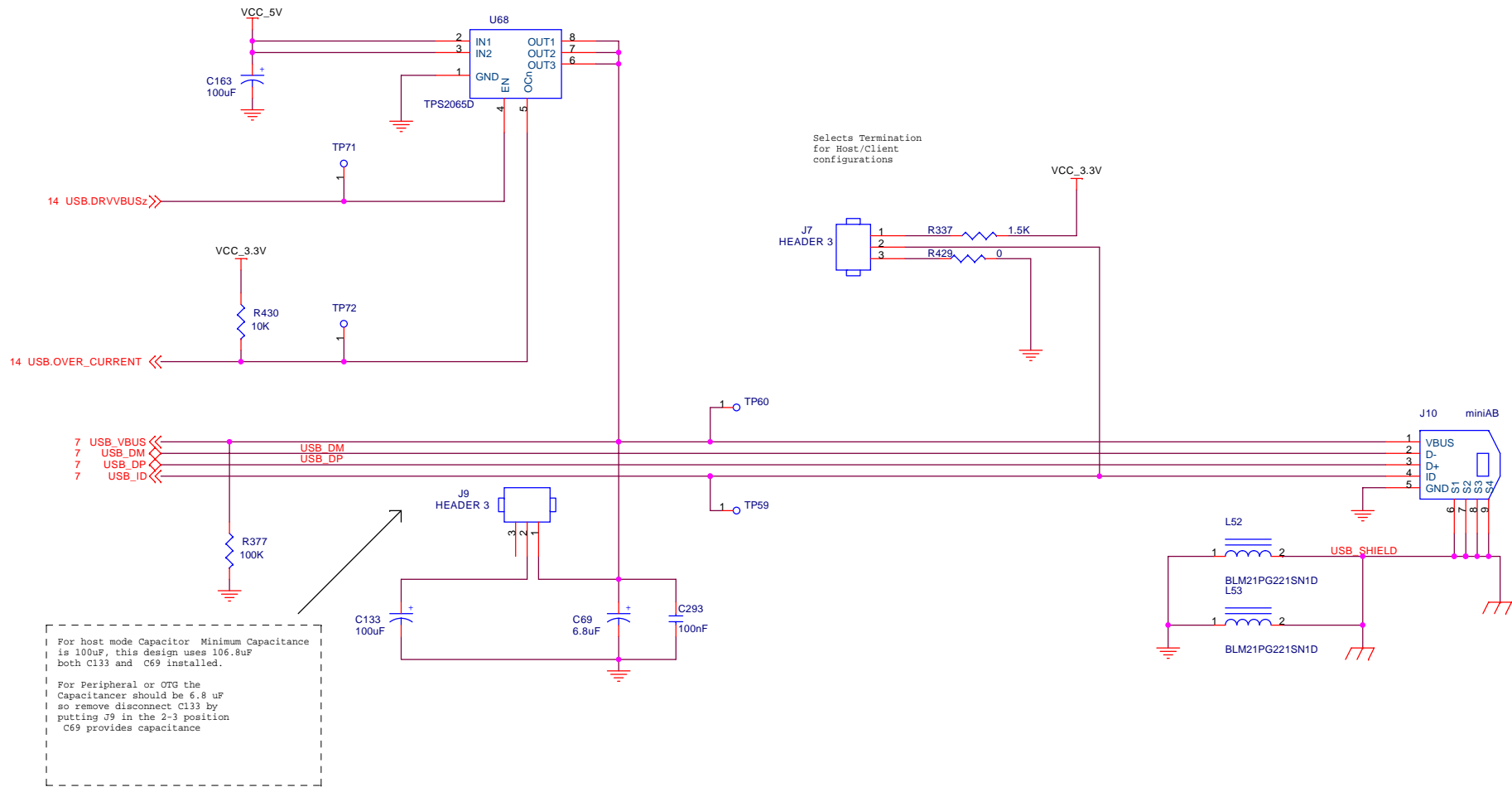
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Title: TMS320DM357 EVALUATION MODULE			
Page Contents: CPLD DECODER/ LEVEL SHIFTER			
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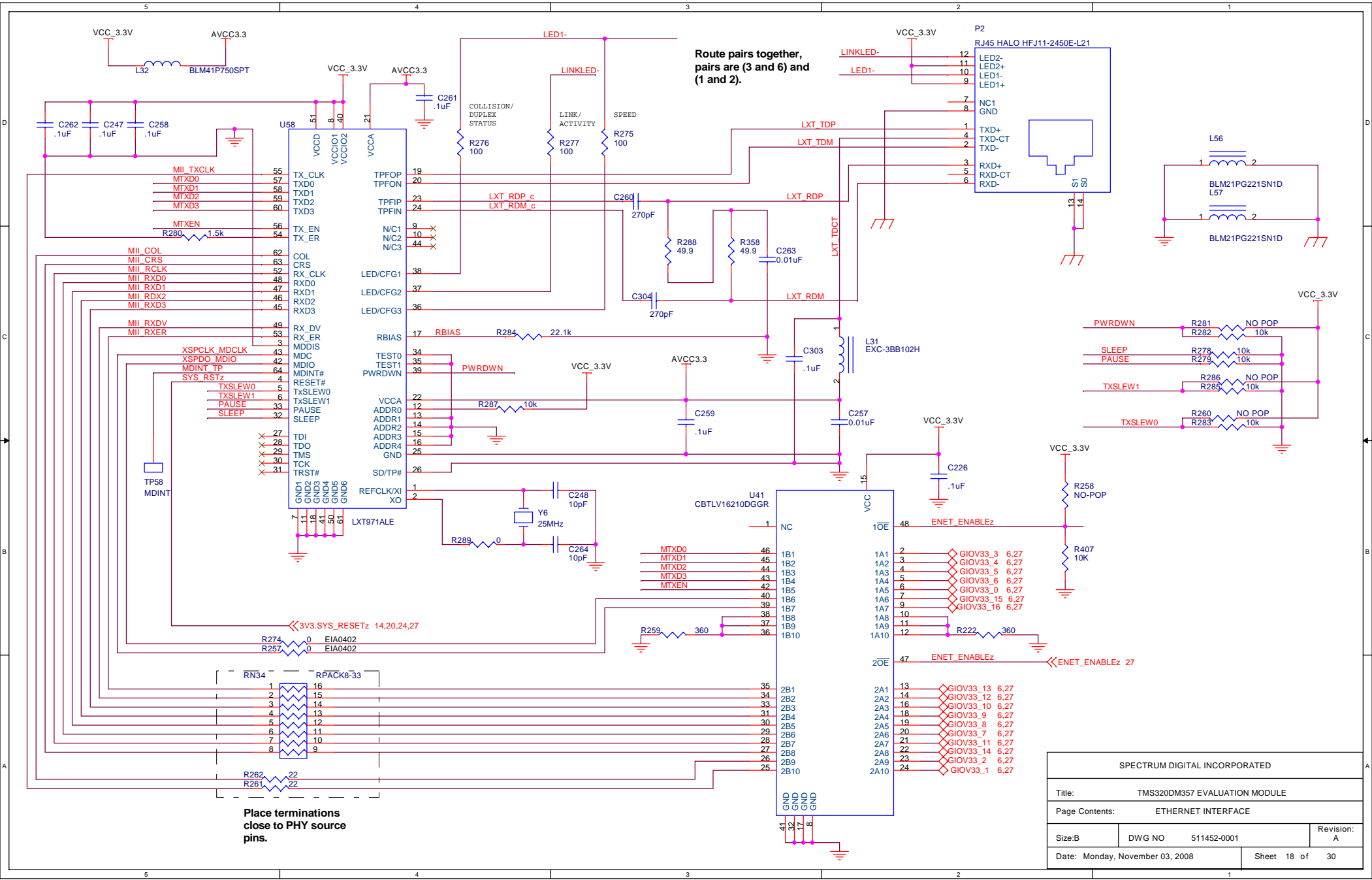
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Title: TMS320DM357 EVALUATION MODULE			
