

REV	DESCRIPTION	DATE	APPROVED
A	Initial schematic ready for layout - Alpha Release	03/04/08	RRP

SCHEMATIC CONTENTS

- SHEET01 - TITLE
- SHEET02 - DM365 DDR2 INTERFACE
- SHEET03 - DM365 EMIF/BOOT MODES/CFG MODES
- SHEET04 - DM365 USB
- SHEET05 - DM365 VIDEO PORT IN
- SHEET06 - DM365 VIDEO PORT OUT
- SHEET07 - DM365 ANALOG VIDEO OUT
- SHEET08 - DM365 SD/MMC/MS IF
- SHEET09 - DM365 I/O
- SHEET10 - DM365 JTAG,CLKS,RESET

- SHEET11 - DM365 ADC
- SHEET12 - DM365 MIC/SPEAKER
- SHEET13 - DM365 POWER PINS
- SHEET14 - DM365 POWER CONTROL
- SHEET15 - DM365 GROUND PINS
- SHEET16 - DM365 DECOUPLING CAPS
- SHEET17 - DDR2 MEMORY
- SHEET18 - USB INTERFACE CONNECTOR
- SHEET19 - JTAG CONNECTORS
- SHEET20 - CPLD BANK A

- SHEET21 - CPLD BANK B
- SHEET22 - CPLD BANK C
- SHEET23 - CPLD BANK D
- SHEET24 - CLPD POWER
- SHEET25 - HOST/EMIF DC INTERFACE I2C Device
- SHEET26 - NAND FLASH
- SHEET27 - ONE NAND 0x18 AIC3101
- SHEET28 - I2C/SPI EEPROM 0x25 MSP430
- SHEET29 - RS232 INTERFACE 0x2C THS7303
- SHEET30 - SD/MMC/MS IF 0x2E THS7353
- SHEET31 - SD.MMC IF 2 0x50 CAT24C256
- SHEET32 - VIDEO COMPONENT OUT 0x5D TVP5146
- SHEET33 - VIDEO INPUT MULTIPLEXER 0x5C TVP7002
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- SHEET35 - TVP7002
- SHEET36 - HD VIDEO IN CONNECTORS
- SHEET37 - TVP5146 DECODER
- SHEET38 - McBSP MUX
- SHEET39 - AIC3101

- SHEET40 - VIDEO OUTPUT DC CONNECTOR
- SHEET41 - DILC HOST CONNECTOR
- SHEET42 - ETHERNET MUX
- SHEET43 - ETHERNET PHY
- SHEET44 - MSP IR CONTROLLER
- SHEET45 - SWITCHES
- SHEET46 - LEDS
- SHEET47 - POWER SUPPLY TPS65510
- SHEET48 - POWER SUPPLY TPS65530
- SHEET49 - POWER SUPPLY
- SHEET50 - POWER IN

