

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

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REV	DESCRIPTION	DATE	APPROVED
A	Initial schematic ready for layout - Alpha Release	02/17/05	RRP
B	Beta Release	09/27/05	RRP
C	Gamma Release	10/28/05	RRP
D	Production Release	02/18/06	RRP
E	Production Update - DM6446 symbol updated to current Data Sheet	02/18/07	RRP

BASE	I2C ADDRESS TABLE	SHEET
0x50	I2C ROM	6
0x1B	AIC33	26
0x5D	TVP5146	24
0x38	IO EXPANDER 0 (LED)	28
0x39	IO EXPANDER 1 (PLL/USER_SW)	28
0x3A	IO EXPANDER 2 (USB/CD_RESET)	28
0x23	MSP430	28

REVISION STATUS OF SHEETS

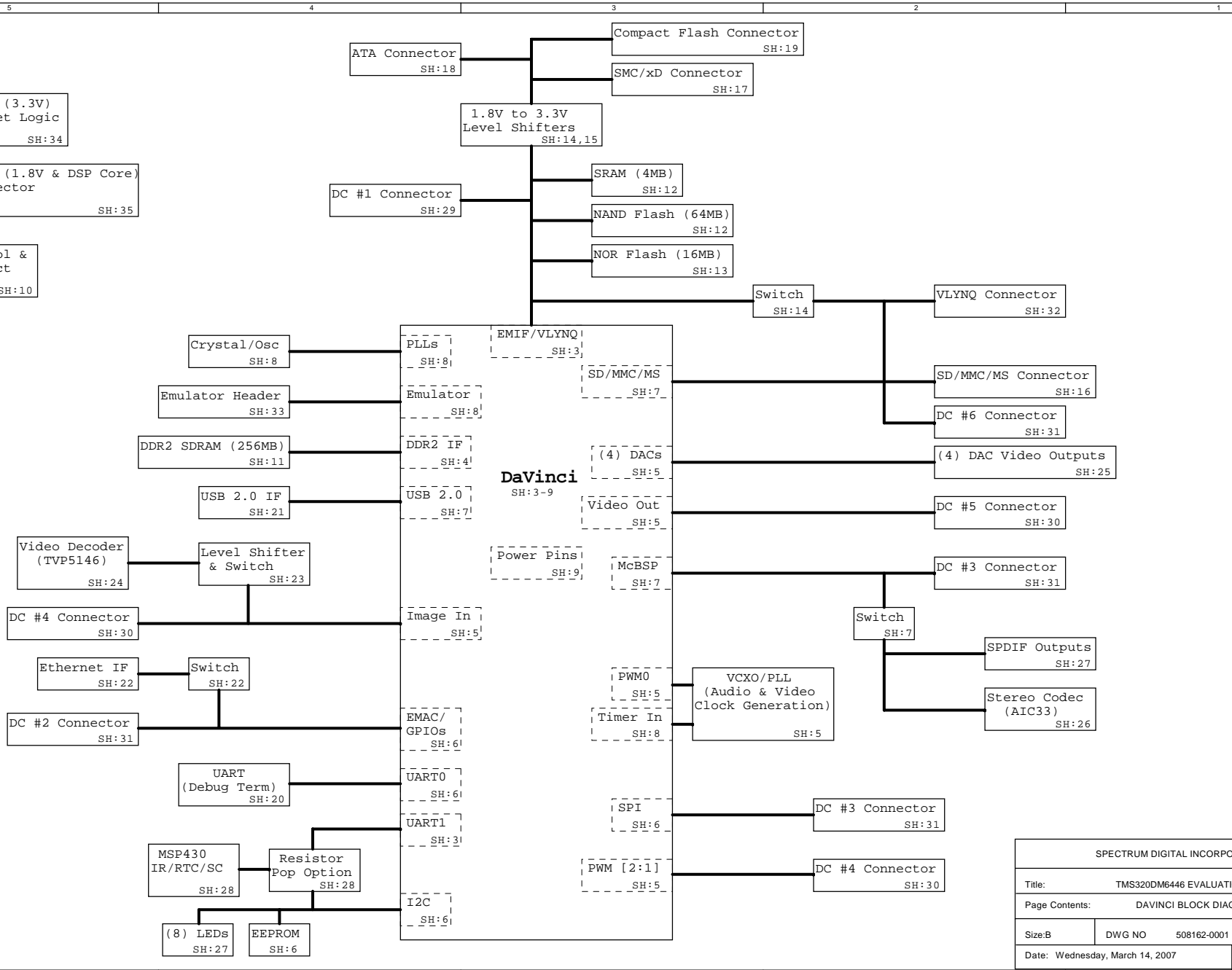
REV	E	E	E	E	E	E	E	E	E	E	E	DATE	BY	DESCRIPTION
31												02/17/2005	DWN	R.R.P.
												02/17/2005	CHK	T.W.K.
21												02/17/2005	ENGR	R.R.P.
												02/17/2005	ENGR-MGR	R.R.P.
11												03/01/2004	CA	C.M.D.
												02/17/2005	MFG	R.R.P.
1												02/17/2005	RLSE	R.R.P.

SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: Title Block			
Size: B	DWG NO	508162-0001	Revision: E
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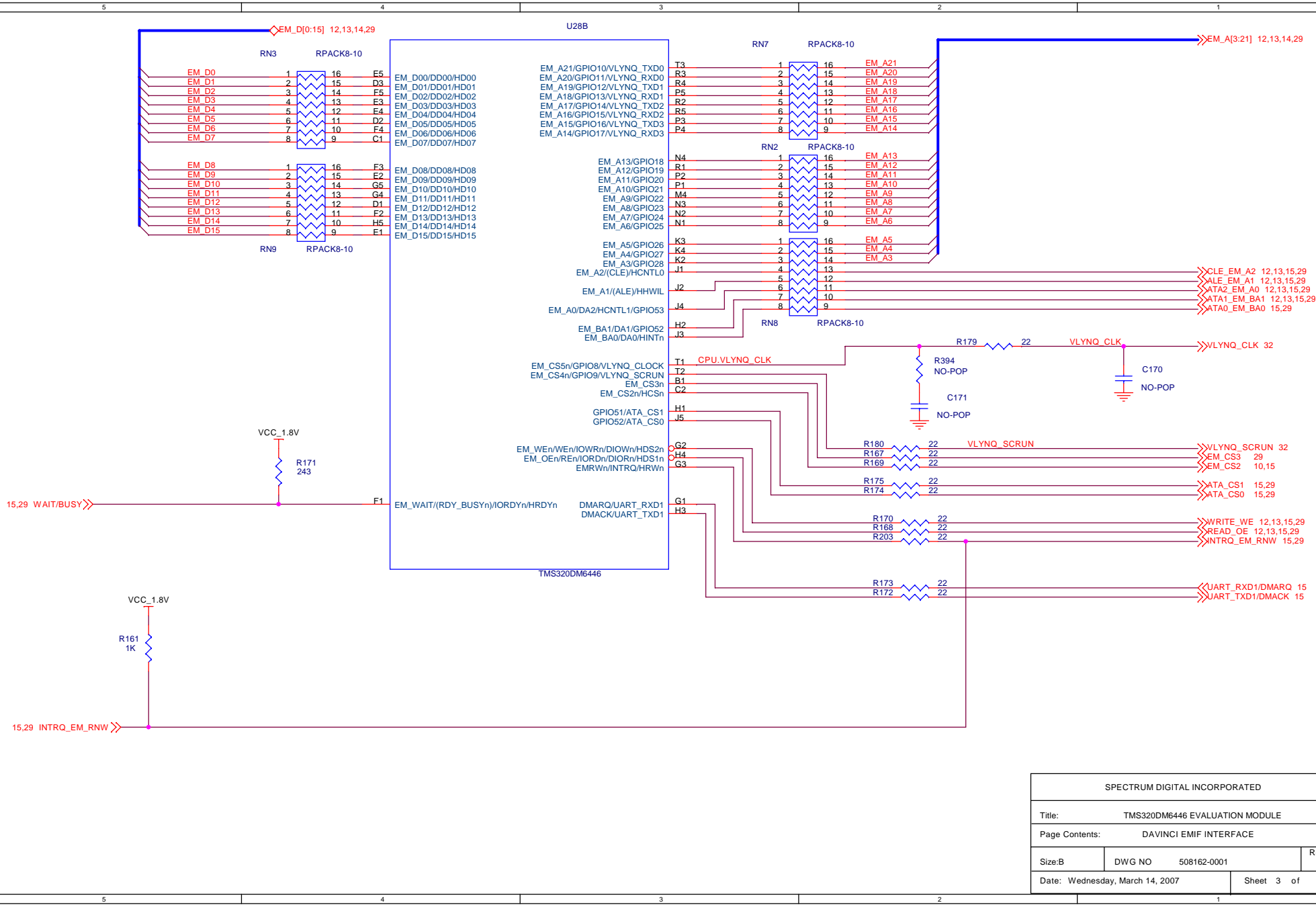
Power Supply (3.3V)
& System Reset Logic
SH:34

Power Supply (1.8V & DSP Core)
& DC #7 Connector
SH:35

Config Control &
EM_CS2 Select
SH:10



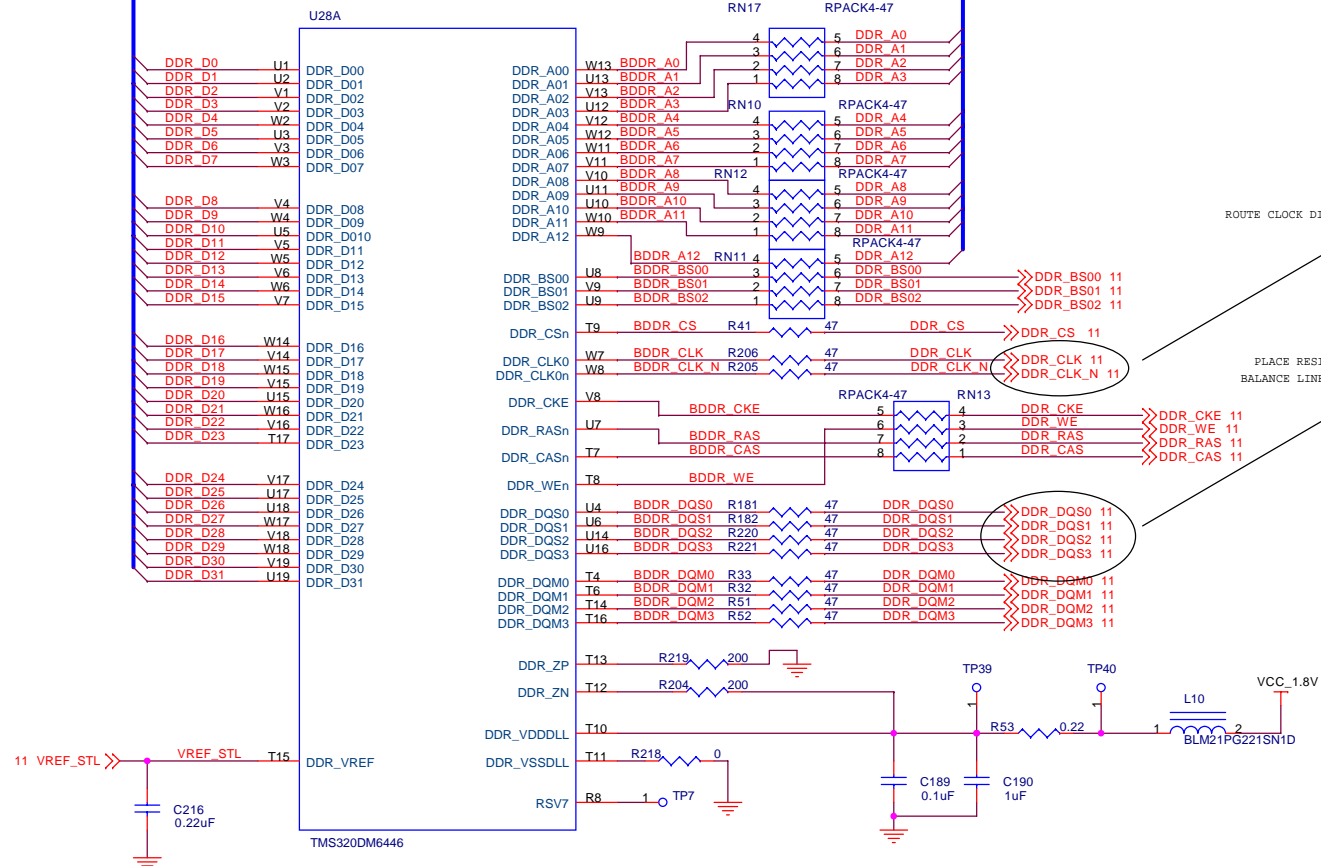
SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: DAVINCI BLOCK DIAGRAM			
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SPECTRUM DIGITAL INCORPORATED			
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Page Contents: DAVINCI EMIF INTERFACE			
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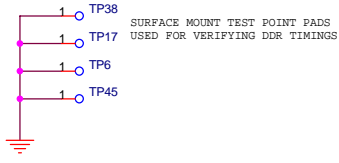
11 DDR_D[0:31]