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Page Contents: RS232 INTERFACE			
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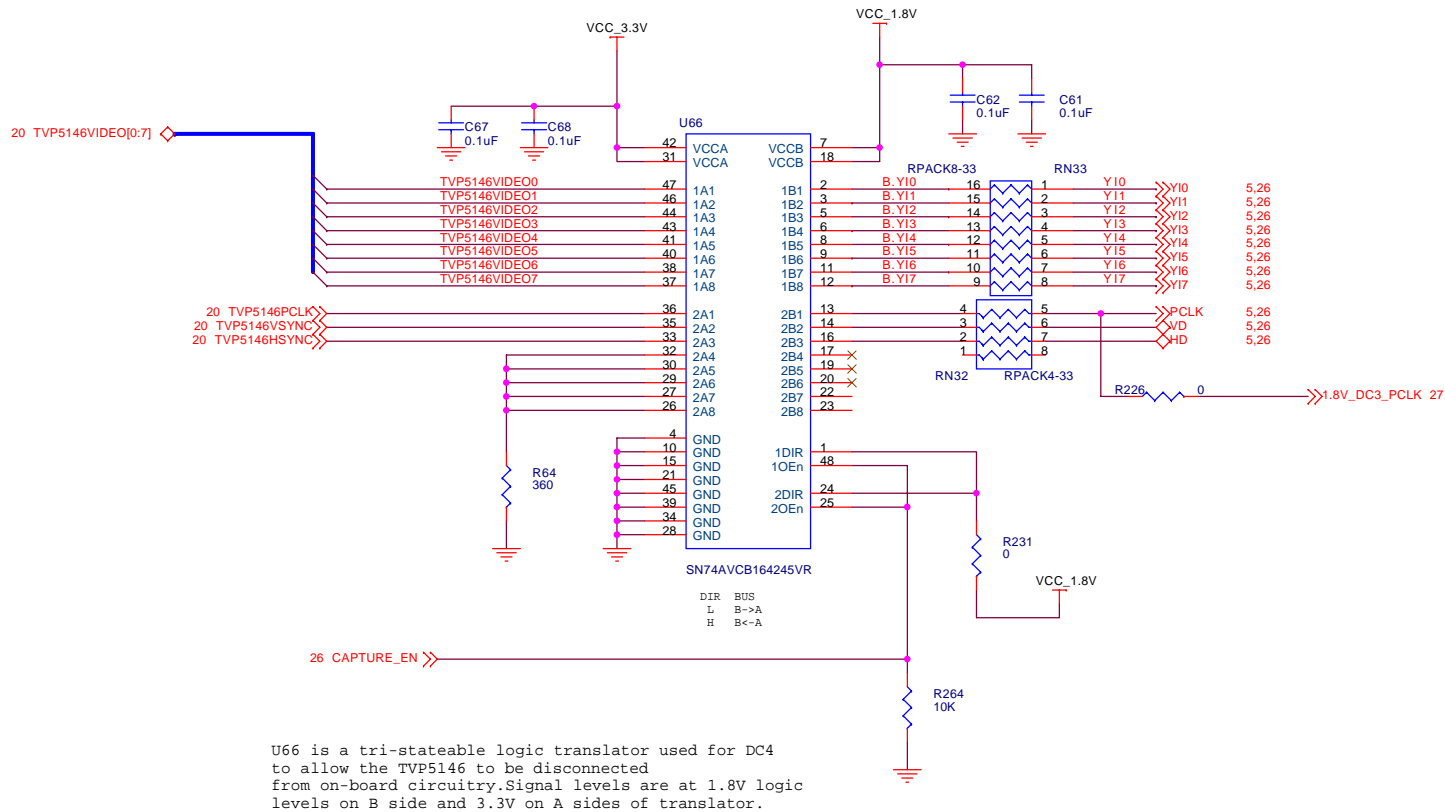
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Title: TMS320DM357 EVALUATION MODULE			
Page Contents: USB 2.0 INTERFACE			
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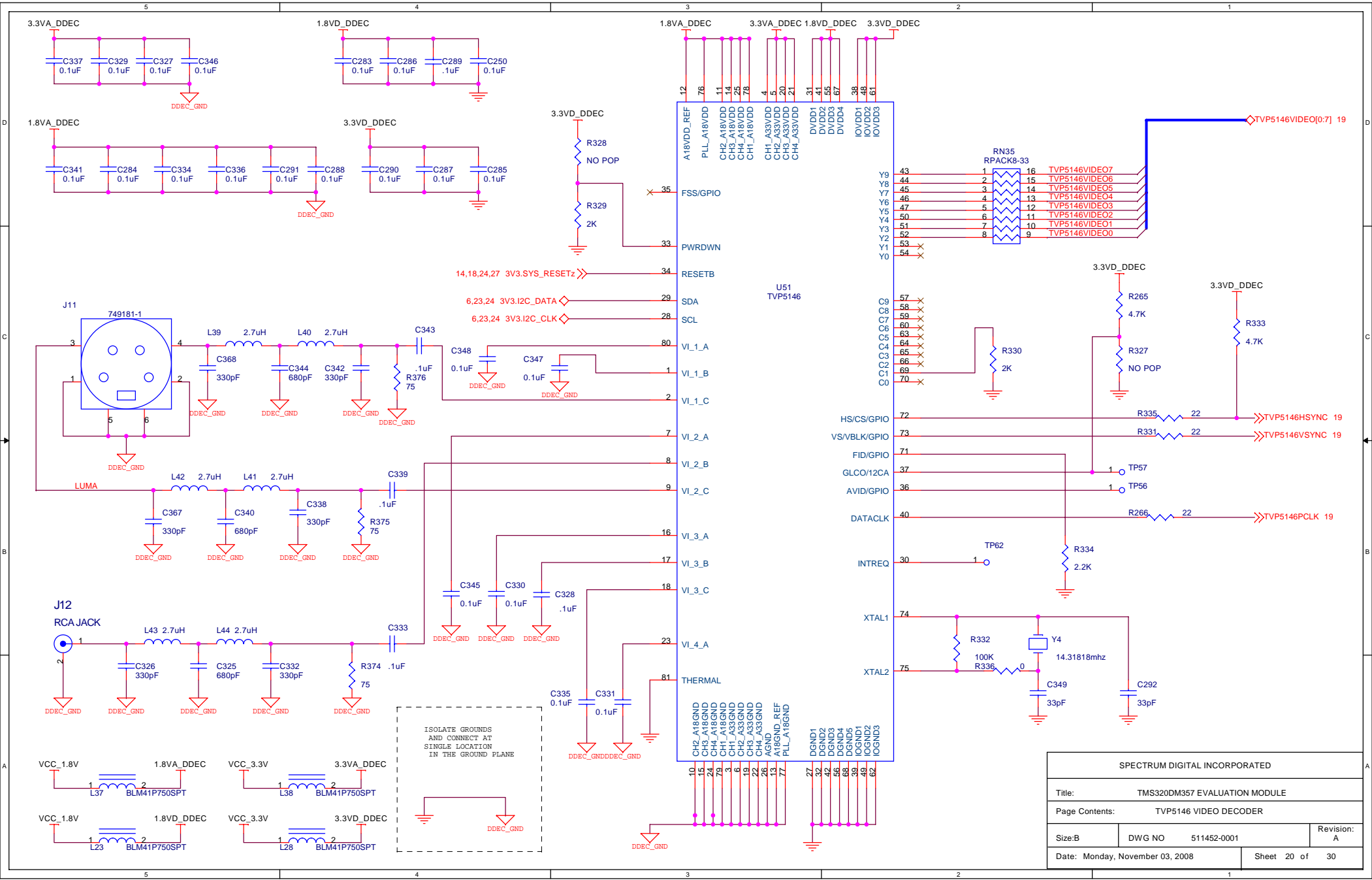