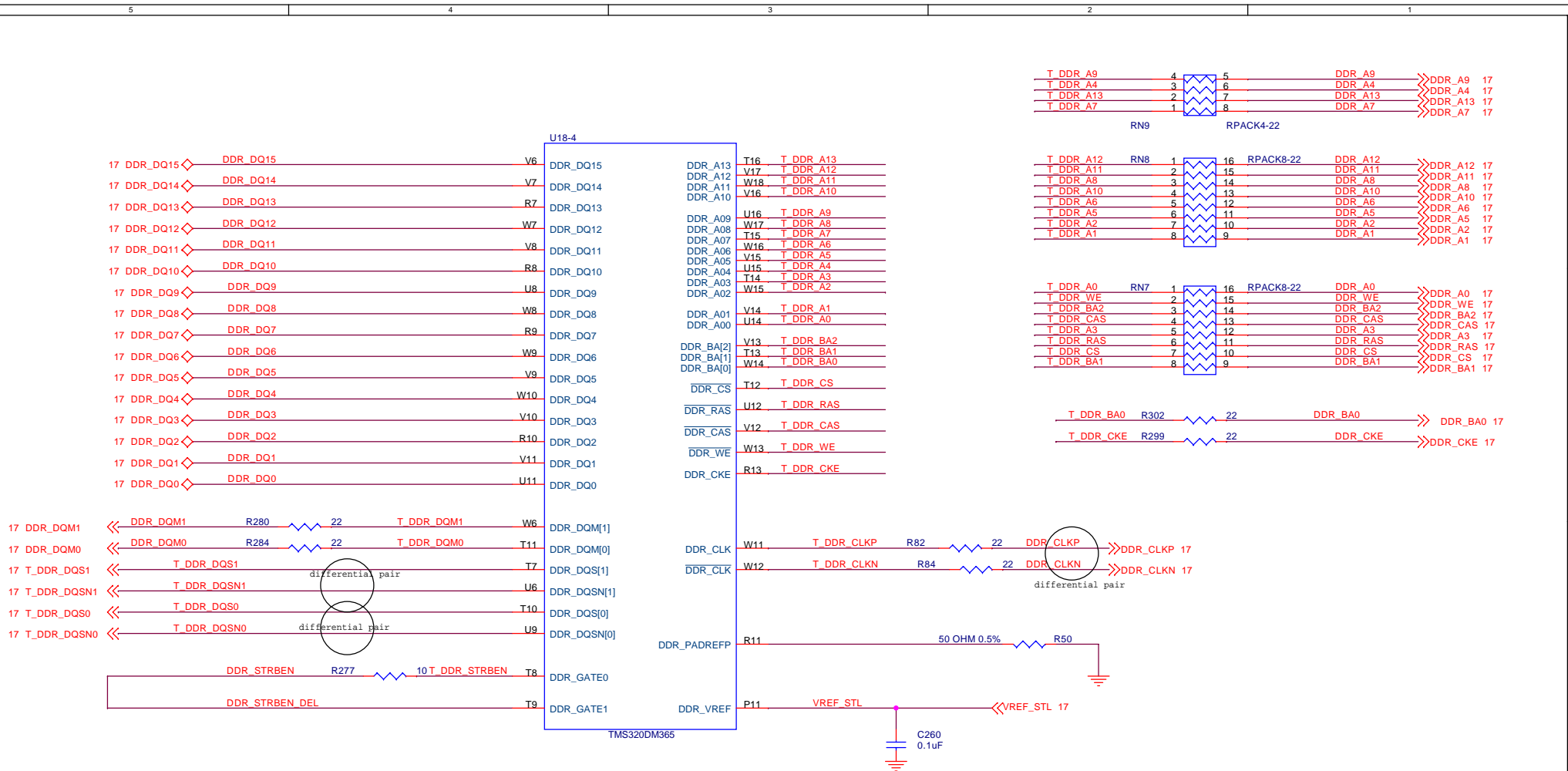
REVISION STATUS OF SHEETS

REV	A	A	A	A	A	A	A	A	A	A	A
SHEET	41	42	43	44	45	46	47	48	49	50	
REV	A	A	A	A	A	A	A	A	A	A	A
SHEET	31	32	33	34	35	36	37	38	39	40	
REV	A	A	A	A	A	A	A	A	A	A	A
SHEET	21	22	23	24	25	26	27	28	29	30	
REV	A	A	A	A	A	A	A	A	A	A	A
SHEET	11	12	13	14	15	16	17	18	19	20	
REV	D	A	A	A	A	A	A	A	A	A	A
SHEET	1	2	3	4	5	6	7	8	9	10	

DATE	BY	DESCRIPTION
04/01/2007	R.R.P.	DWN
04/01/2007	T.W.K.	CHK
04/01/2007		ENGR
04/01/2007		ENGR-MGR
04/01/2007		QA
04/01/2007		MFG
04/01/2007		RLSE

SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: TITLE SHEET			
Size: B	DWG NO	510842-0001	Revision: D
Date:	Wednesday, June 30, 2010		Sheet 1 of 53

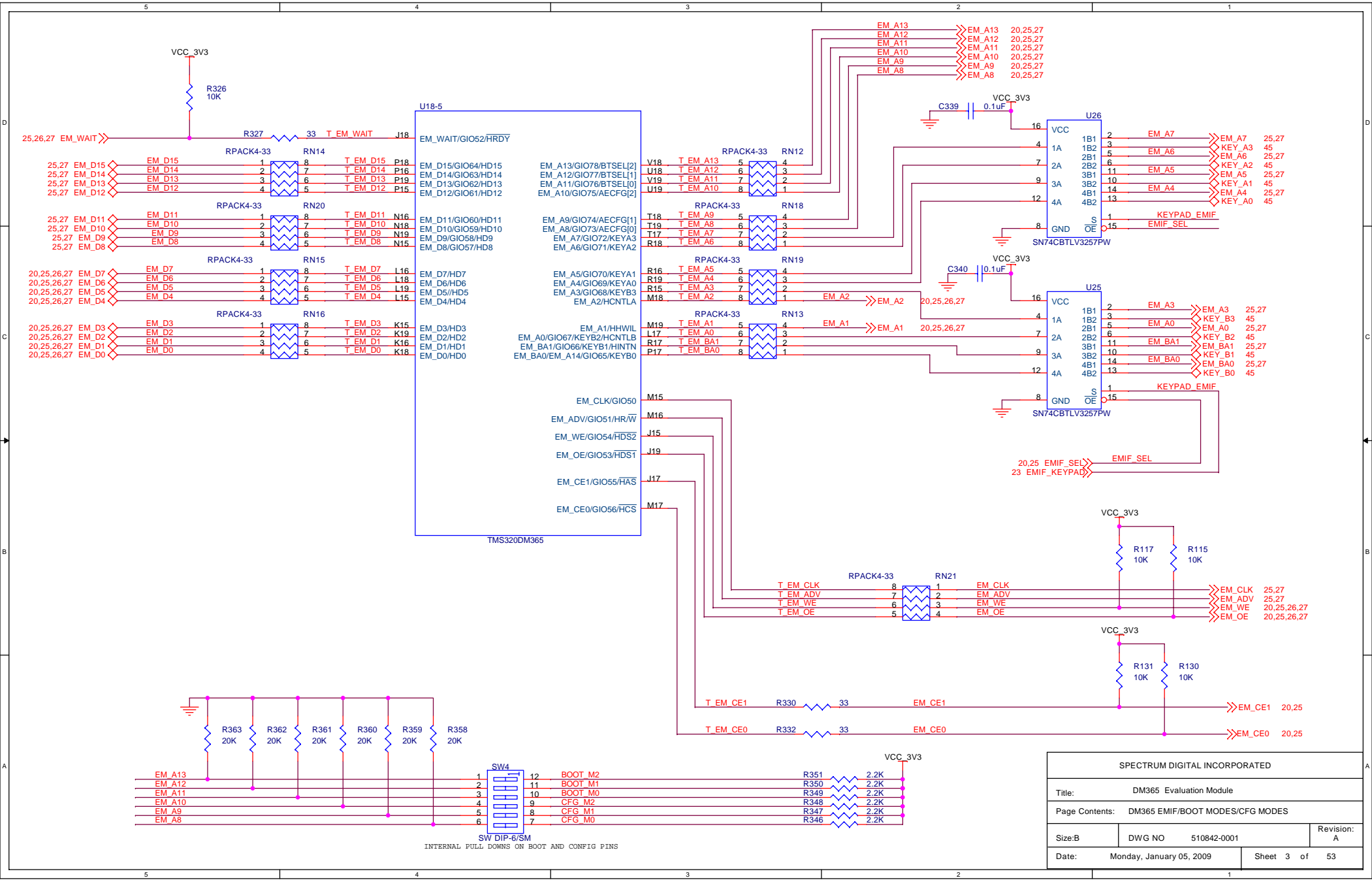
5 4 3 2 1



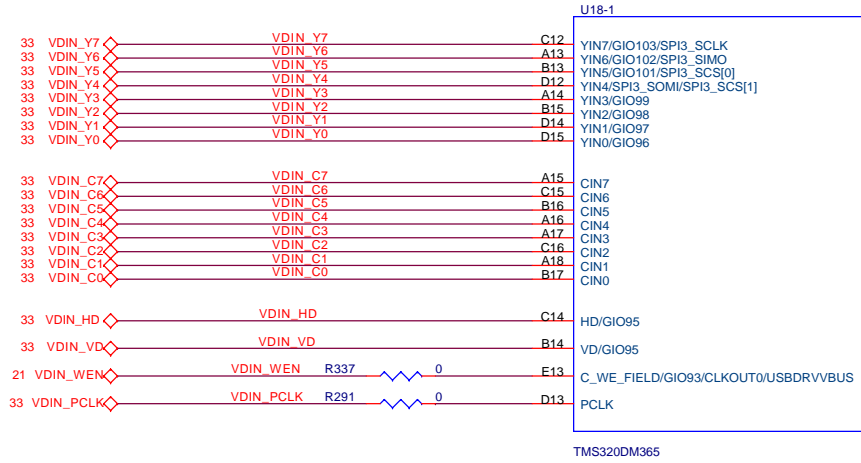
DDR_STRBEN is trace to DDR memory
for delay compensation

This net is equal to the DDR_CLKP (or DDR_CLKN)
plus