DDR_A[0:12] 11



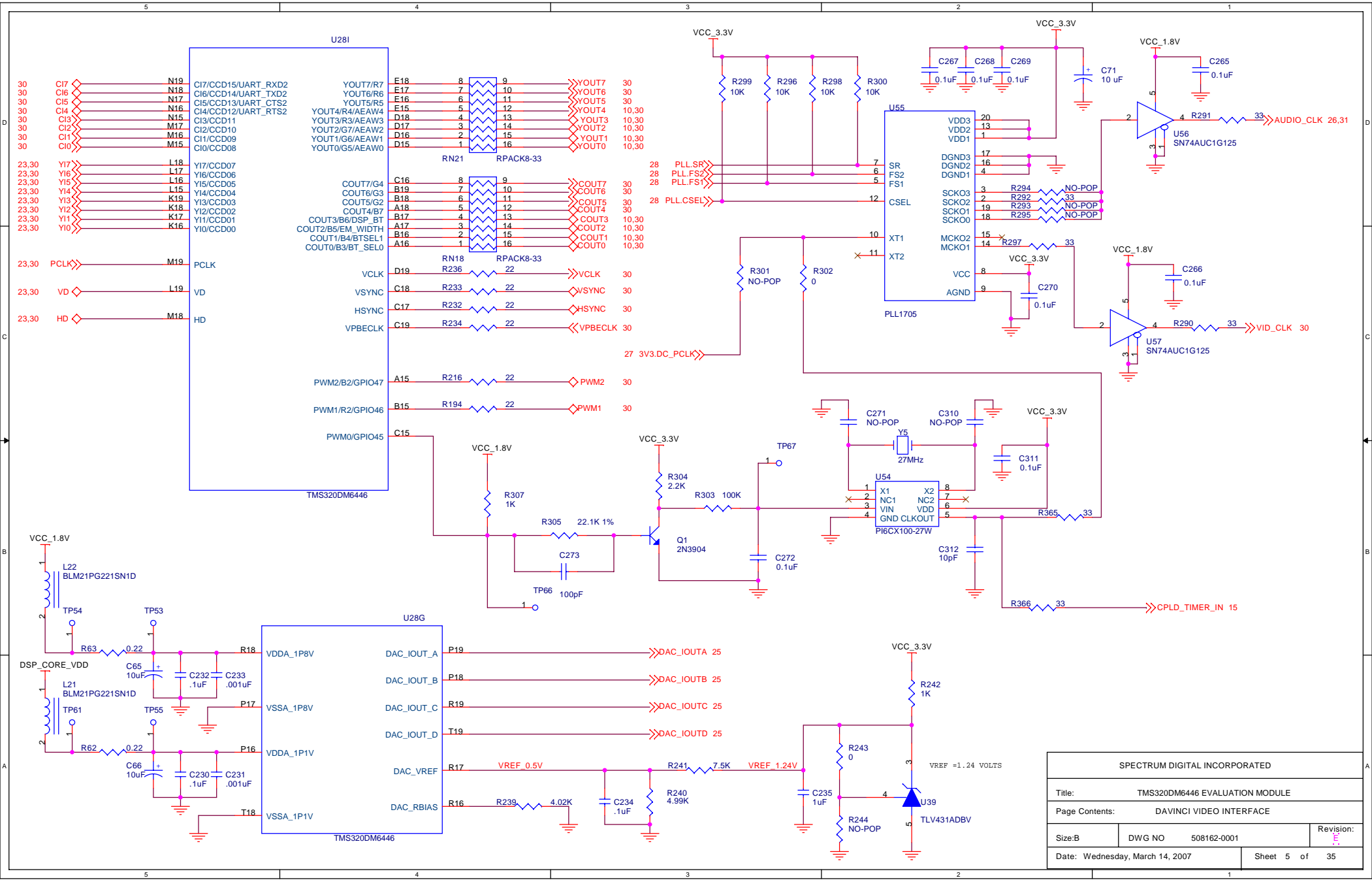
ROUTE CLOCK DIFFERENTIAL WITH 15 MIL SPACING BETWEEN

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

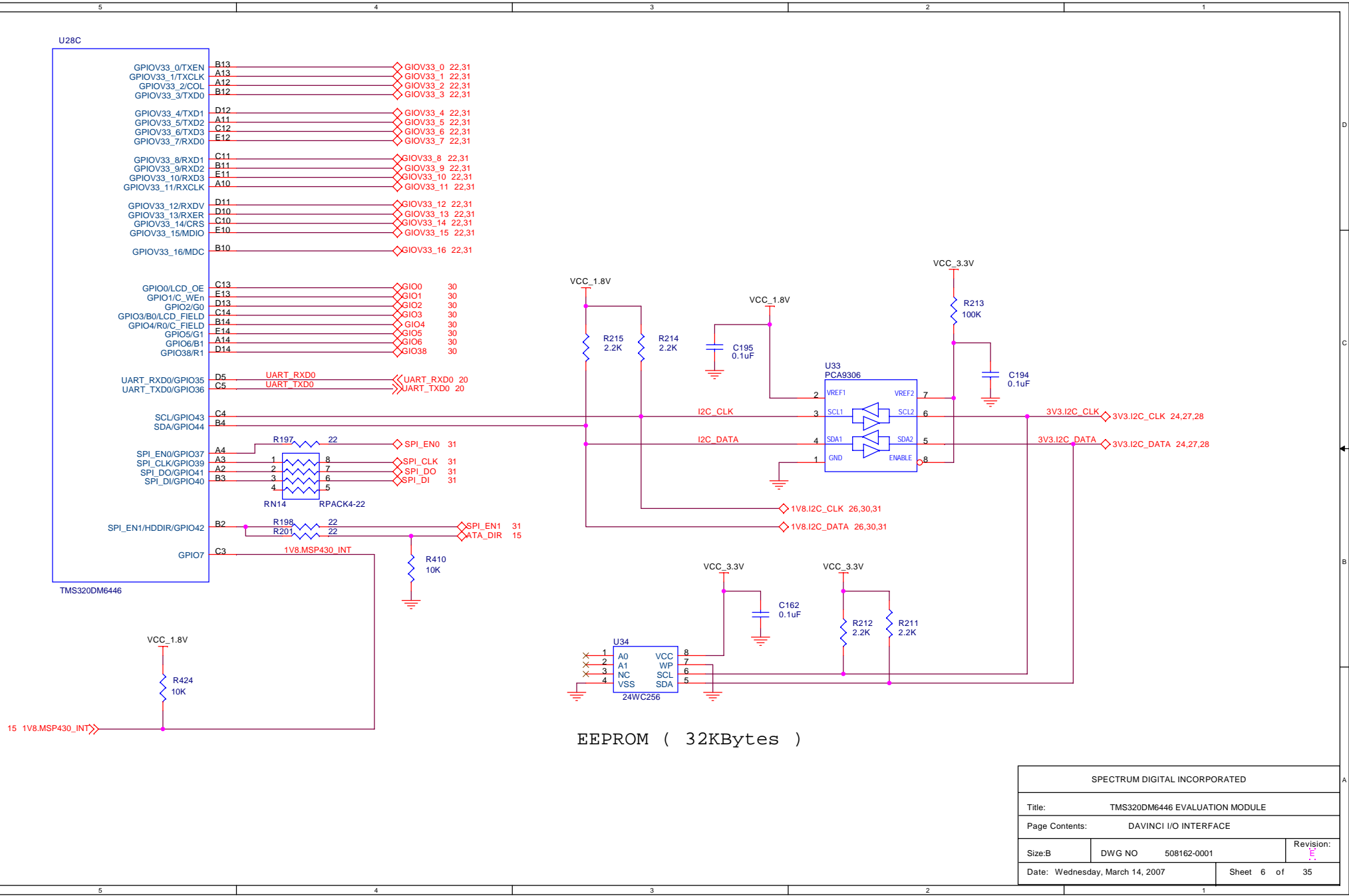


SURFACE MOUNT TEST POINT PADS
USED FOR VERIFYING DDR TIMINGS

SPECTRUM DIGITAL INCORPORATED			
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Page Contents: DAVINCI DDR INTERFACE			
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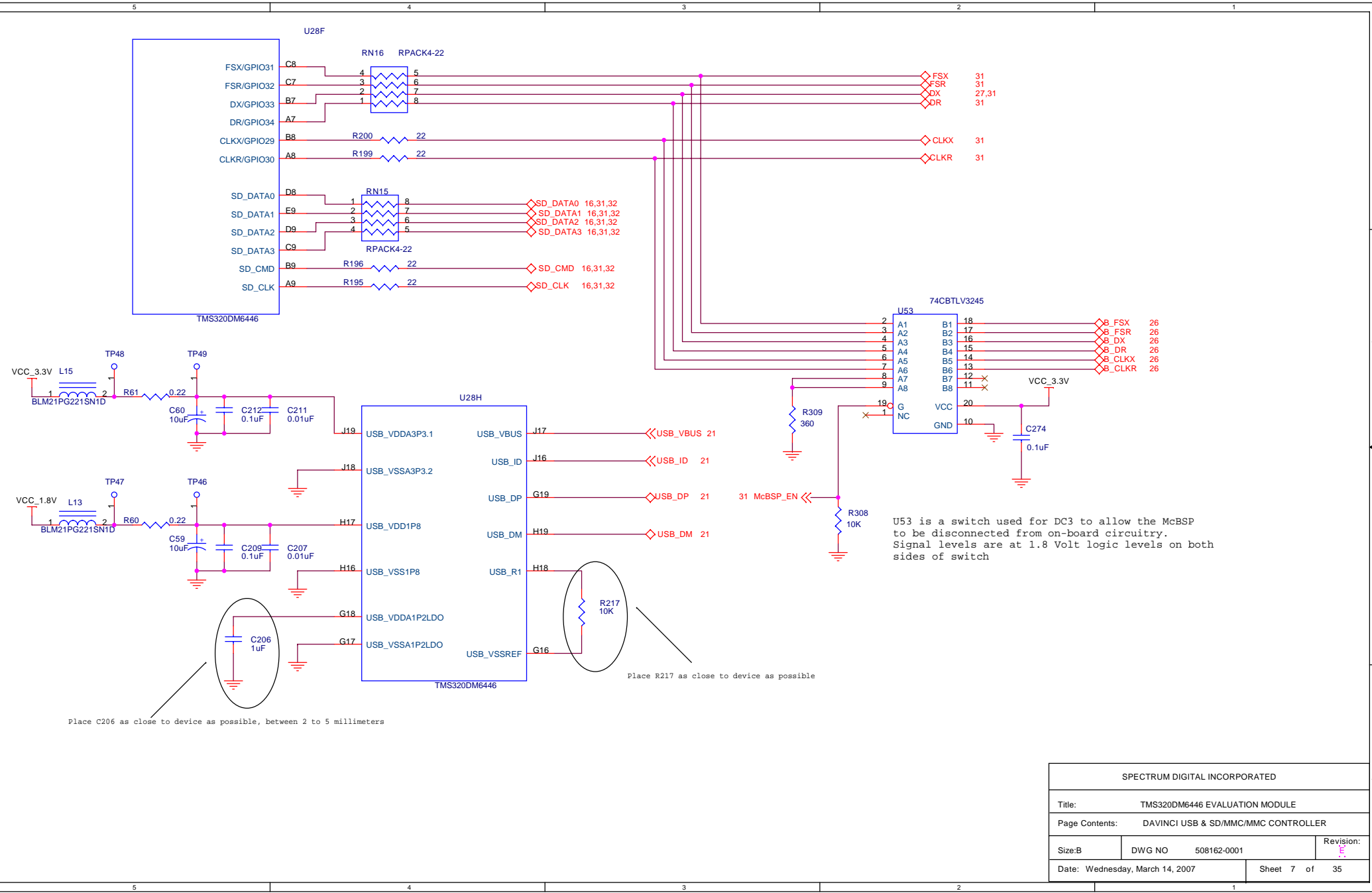


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Title: TMS320DM6446 EVALUATION MODULE			
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EEPROM (32KBytes)

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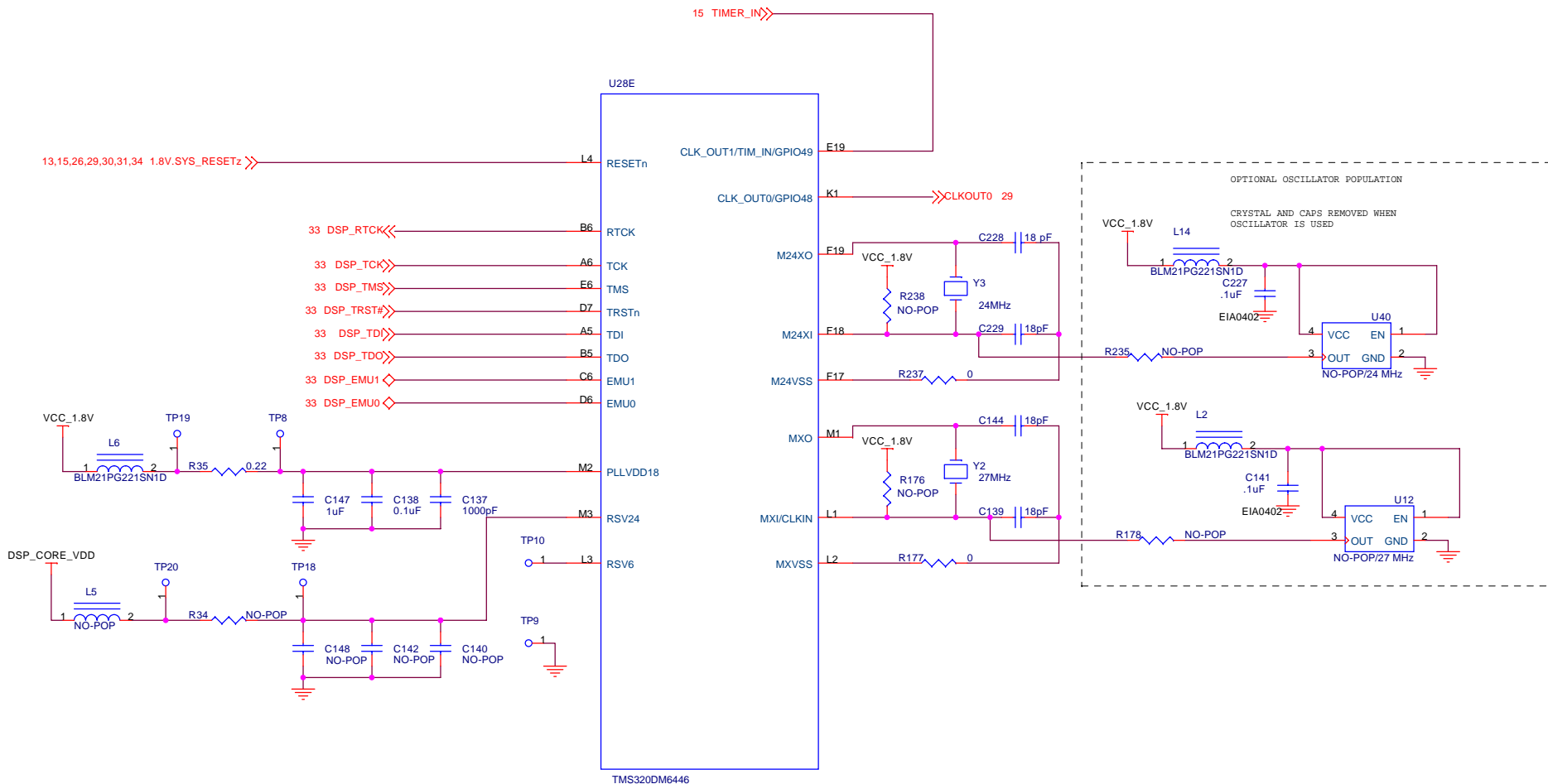