Route pairs together, pairs are (3 and 6) and (1 and 2).

Place terminations close to PHY source pins.

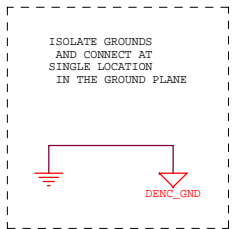
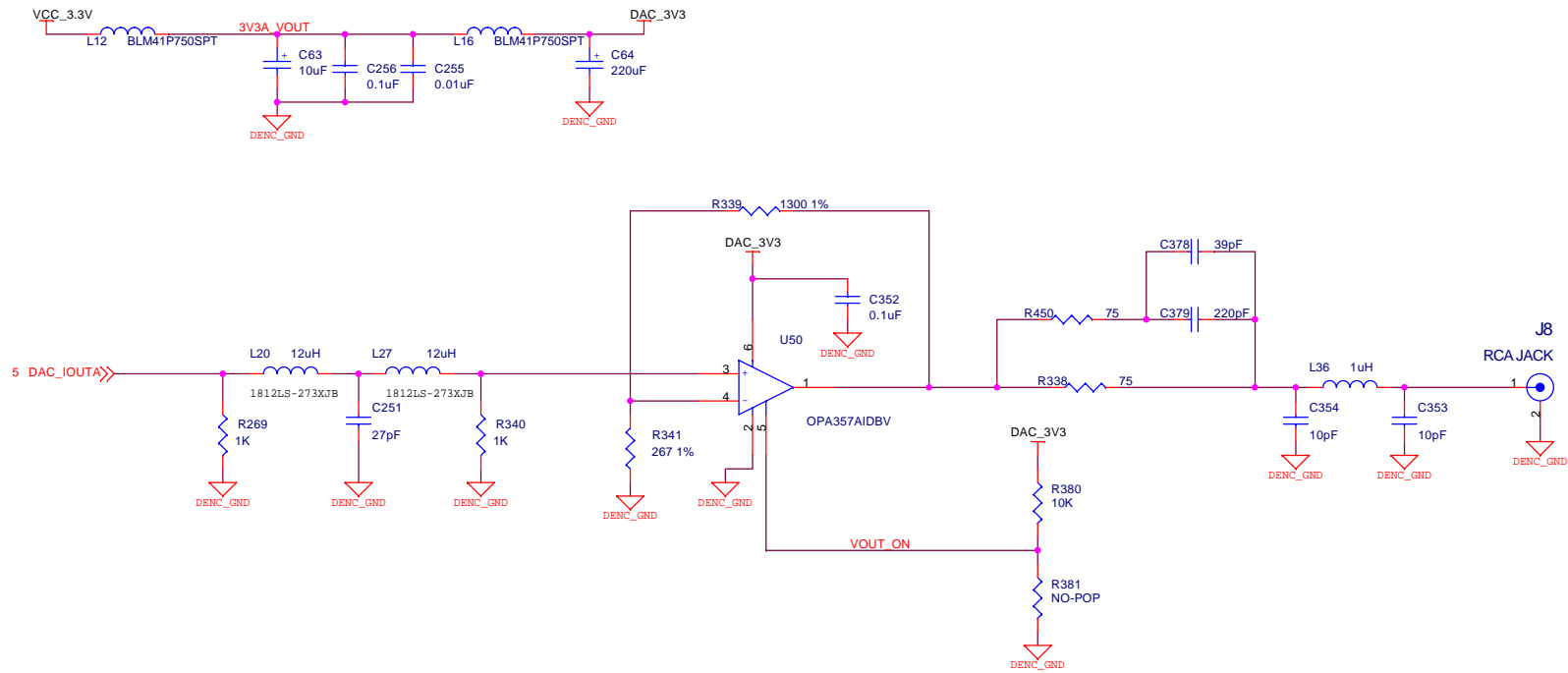
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Title: TMS320DM357 EVALUATION MODULE			
Page Contents: ETHERNET INTERFACE			
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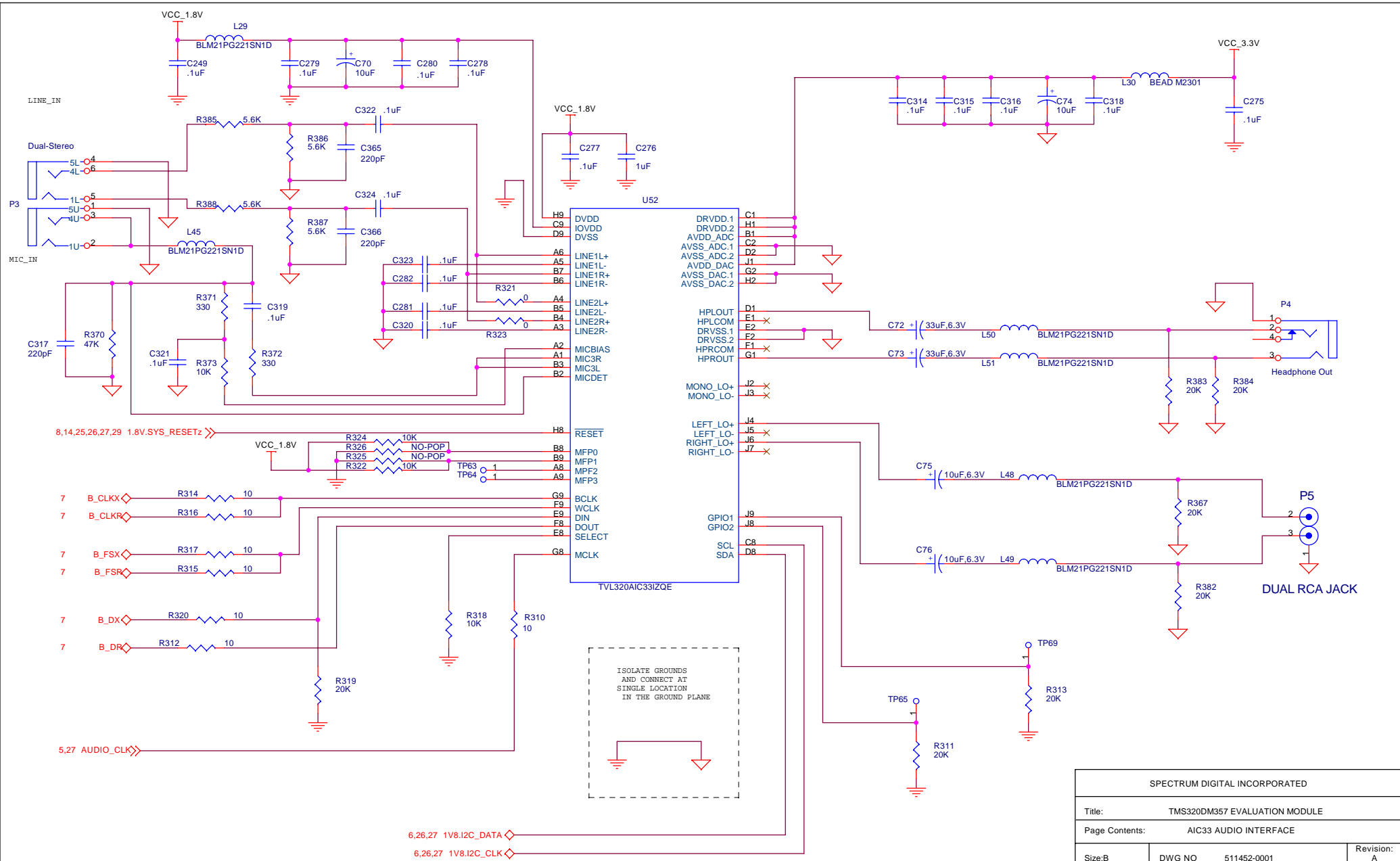