the length of DDR_DQXX Average Trace length

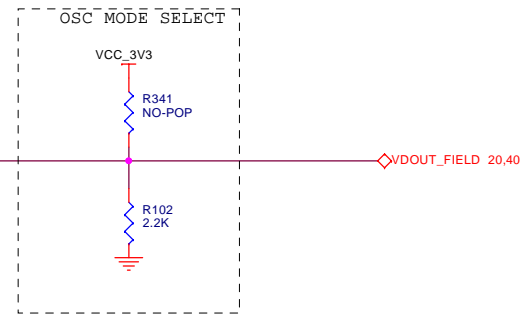
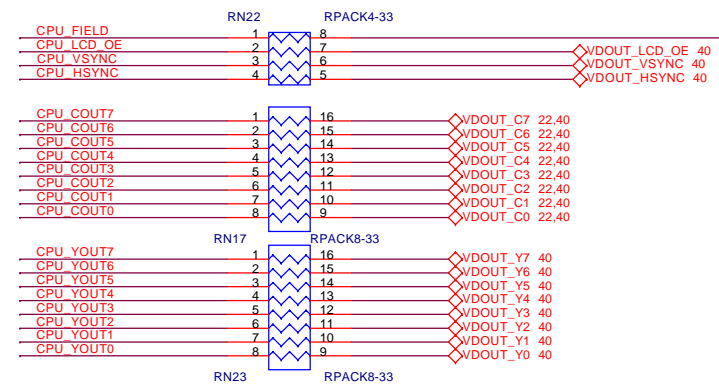
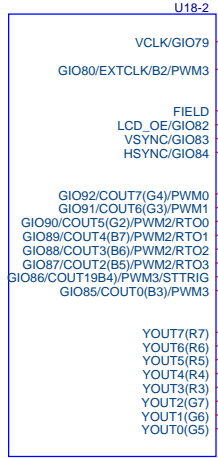
SPECTRUM DIGITAL INCORPORATED			
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Page Contents: DM365 DDR INTERFACE			
Size: B	DWG NO	510842-0001	Revision: A
Date:	Monday, January 05, 2009	Sheet 2 of	53