Place C206 as close to device as possible, between 2 to 5 millimeters

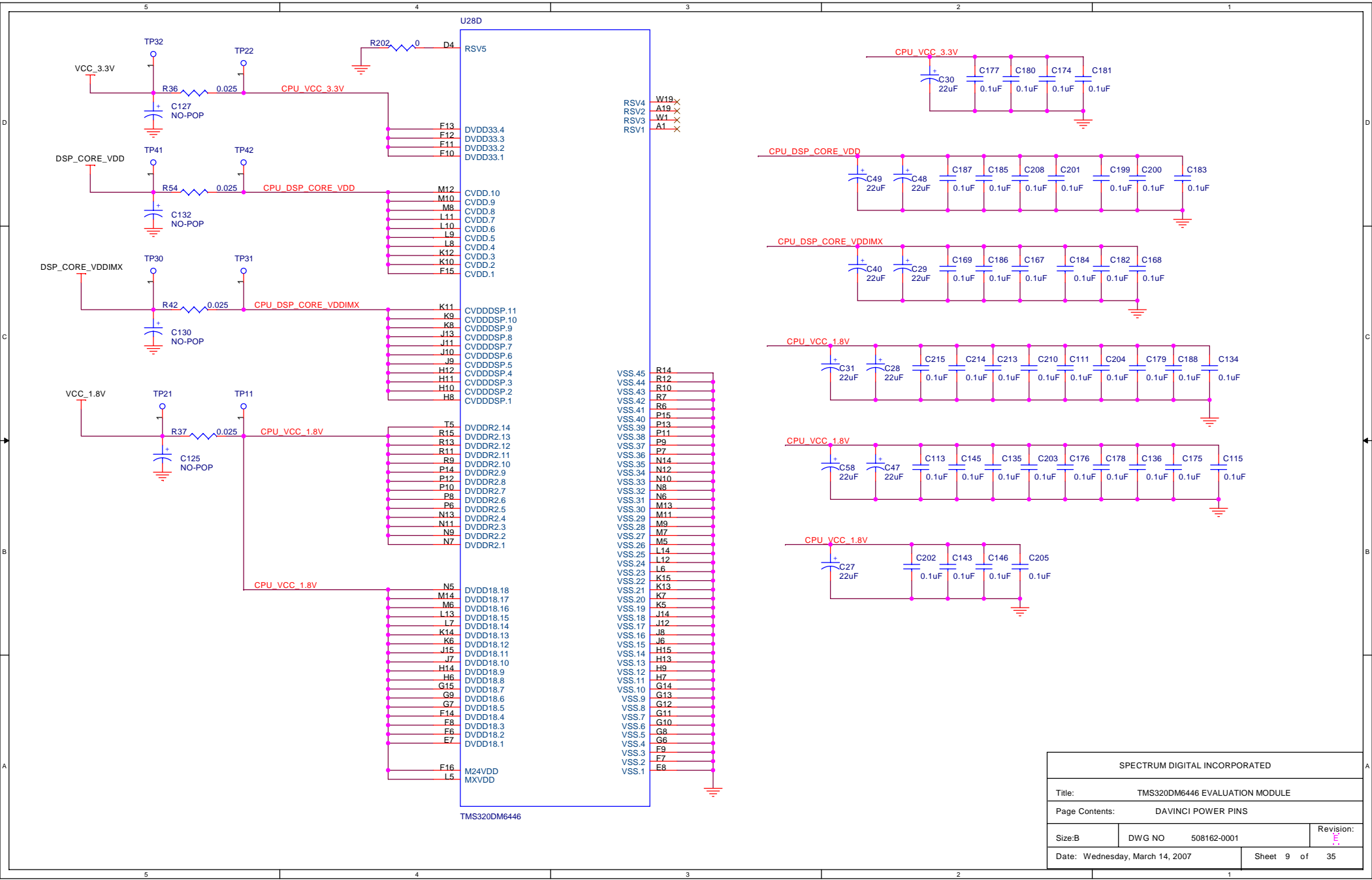
Place R217 as close to device as possible

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

SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: DAVINCI USB & SD/MMC/MMC CONTROLLER			
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SPECTRUM DIGITAL INCORPORATED			
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Page Contents:		DAVINCI EMULATION & CLOCKS	
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SPECTRUM DIGITAL INCORPORATED			
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Page Contents: DAVINCI POWER PINS			
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4 DDR_A[0:12]

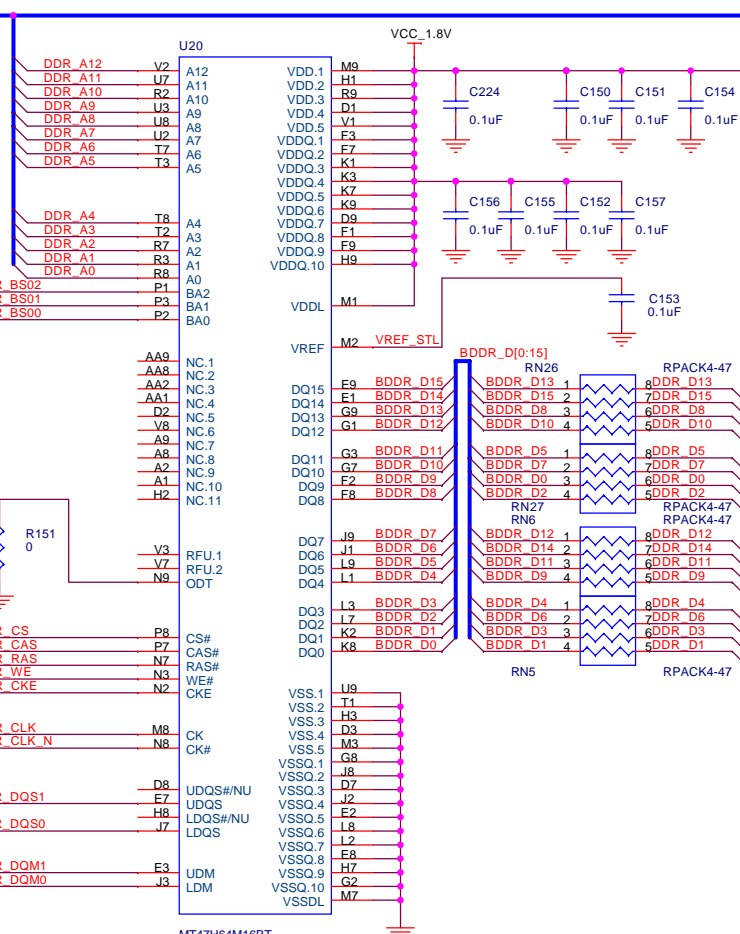
4 DDR_BS02
4 DDR_BS01
4 DDR_BS00

4 DDR_CS
4 DDR_CAS
4 DDR_RAS
4 DDR_WE
4 DDR_CKE

4 DDR_CLK
4 DDR_CLK_N

4 DDR_DQS1
4 DDR_DQS0

4 DDR_DQM1
4 DDR_DQM0



128 MEGABYTES

4 DDR_D[0:31]

4 DDR_A[0:12]

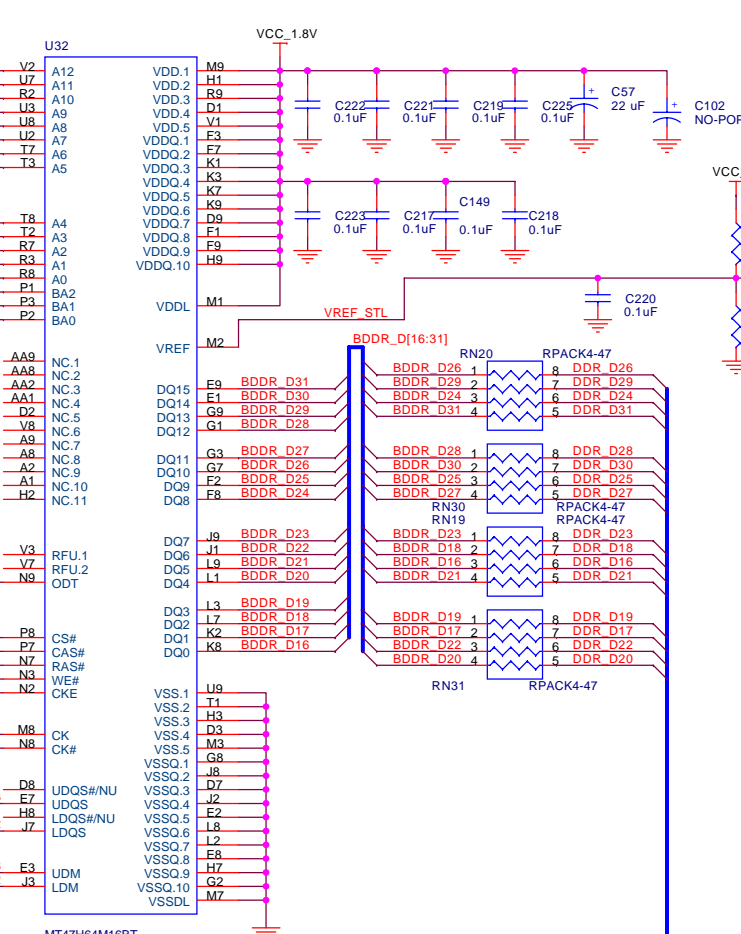
4 DDR_BS02
4 DDR_BS01
4 DDR_BS00

4 DDR_CS
4 DDR_CAS
4 DDR_RAS
4 DDR_WE
4 DDR_CKE

4 DDR_CLK
4 DDR_CLK_N

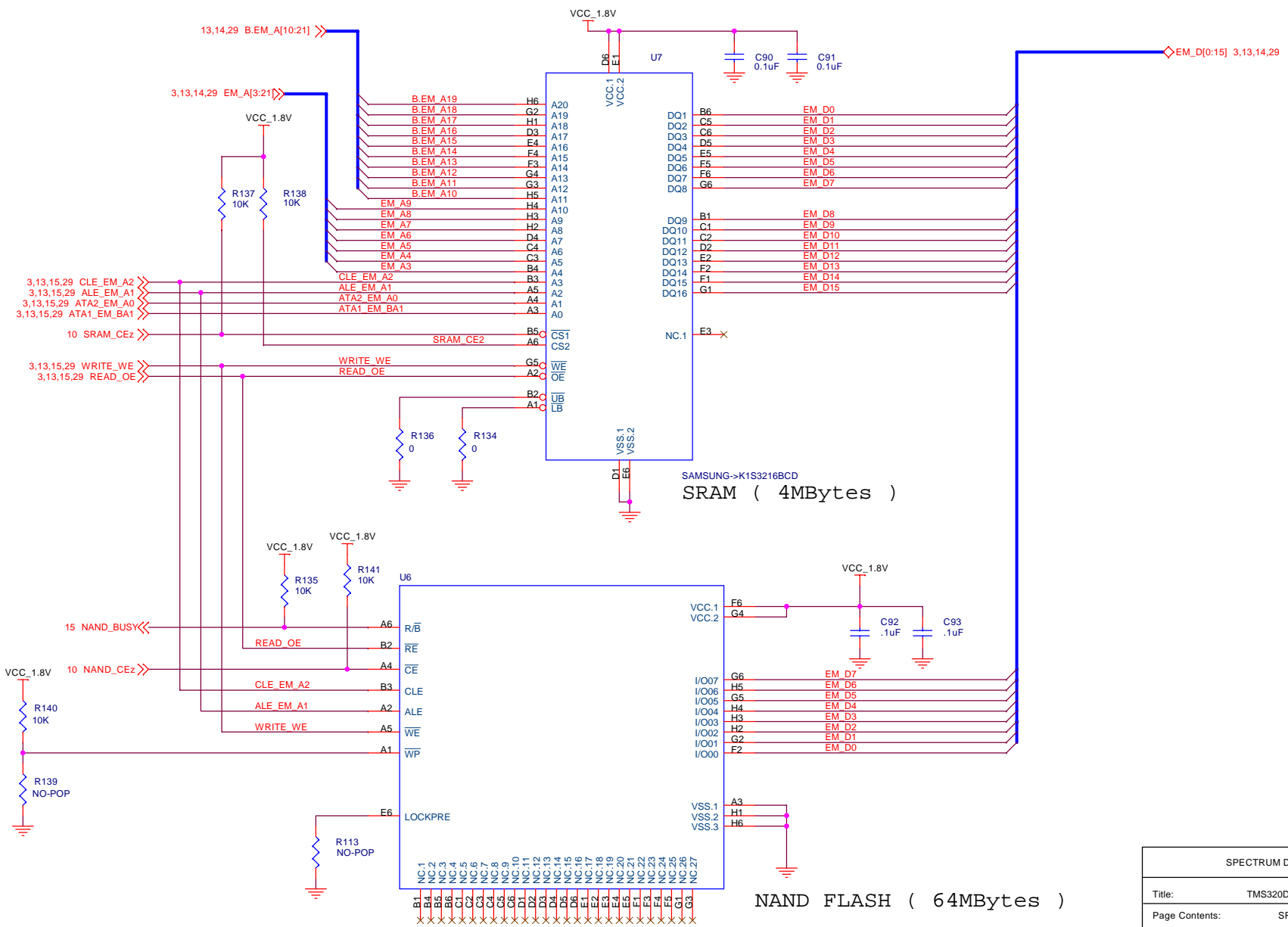
4 DDR_DQS3
4 DDR_DQS2

4 DDR_DQM3
4 DDR_DQM2



128 MEGABYTES

SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: DDR2 MEMORY			
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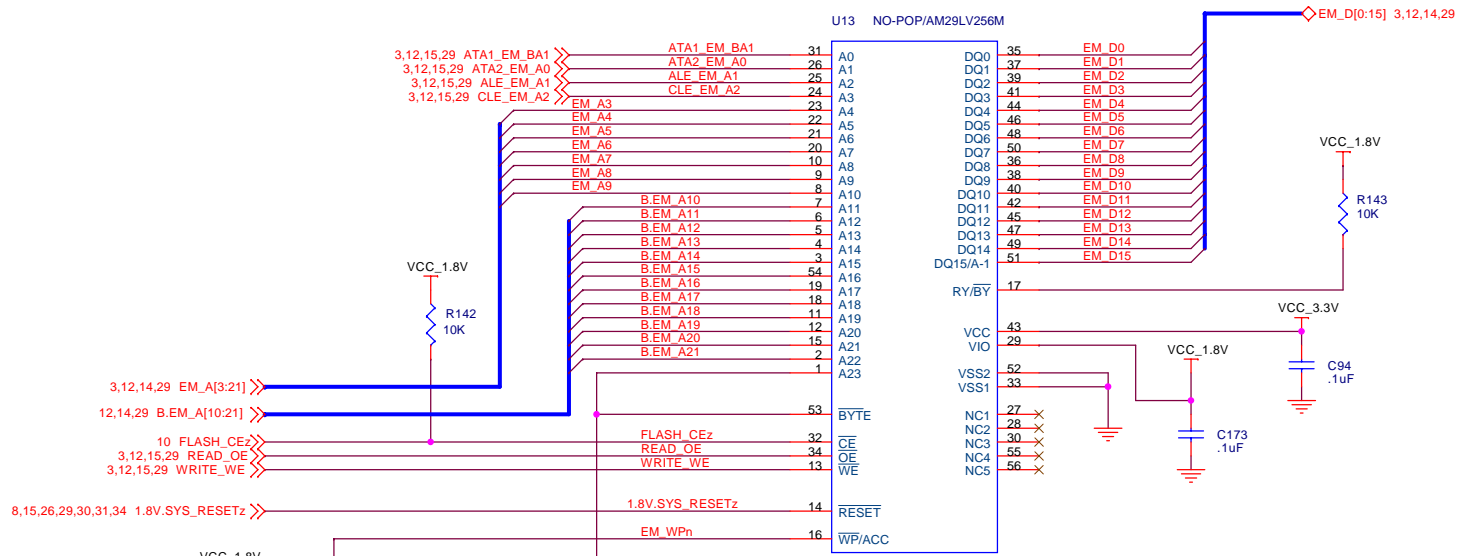