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Title: TMS320DM357 EVALUATION MODULE			
Page Contents: TVP5146 LEVEL SHIFTER			
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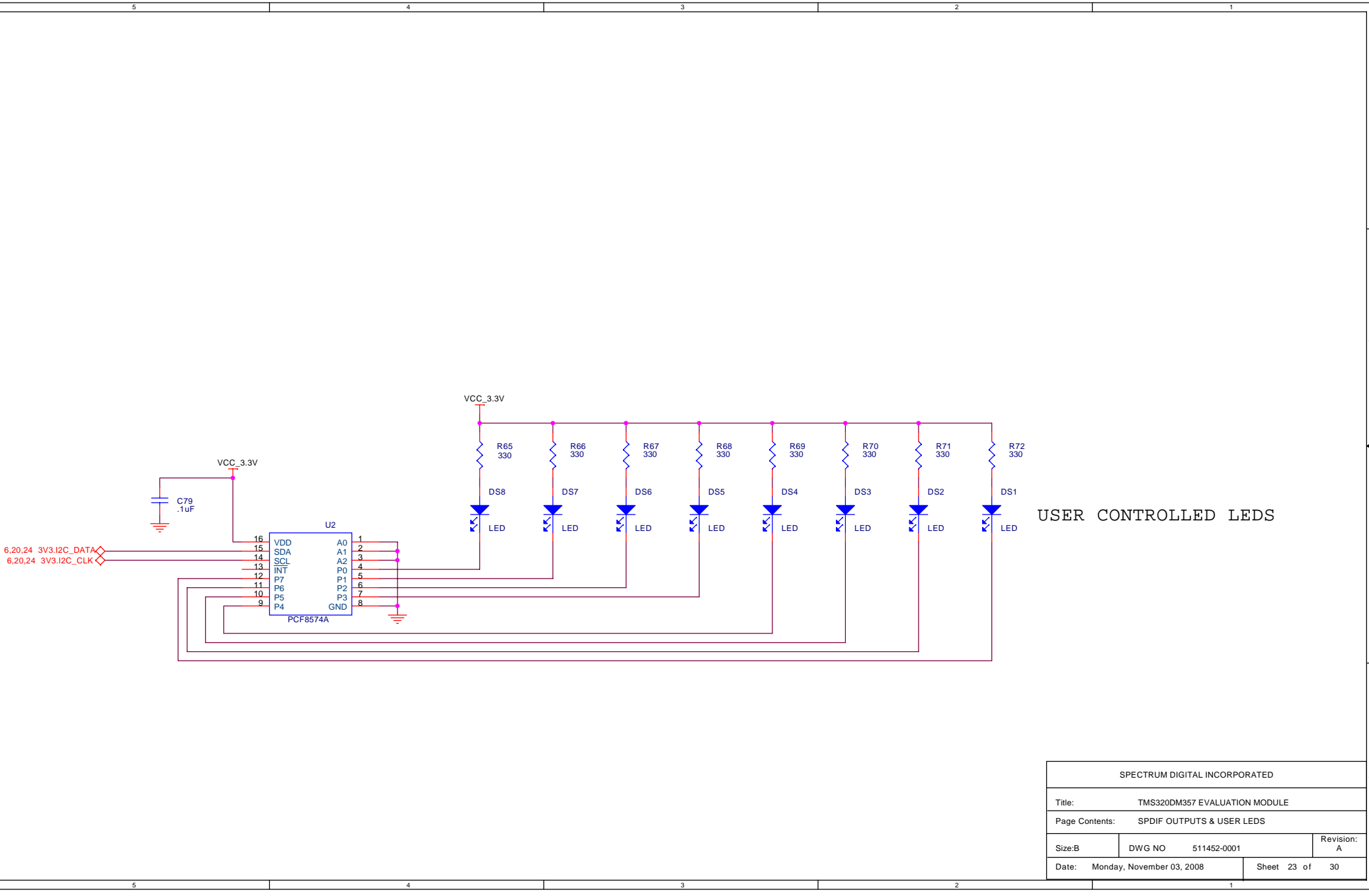
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Title: TMS320DM357 EVALUATION MODULE			