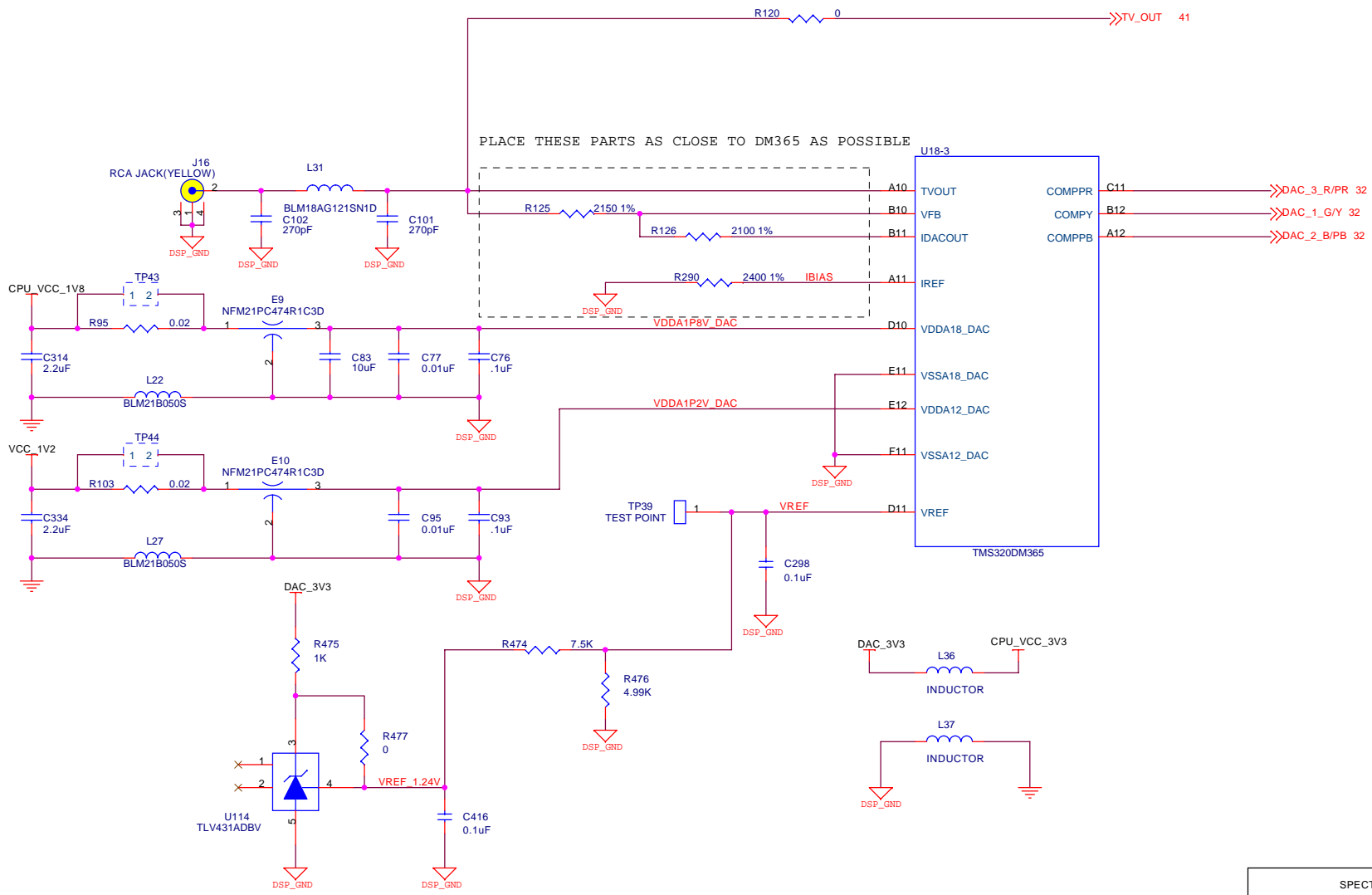
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Title: DM365 Evaluation Module			
Page Contents: DM365 EMIF/BOOT MODES/CFG MODES			
Size: B	DWG NO: 510842-0001	Revision: A	
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SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: DM365 VIDEO IN			
Size: B	DWG NO	510842-0001	Revision: A
Date:	Monday, January 05, 2009	Sheet 5 of	53