SAMSUNG->K1S3216BCD
SRAM (4MBytes)

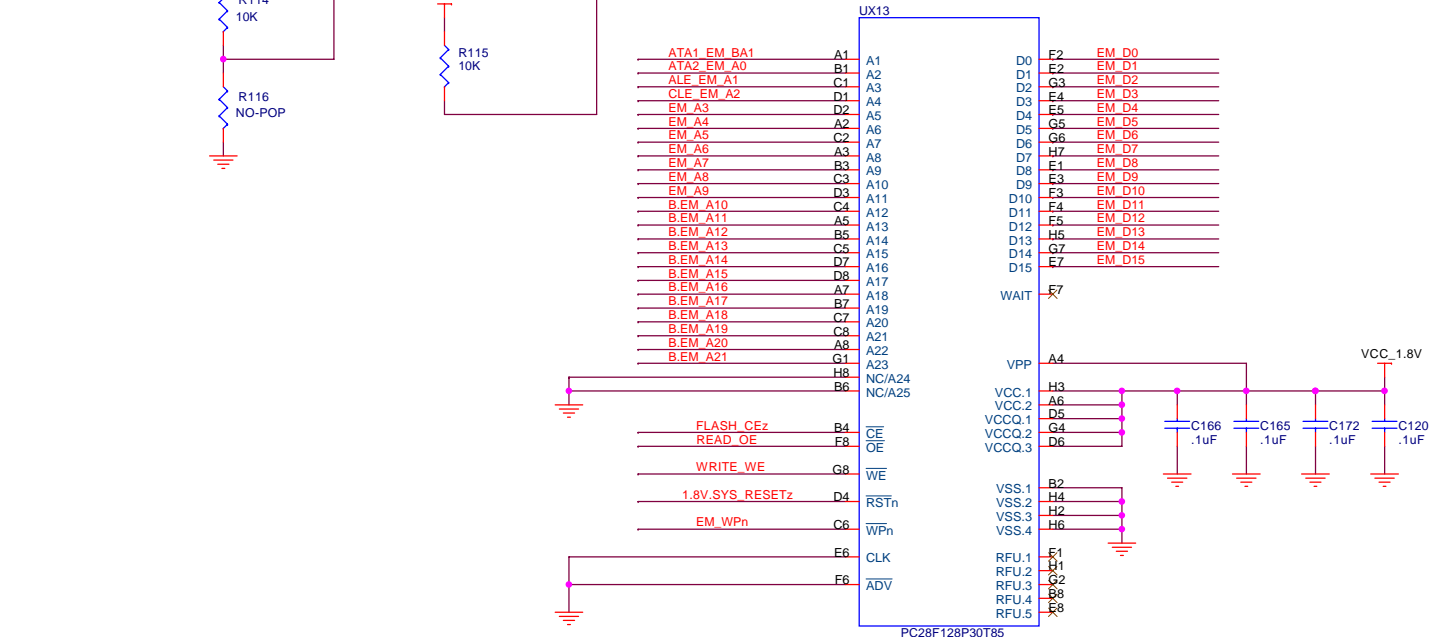
SAMSUNG K9K1208/Q/D/U/0C
NAND FLASH (64MBytes)

K9K1G08 supports 128 MEGABYTES

SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: SRAM/NAND FLASH			
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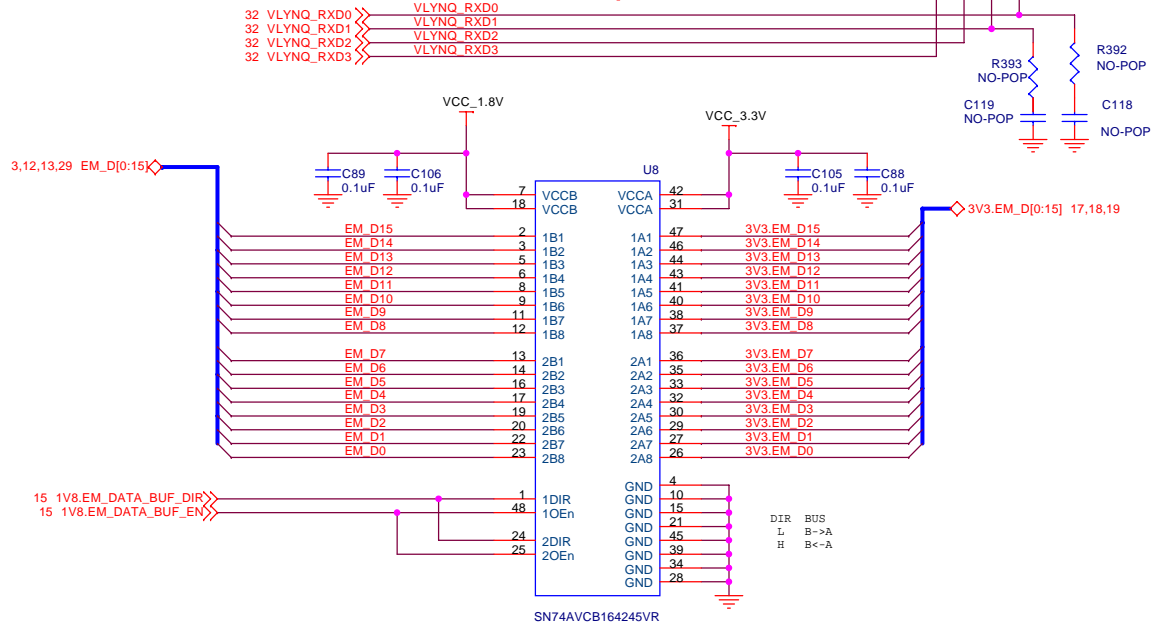
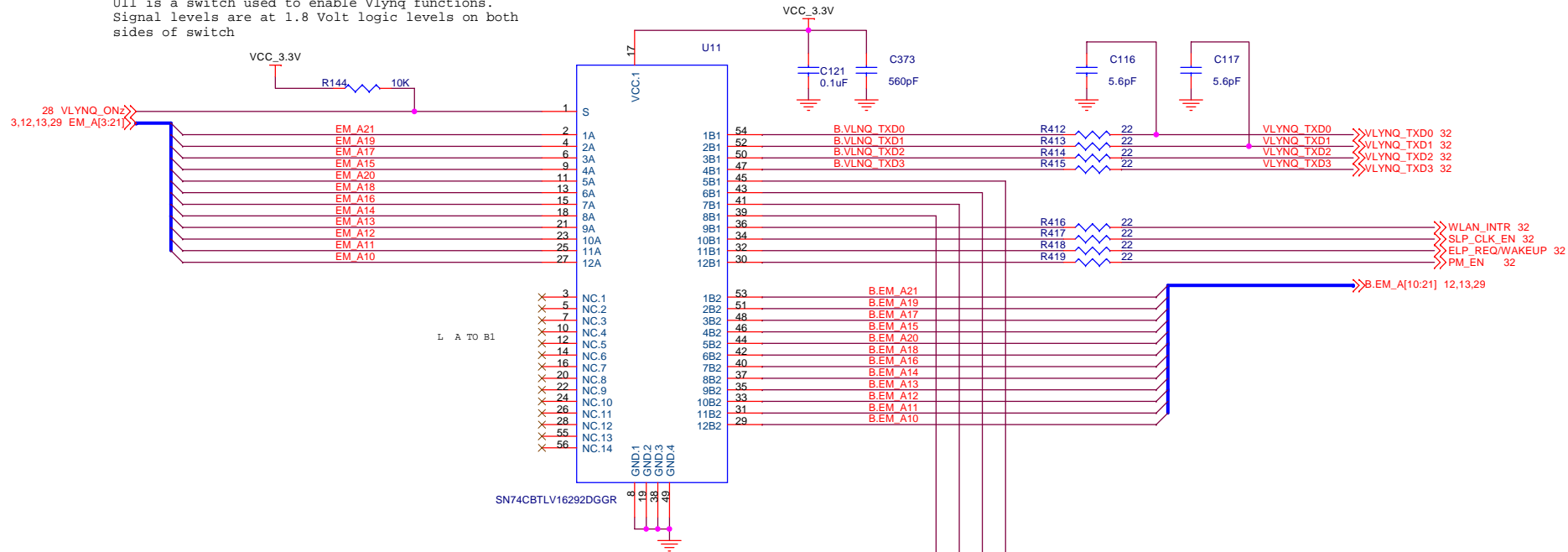
16 MBytes



PC28F128P30T85

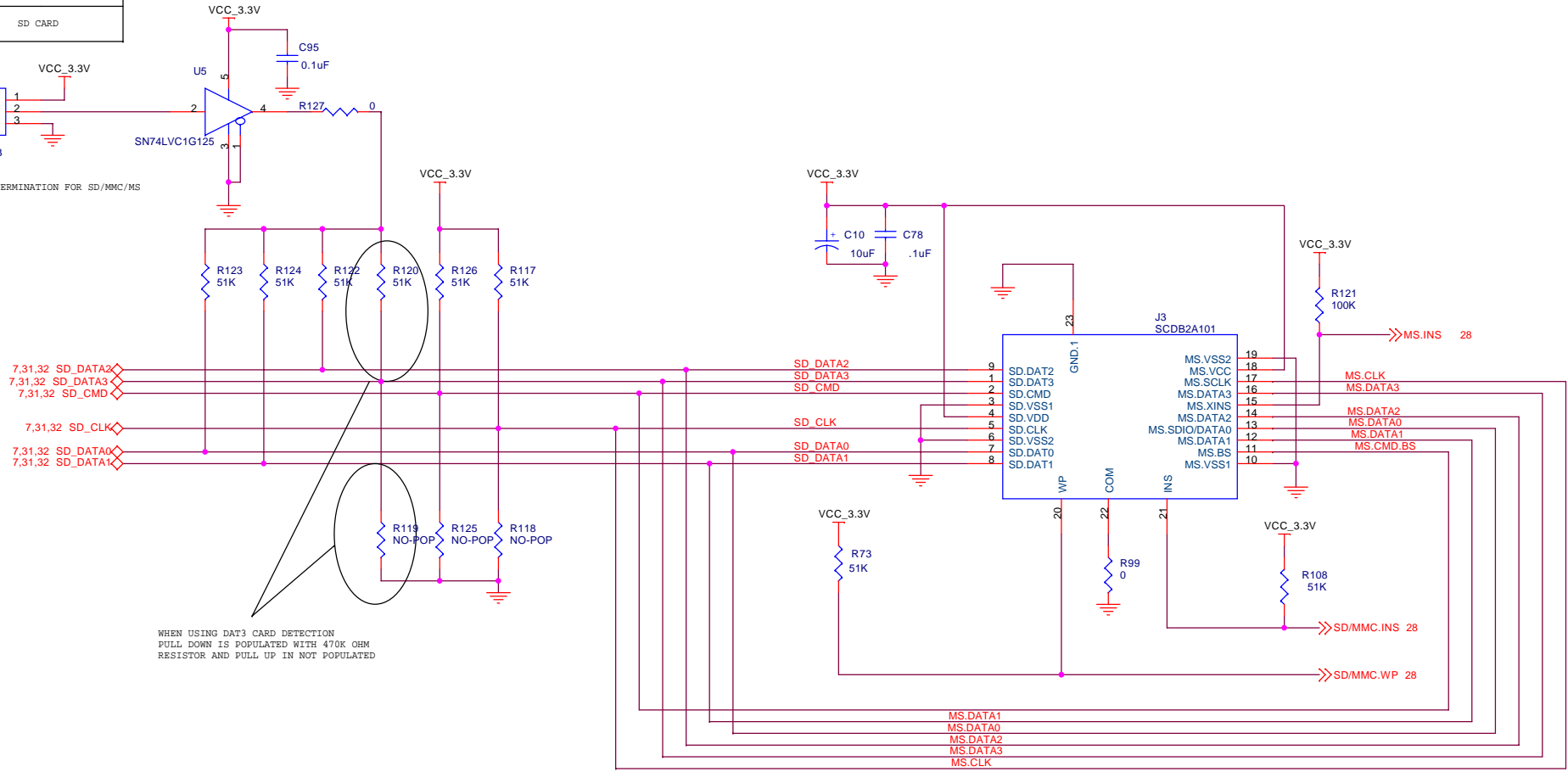
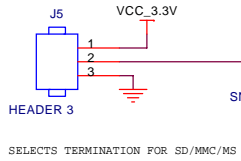
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Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: NOR FLASH			
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U11 is a switch used to enable Vlynq functions.
Signal levels are at 1.8 Volt logic levels on both sides of switch