Page Contents: TVP5146 VIDEO DECODER			
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Page Contents: VIDEO OUTPUT			
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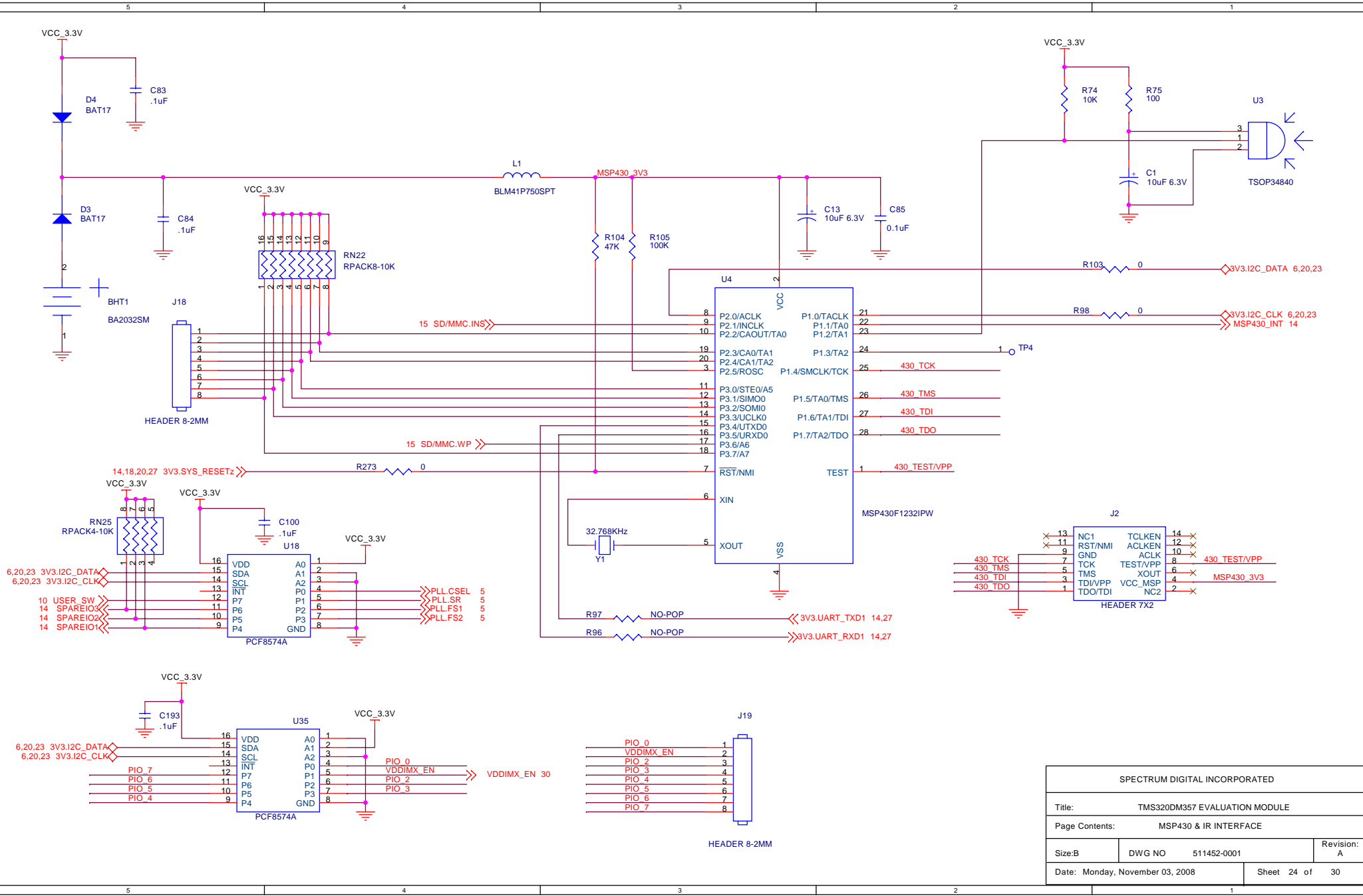


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Page Contents: AIC33 AUDIO INTERFACE			
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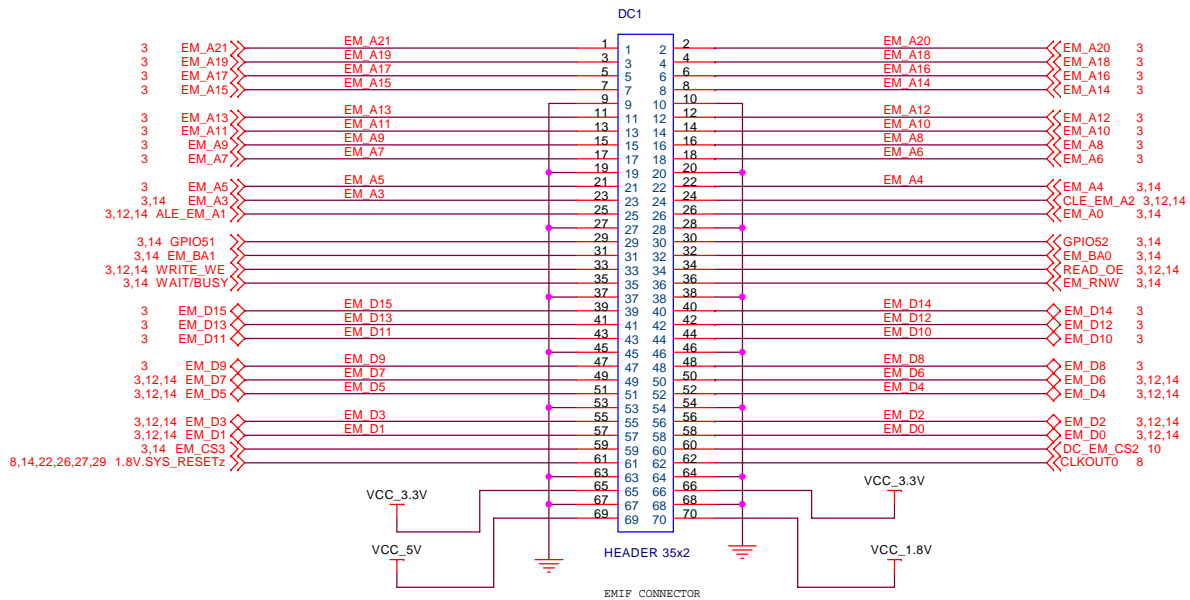