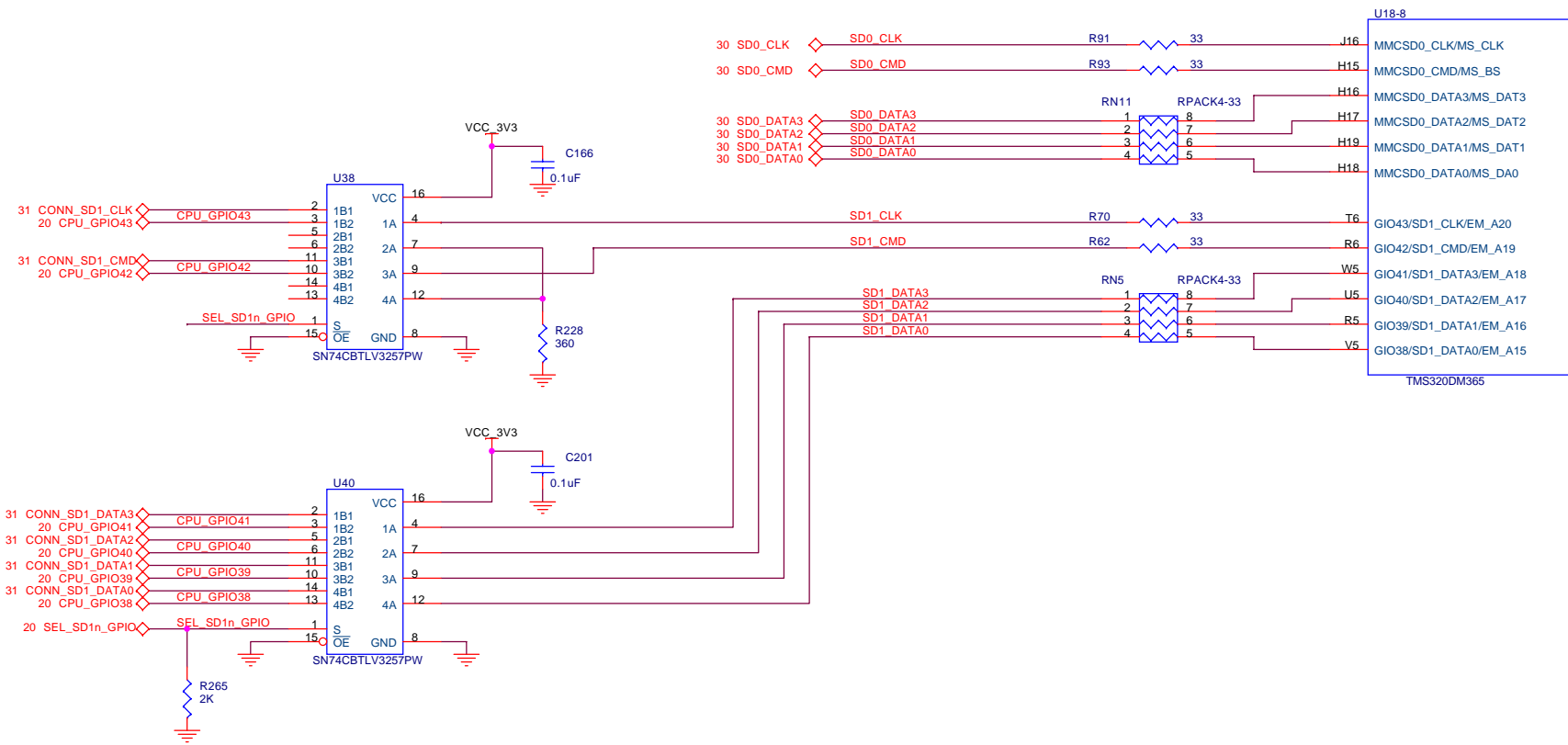


SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: DM365 VIDEO PORT OUT			
Size: B	DWG NO	510842-0001	Revision: A