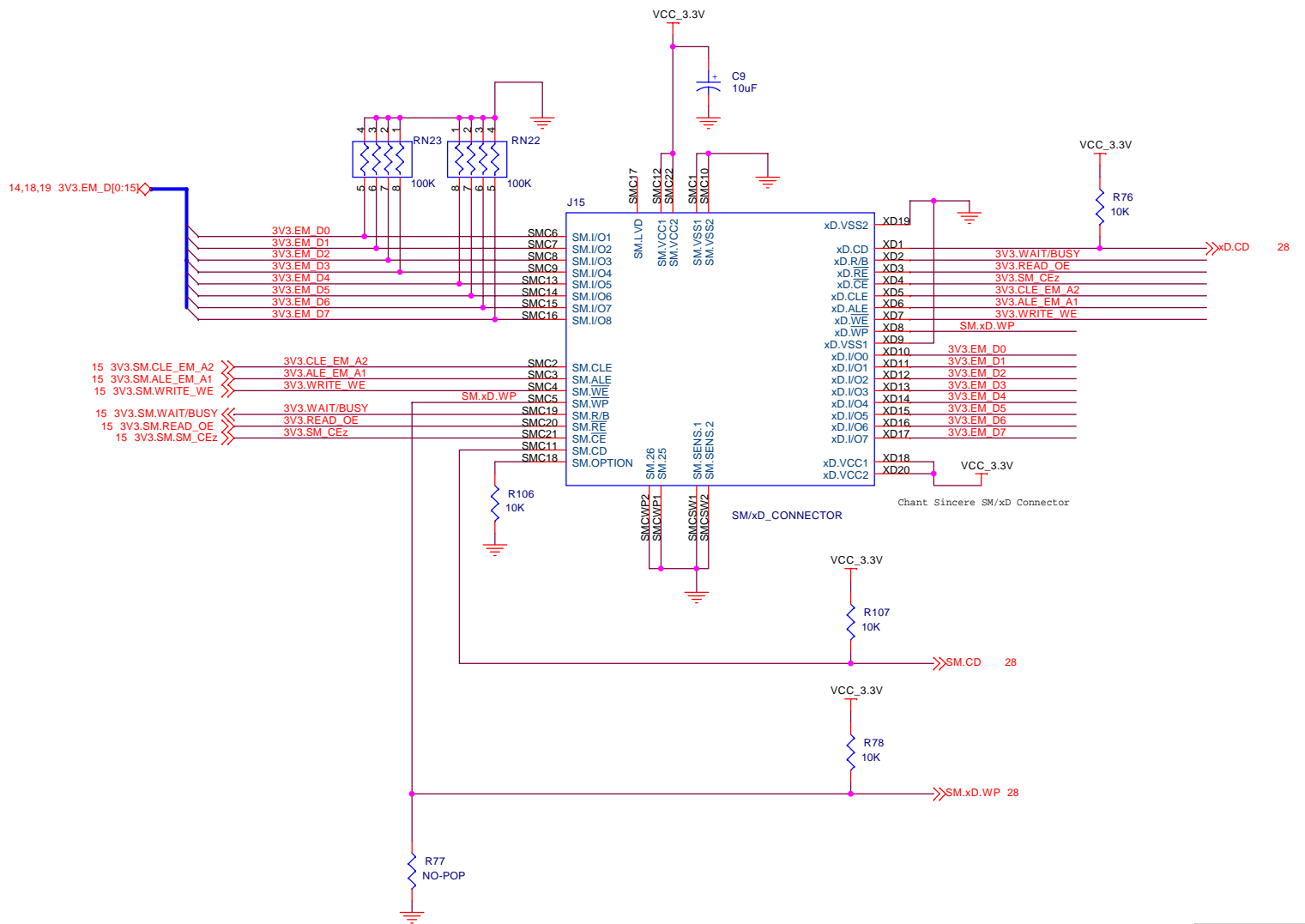
SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: EMIF LEVEL SHIFTER			
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J5 TERMINATION	
1-2	MEMORY STICK
2-3	MEMORY STICK PRO
1-2	MMC CARD
1-2	SD CARD

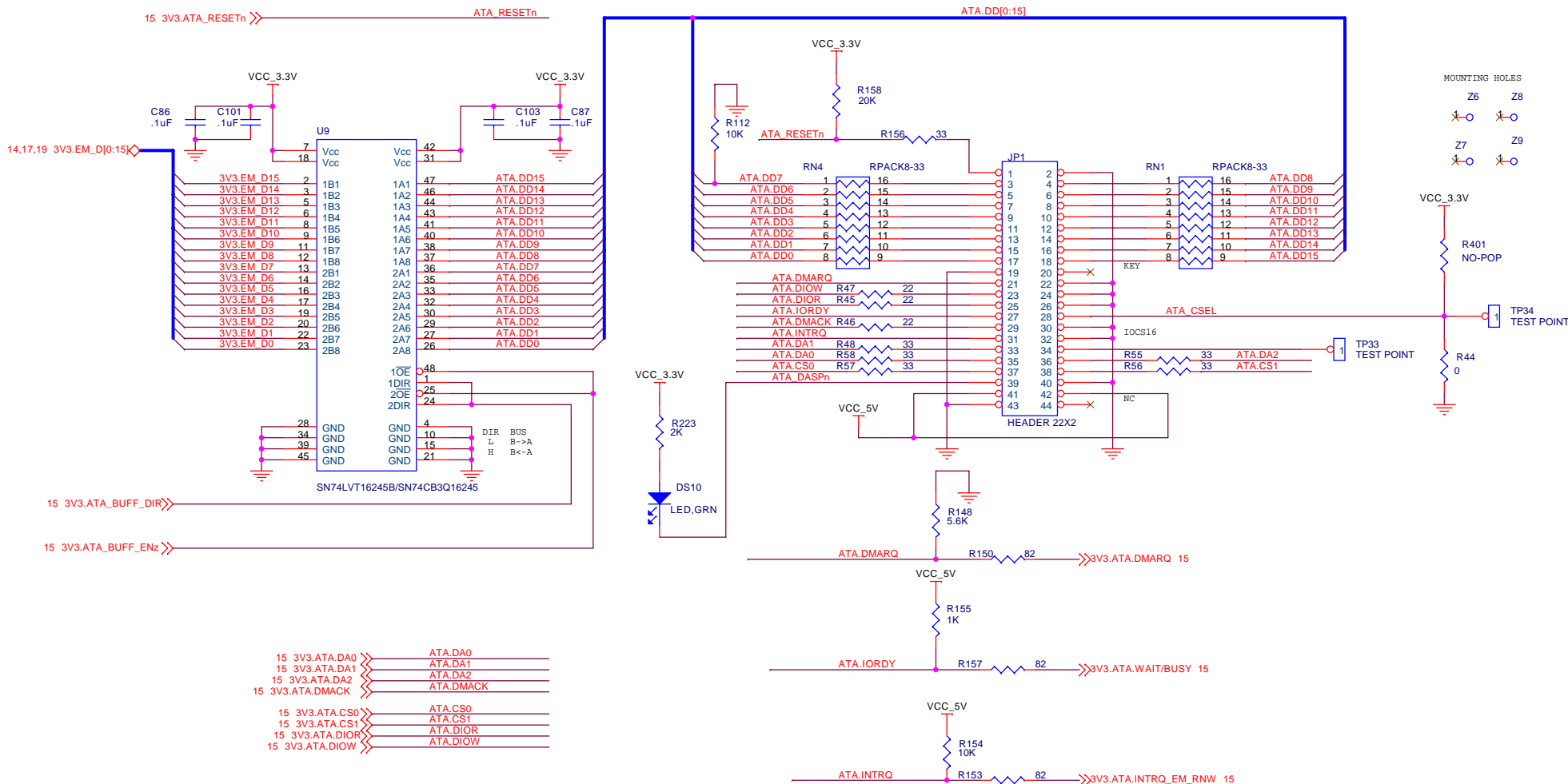


WHEN USING DAT3 CARD DETECTION
 PULL DOWN IS POPULATED WITH 470K OHM
 RESISTOR AND PULL UP IN NOT POPULATED

SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: SD/MMC/MS CONNECTOR			
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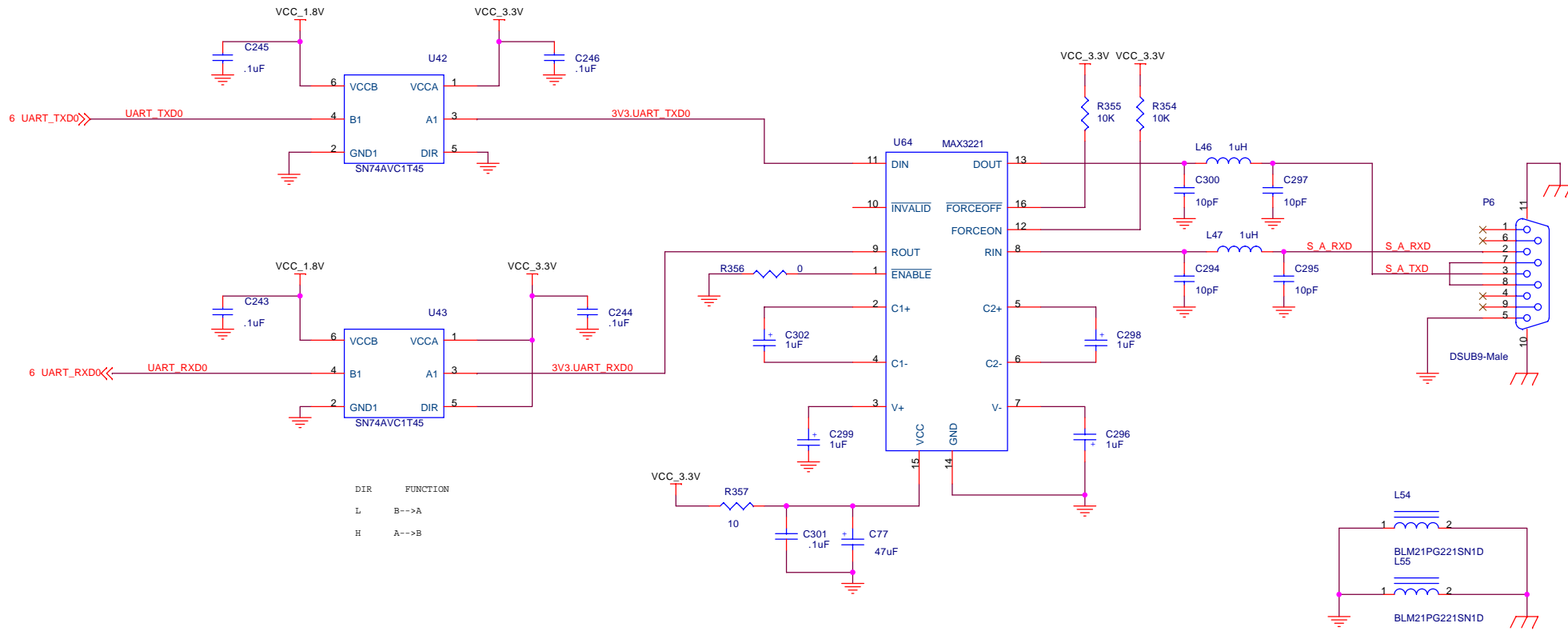
SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: SM/xD CONNECTOR			
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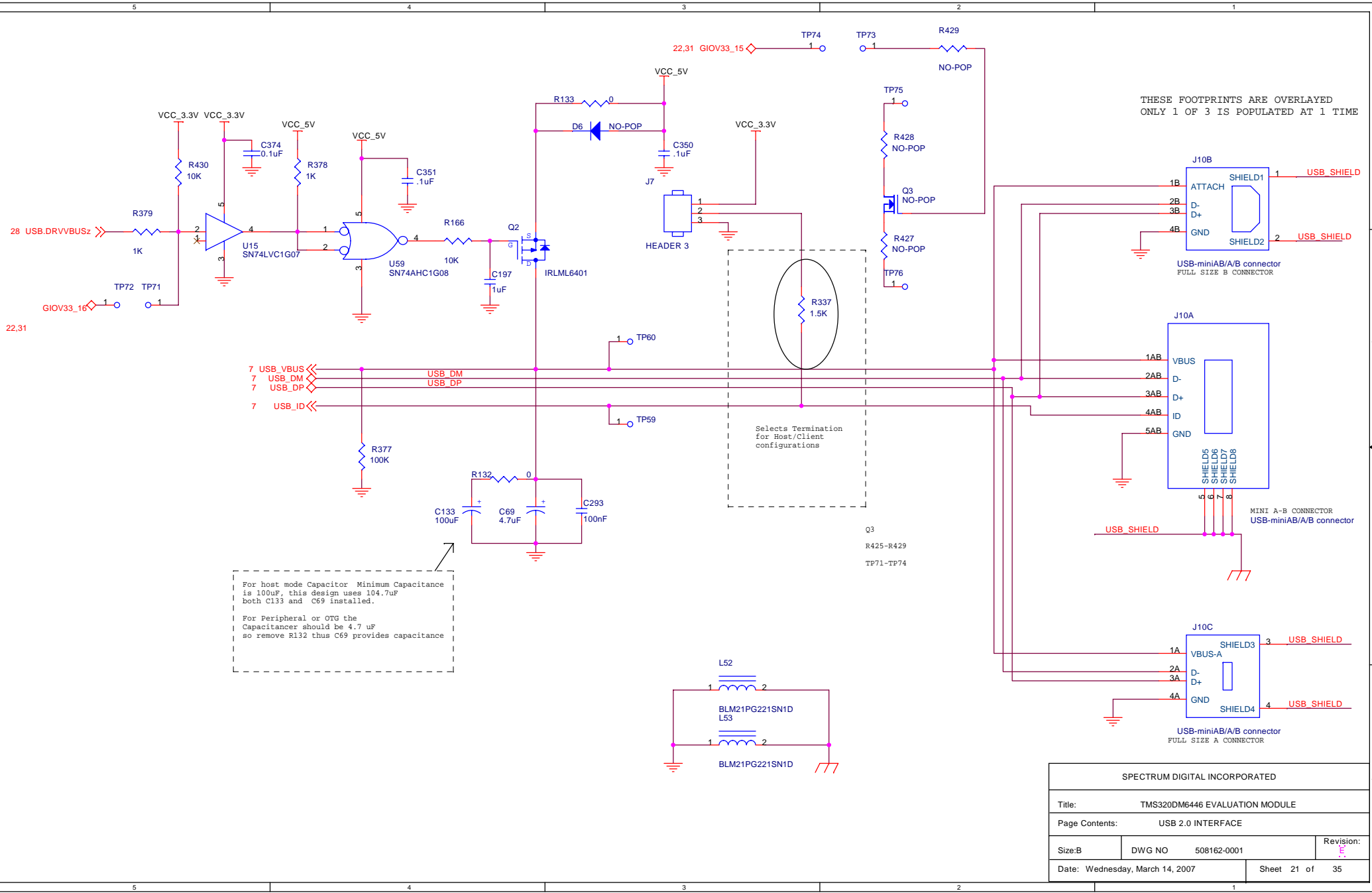
- MOUNTING HOLES
- Z6
 - Z8
 - Z7
 - Z9