USER CONTROLLED LEDS

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Page Contents: SPDIF OUTPUTS & USER LEDS			
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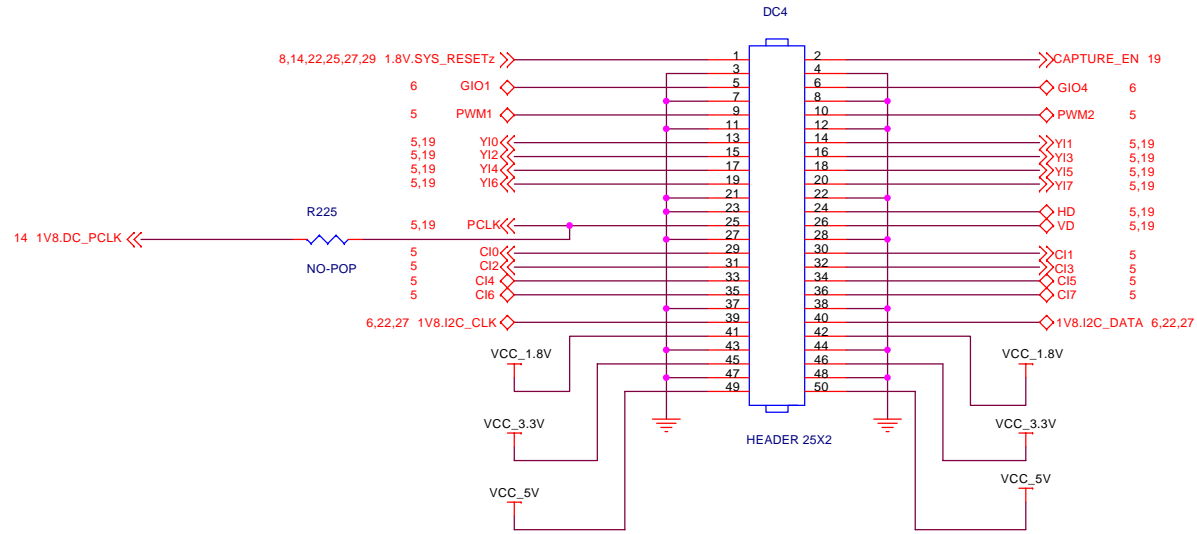


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Page Contents: MSP430 & IR INTERFACE			
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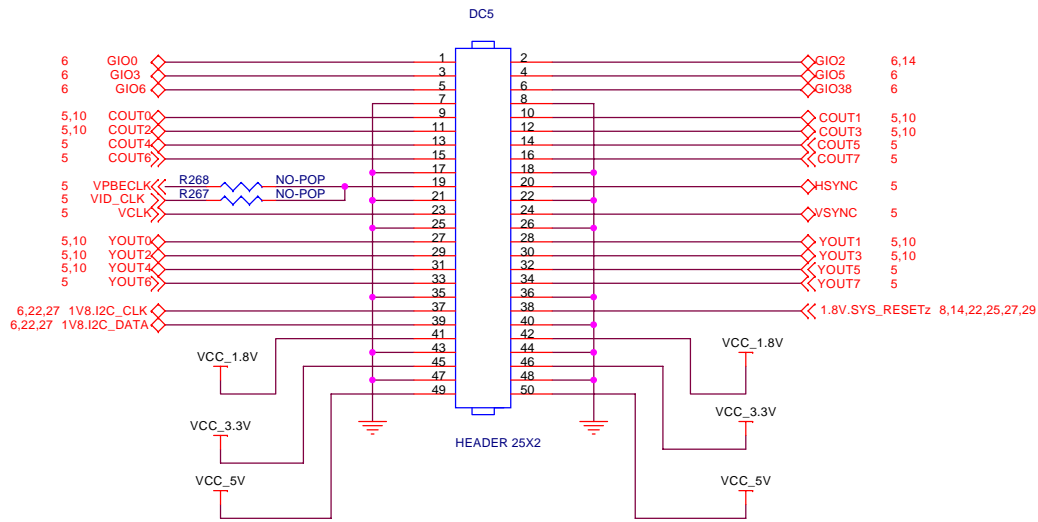


SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM357 EVALUATION MODULE			
Page Contents: EMIF EXPANSION CONNECTOR			
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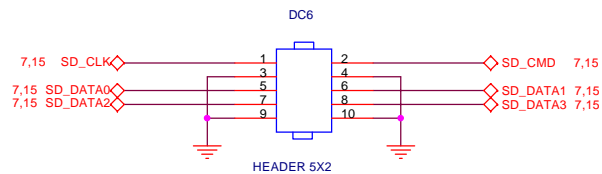
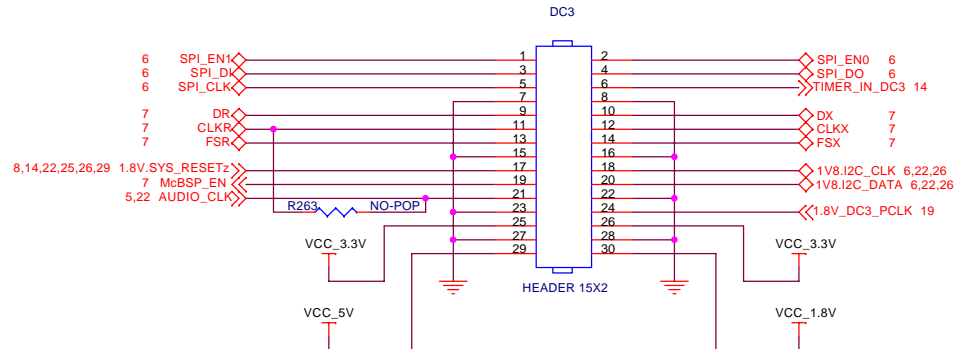
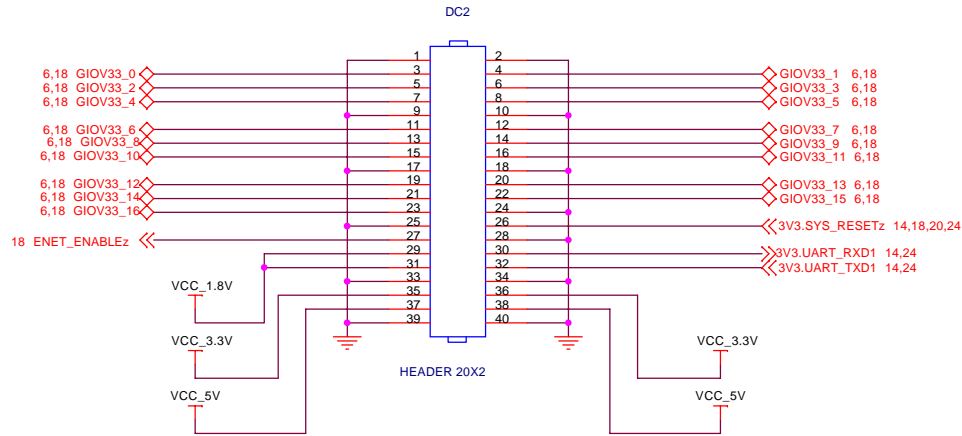
VIDEO INPUT CONNECTOR



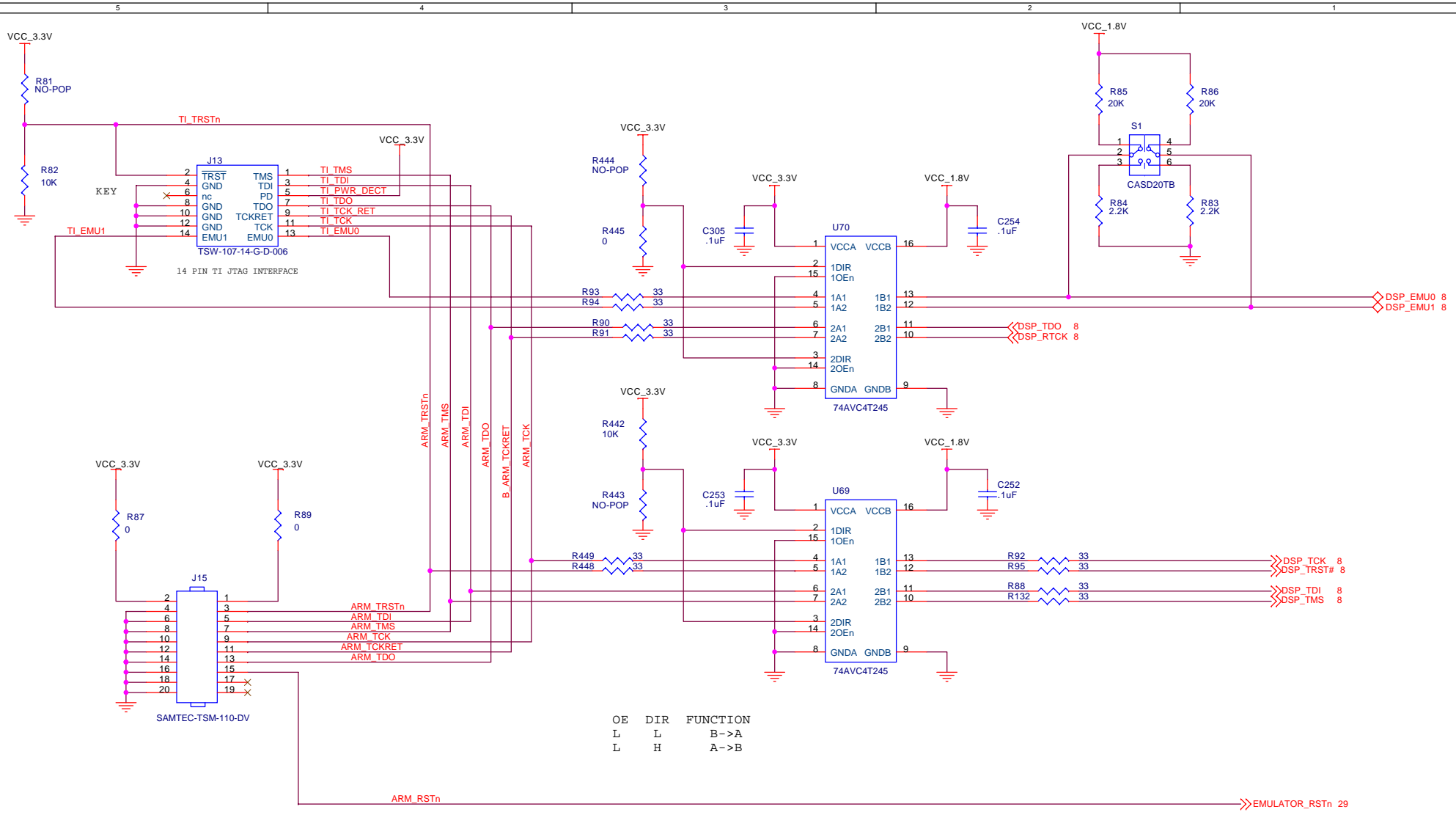
VIDEO OUTPUT CONNECTOR



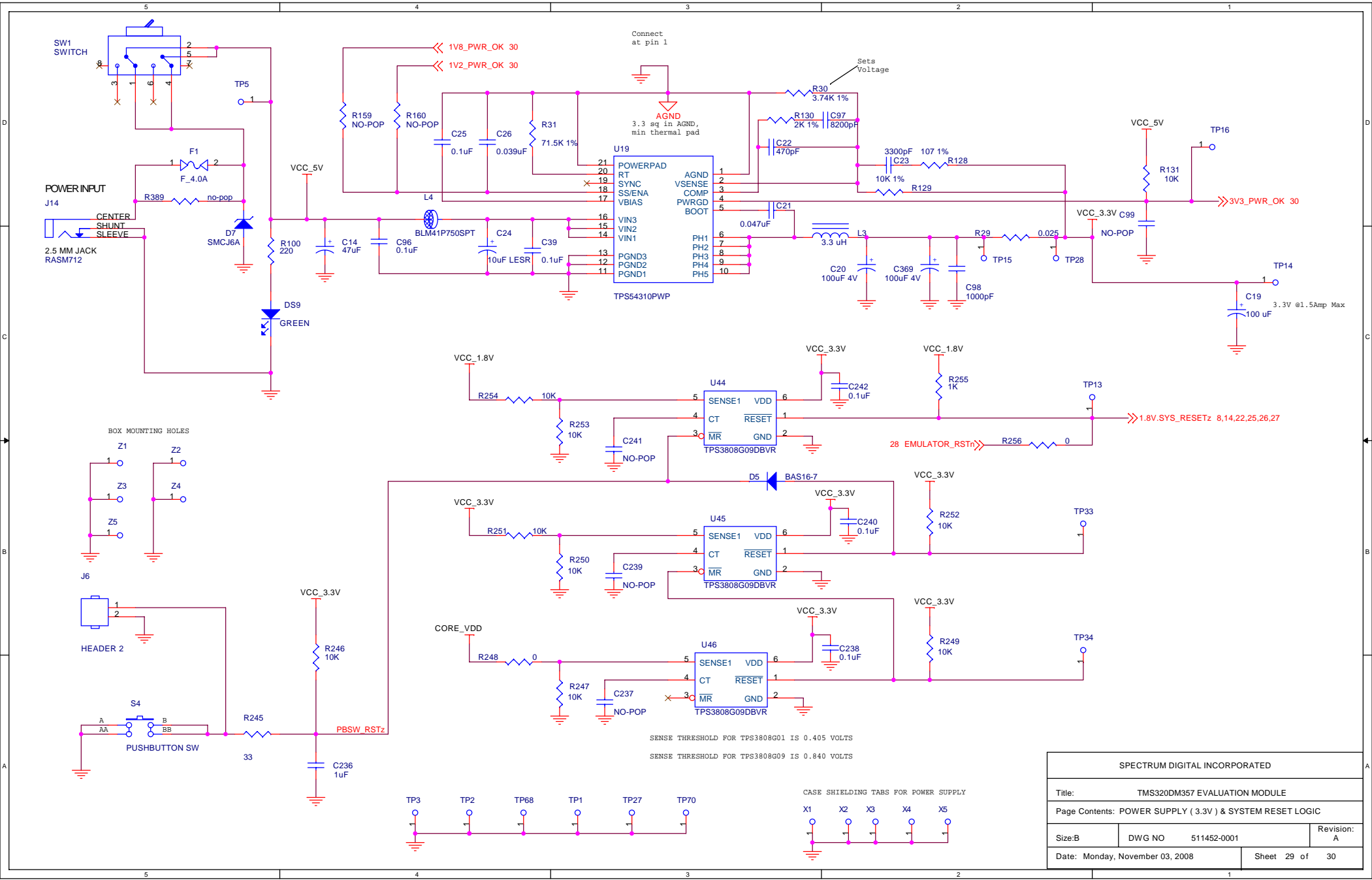
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Title: TMS320DM357 EVALUATION MODULE			
Page Contents: VIDEO INPUT/OUTPUT CONNECTORS			
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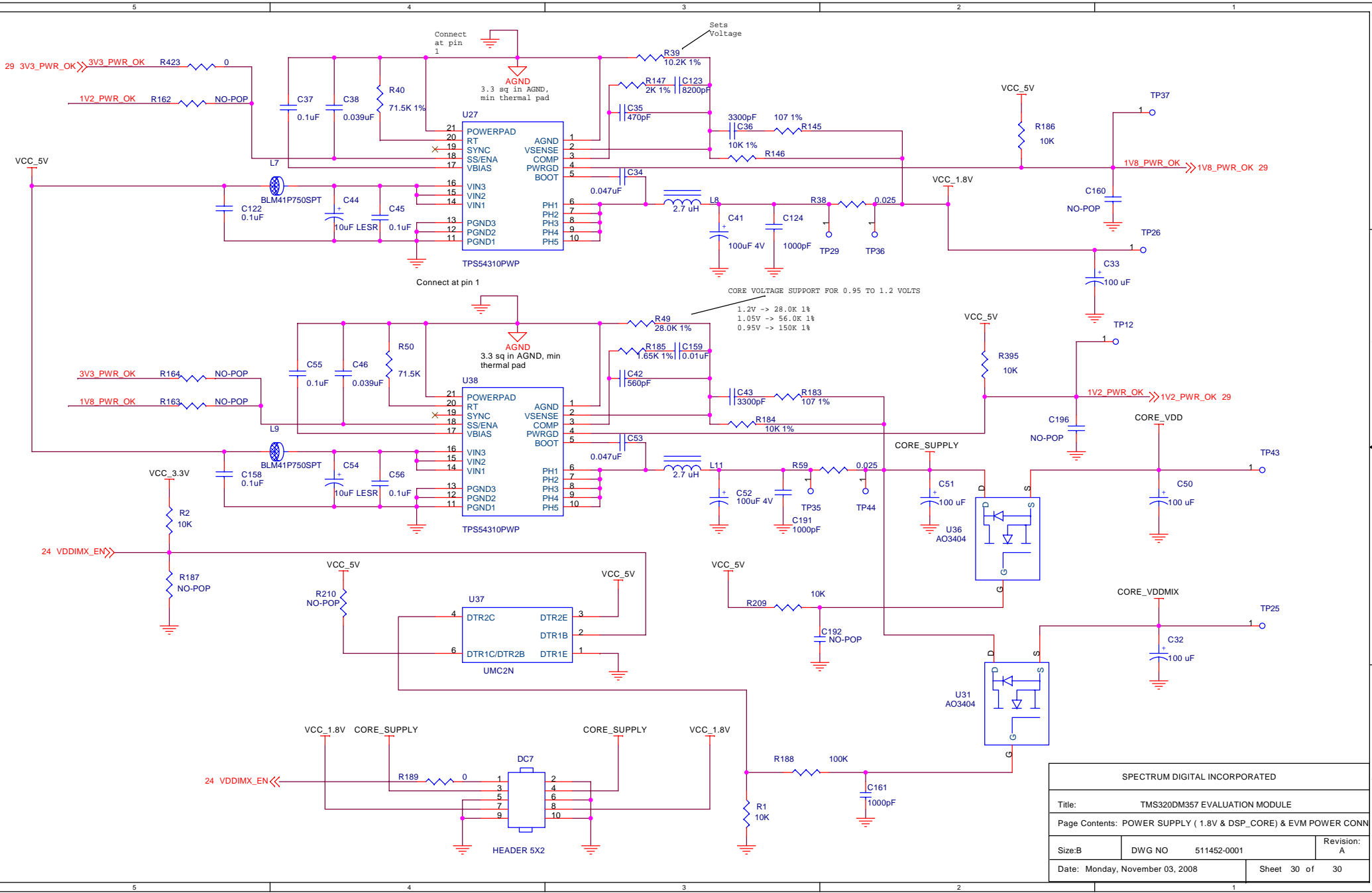
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