- 15 3V3.ATA.DA0 >> ATA.DA0
- 15 3V3.ATA.DA1 >> ATA.DA1
- 15 3V3.ATA.DA2 >> ATA.DA2
- 15 3V3.ATA.DMACK >> ATA.DMACK
- 15 3V3.ATA.CS0 >> ATA.CS0
- 15 3V3.ATA.CS1 >> ATA.CS1
- 15 3V3.ATA.DIOR >> ATA.DIOR
- 15 3V3.ATA.DIOW >> ATA.DIOW

SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: ATA INTERFACE			
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SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: RS232 INTERFACE			
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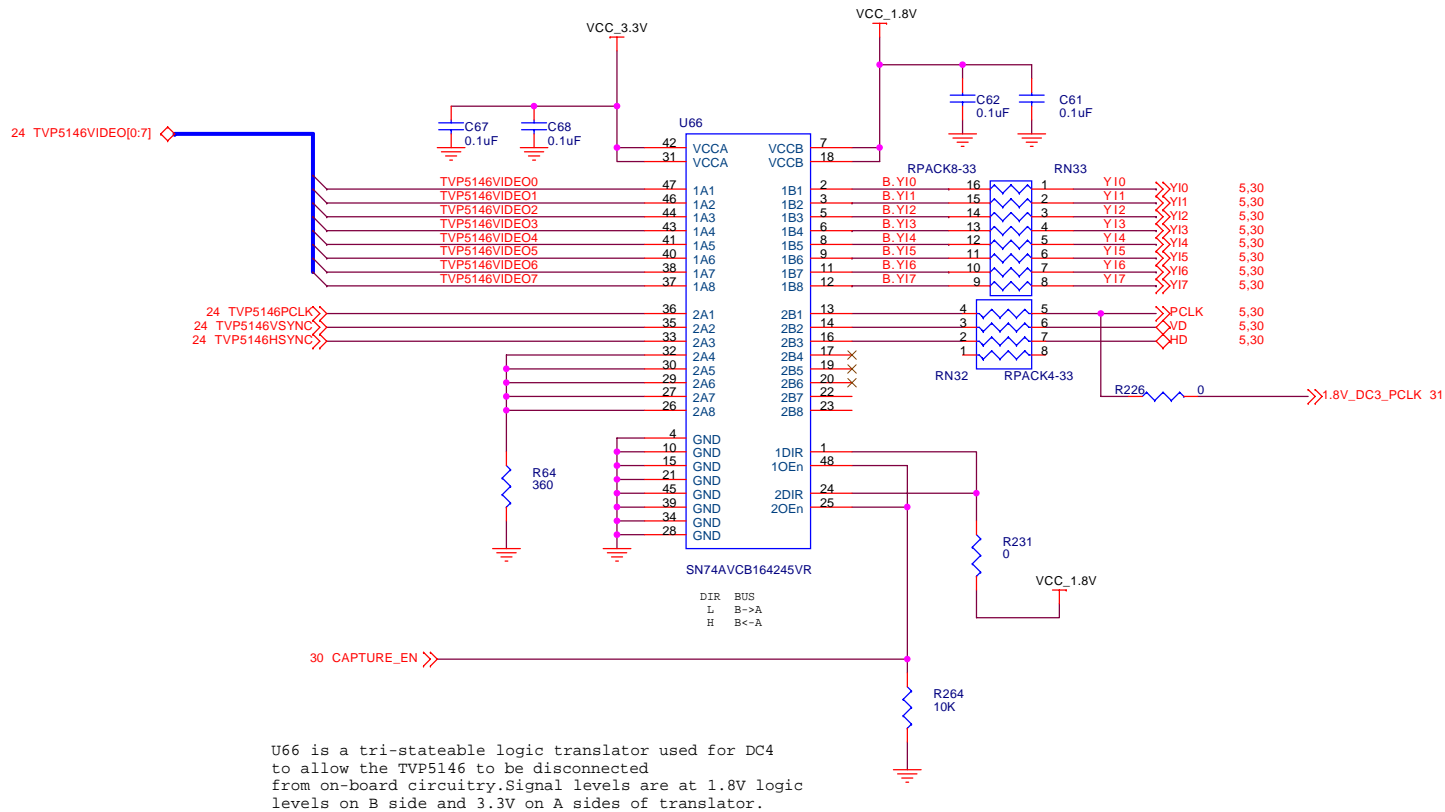


THESE FOOTPRINTS ARE OVERLAYED ONLY 1 OF 3 IS POPULATED AT 1 TIME

For host mode Capacitor Minimum Capacitance is 100uF, this design uses 104.7uF both C133 and C69 installed.
 For Peripheral or OTG the Capacitance should be 4.7 uF so remove R132 thus C69 provides capacitance

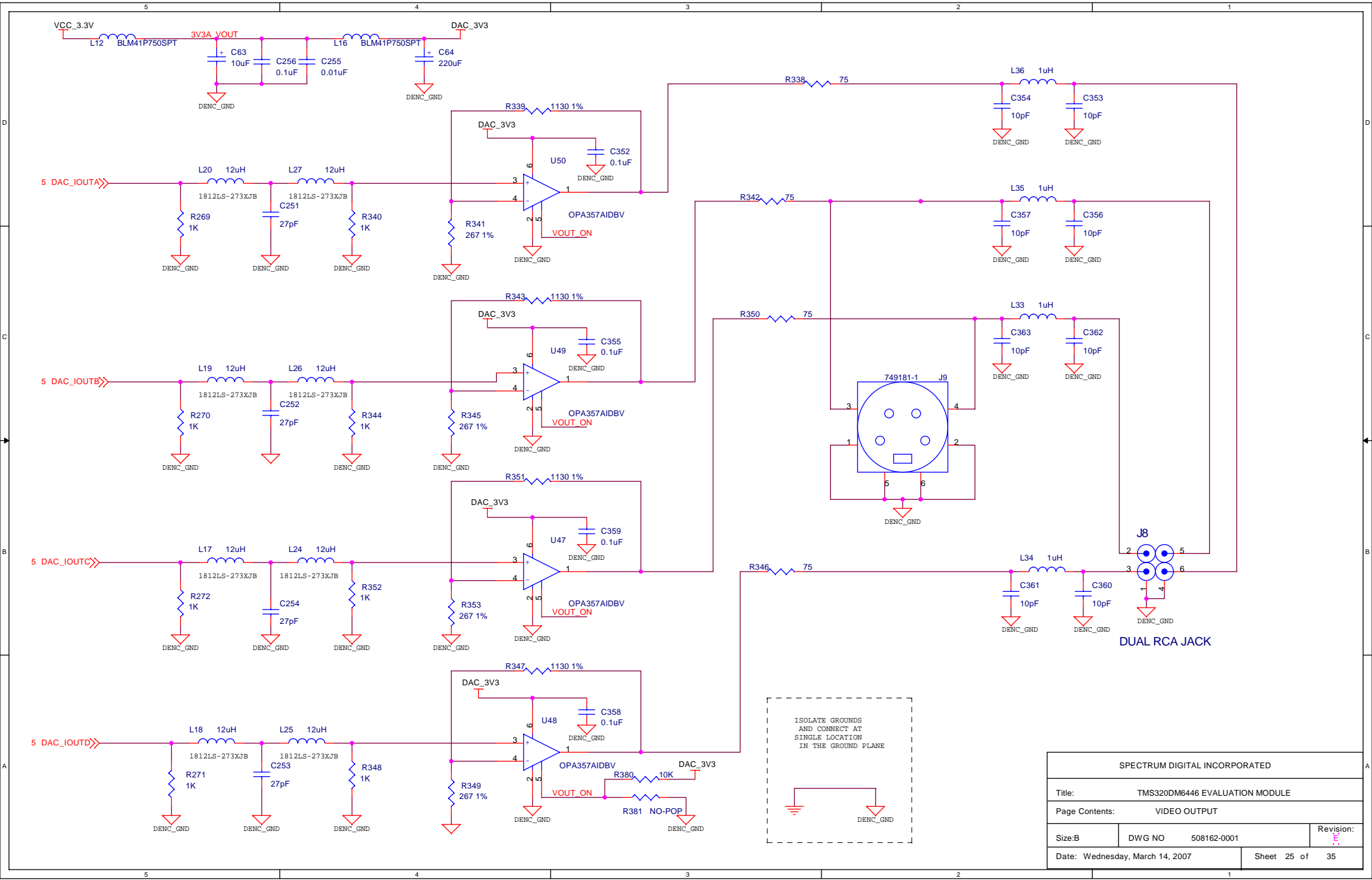
Selects Termination for Host/Client configurations

SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: USB 2.0 INTERFACE			
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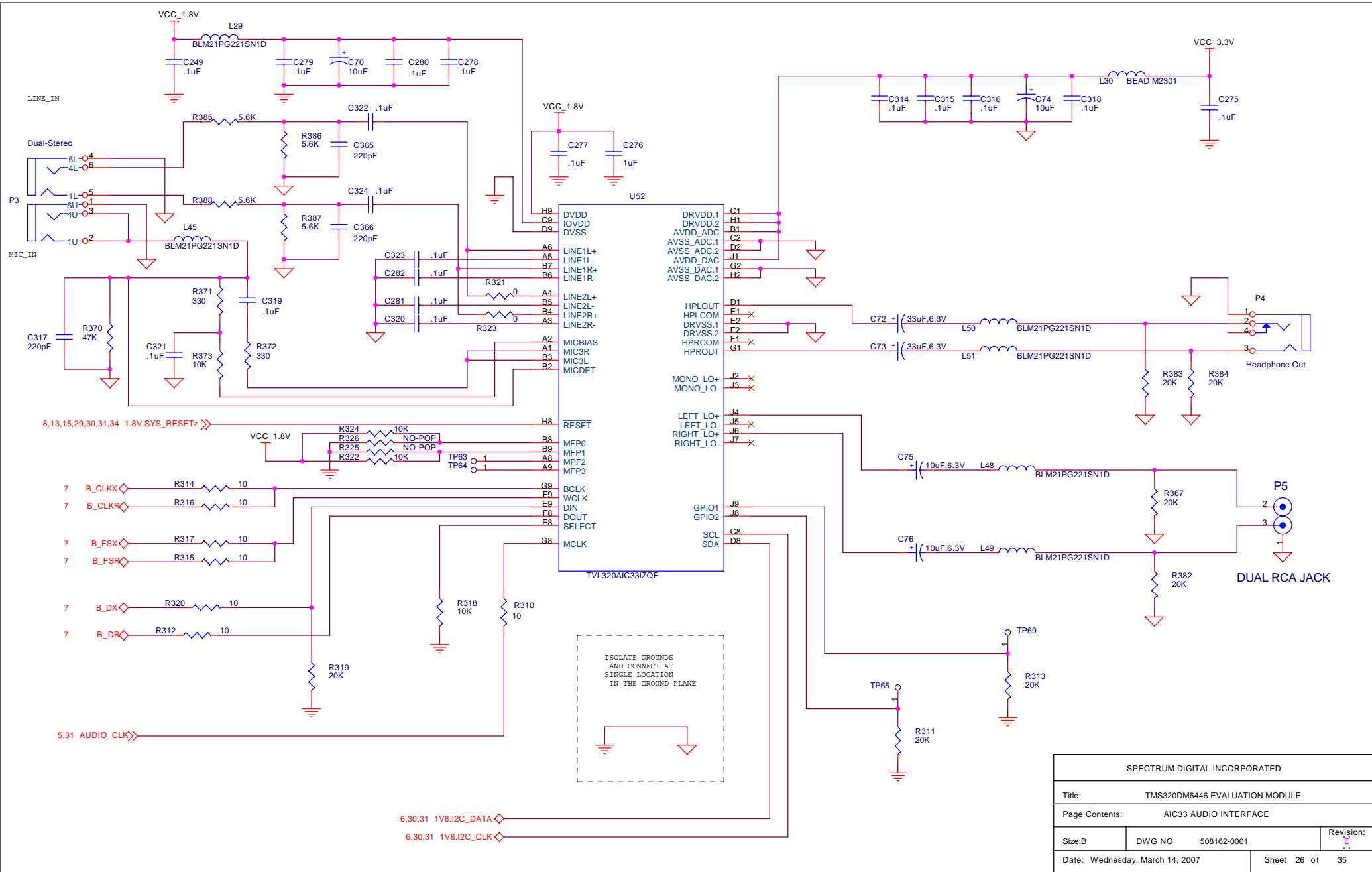


U66 is a tri-stateable logic translator used for DC4 to allow the TVP5146 to be disconnected from on-board circuitry. Signal levels are at 1.8V logic levels on B side and 3.3V on A sides of translator.

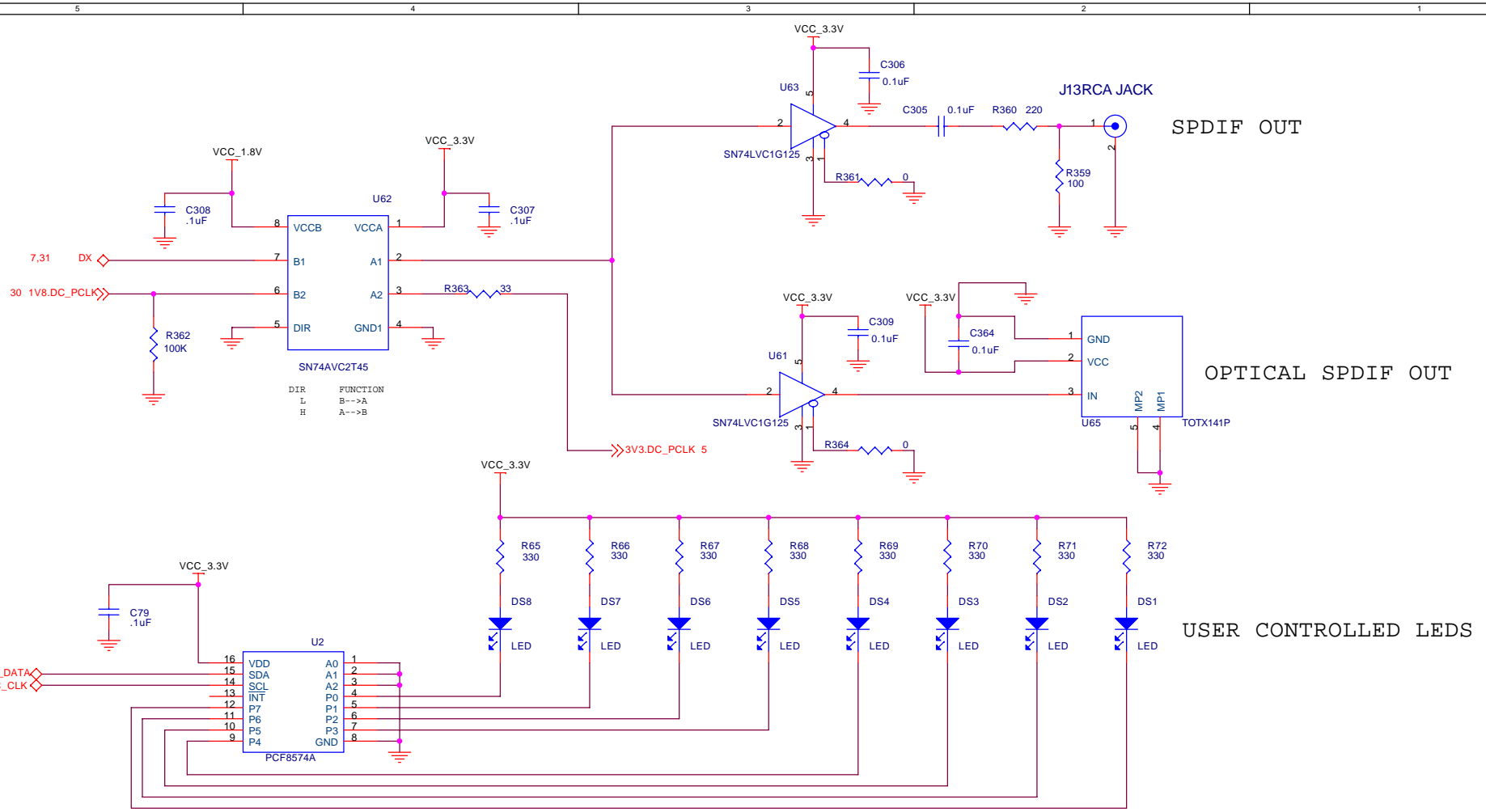
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Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: TVP5146 LEVEL SHIFTER			
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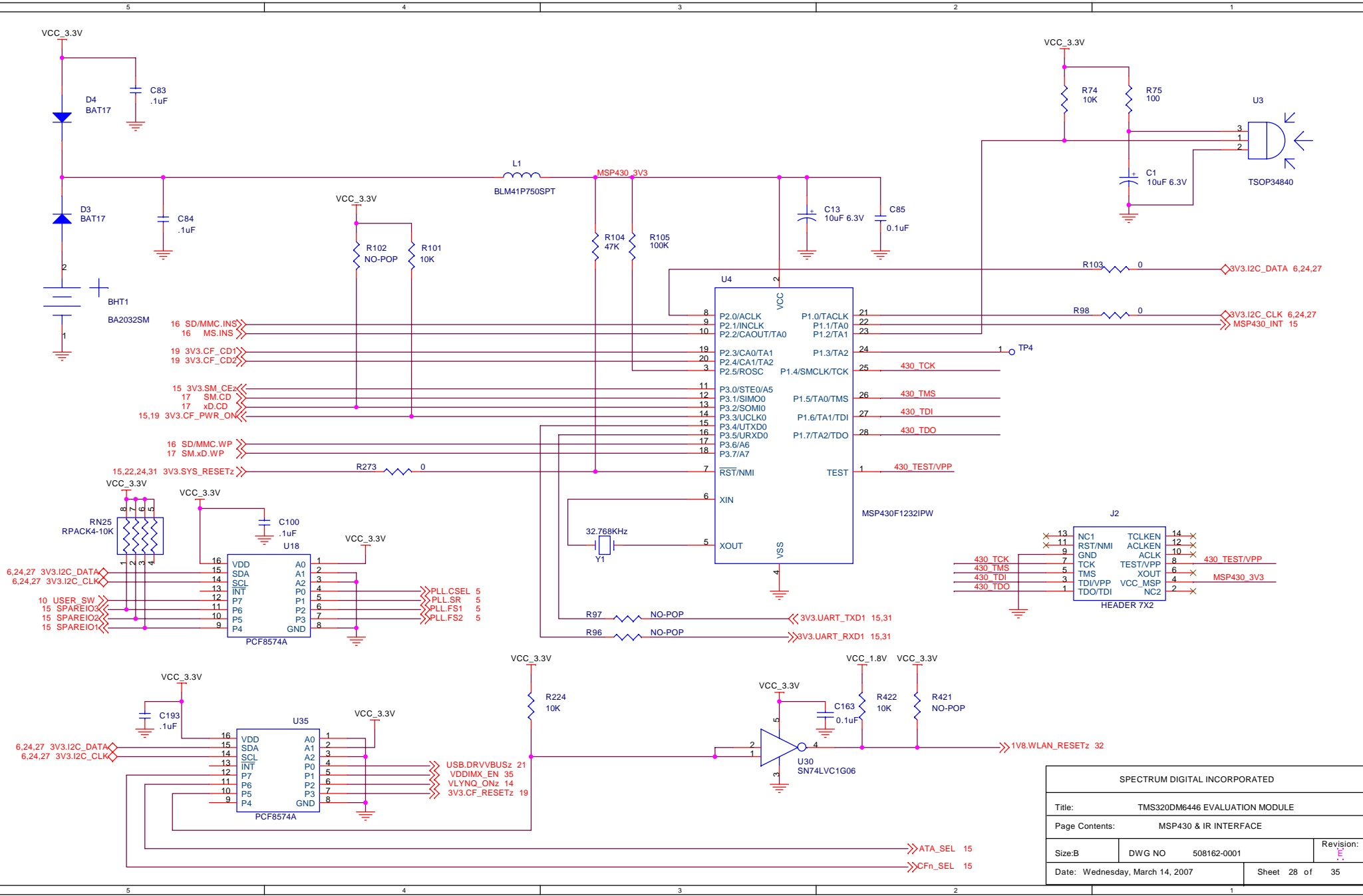
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Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: VIDEO OUTPUT			
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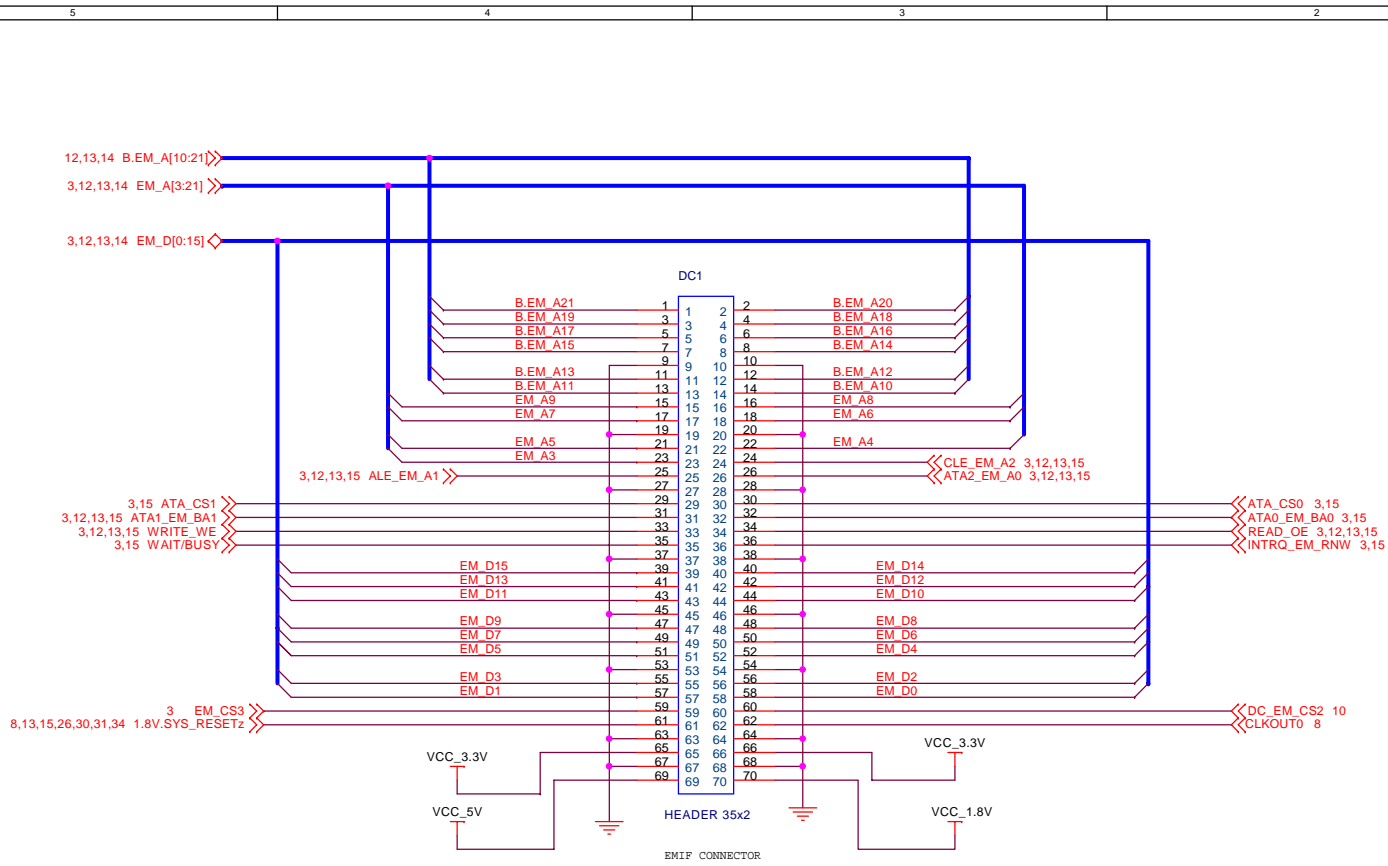
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Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: AIC33 AUDIO INTERFACE			
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Page Contents: SPDIF OUTPUTS & USER LEDES			
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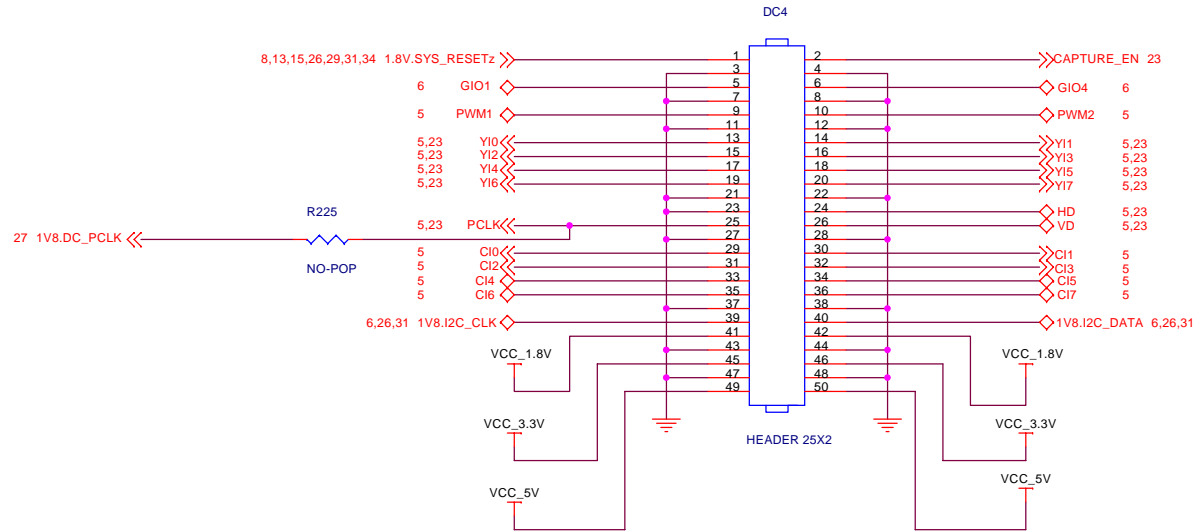


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Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: MSP430 & IR INTERFACE			
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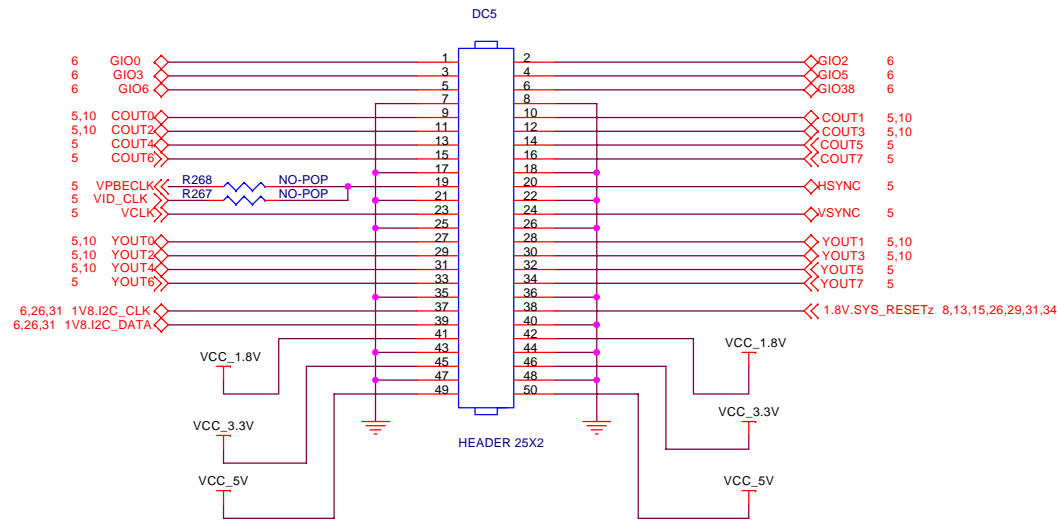


SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM6446 EVALUATION MODULE			
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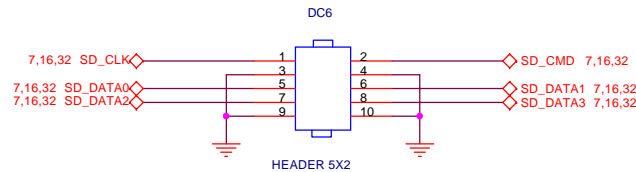
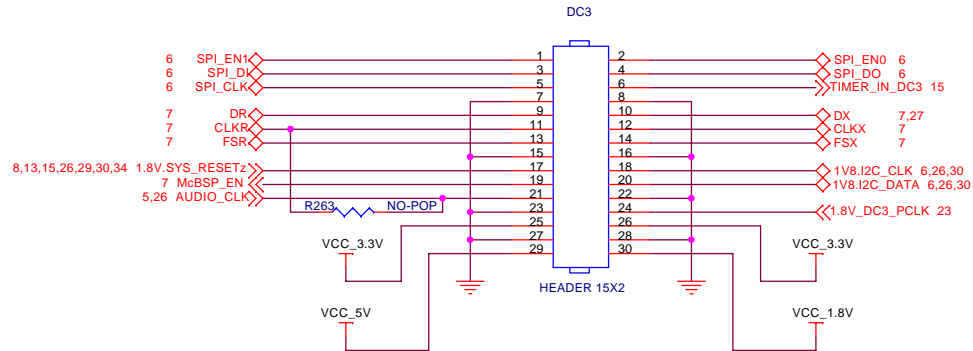
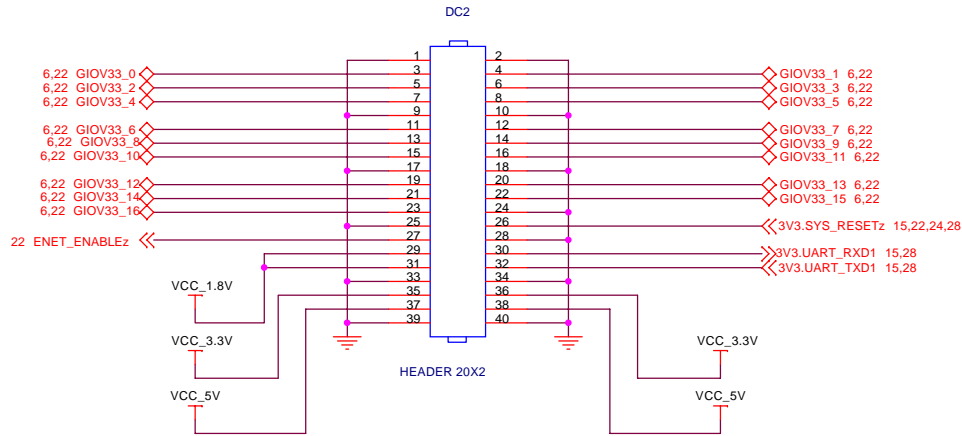
VIDEO INPUT CONNECTOR



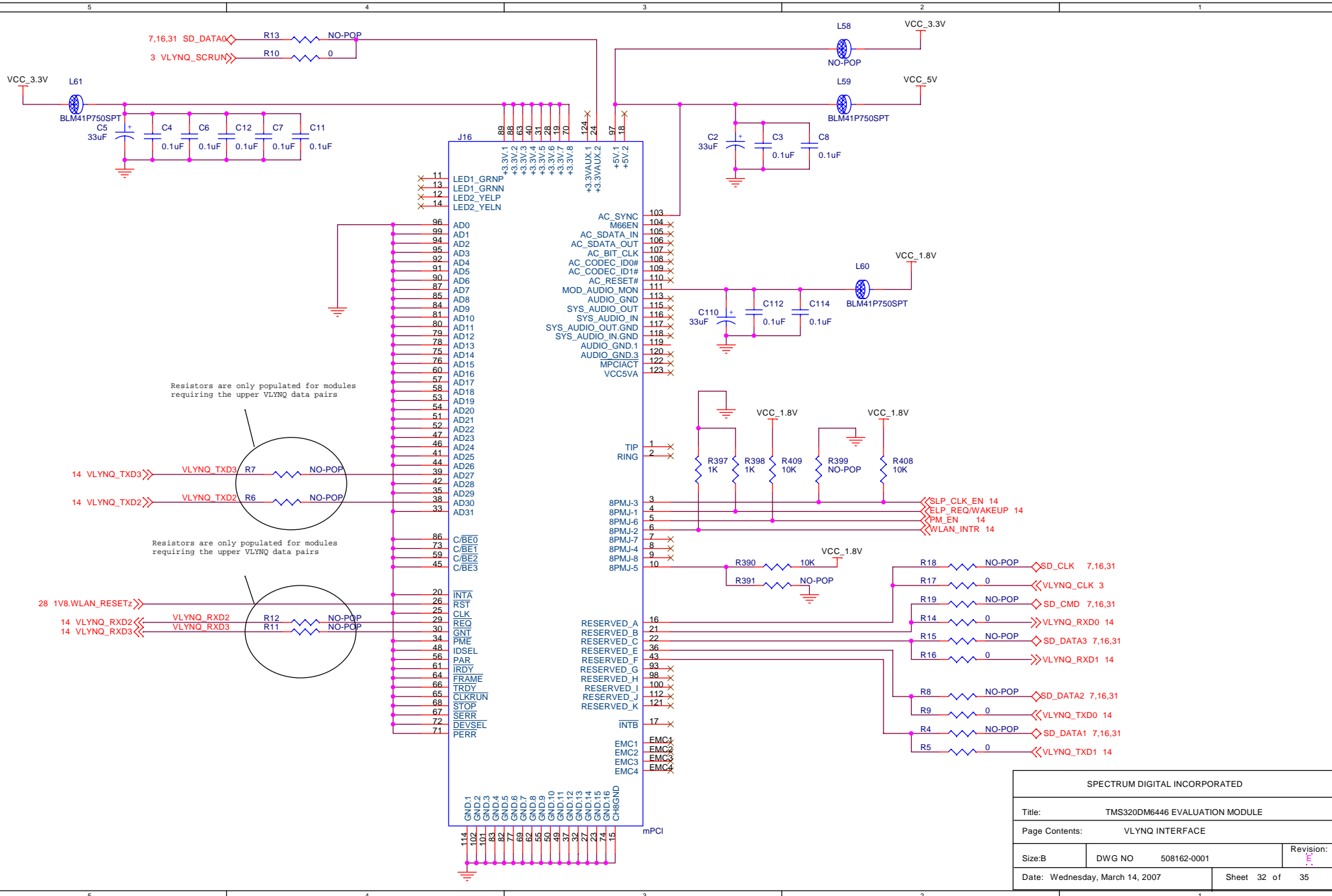
VIDEO OUTPUT CONNECTOR



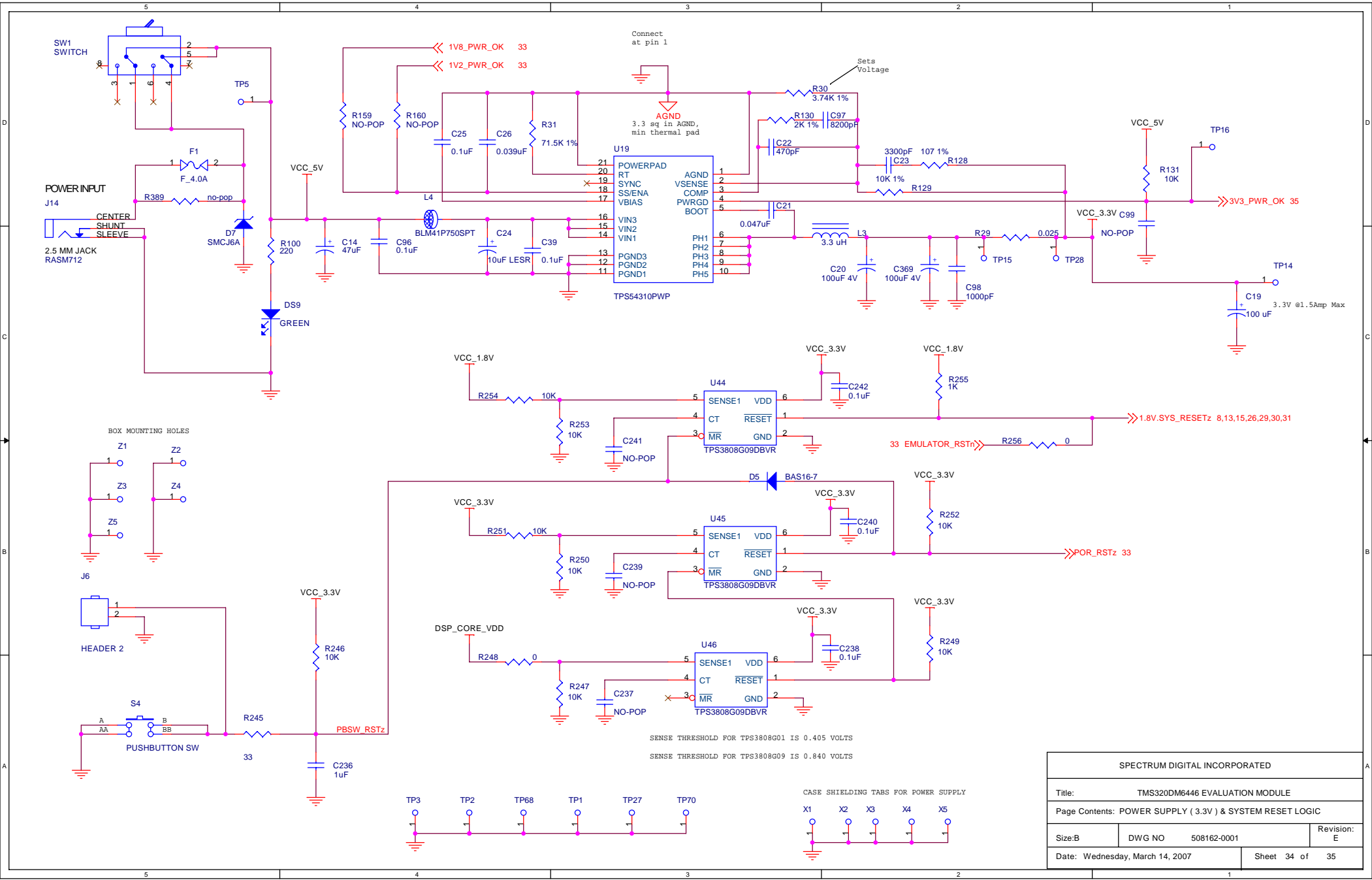
SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: VIDEO INPUT/OUTPUT CONNECTORS			
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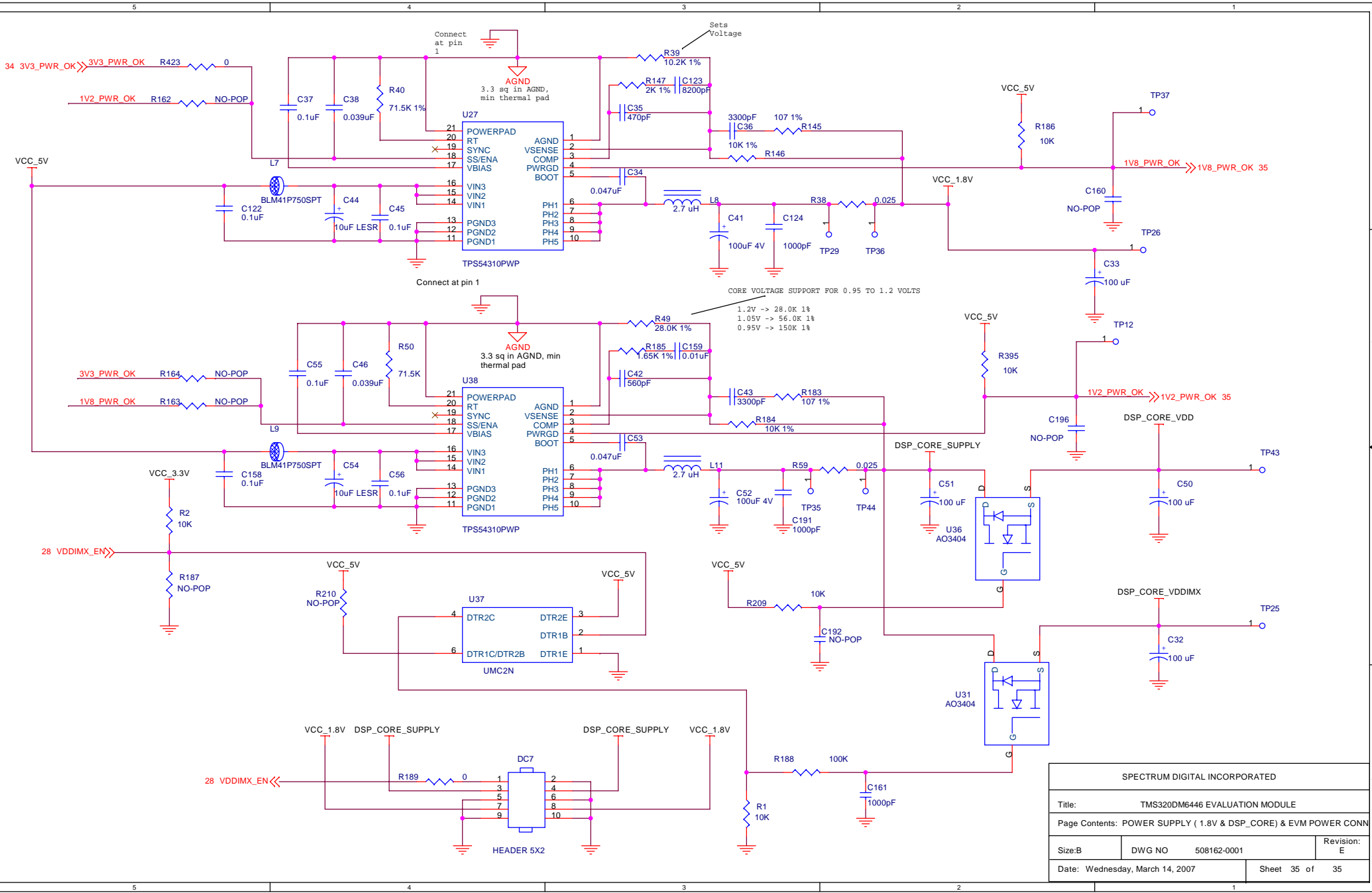
SPECTRUM DIGITAL INCORPORATED			
Title: TMS320DM6446 EVALUATION MODULE			
Page Contents: EMAC/GIO & McBSP/SPI & SD CONNECTORS			
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