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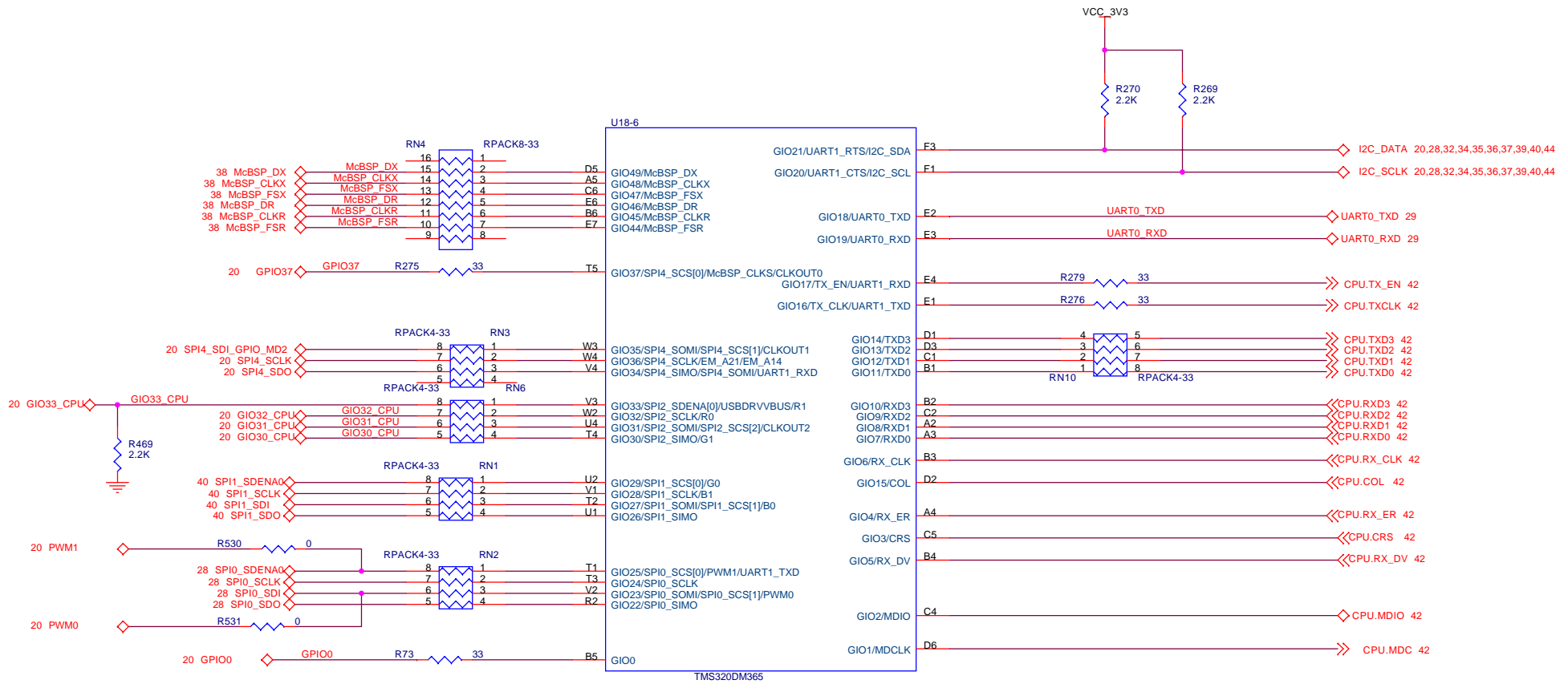


PLACE THESE PARTS AS CLOSE TO DM365 AS POSSIBLE

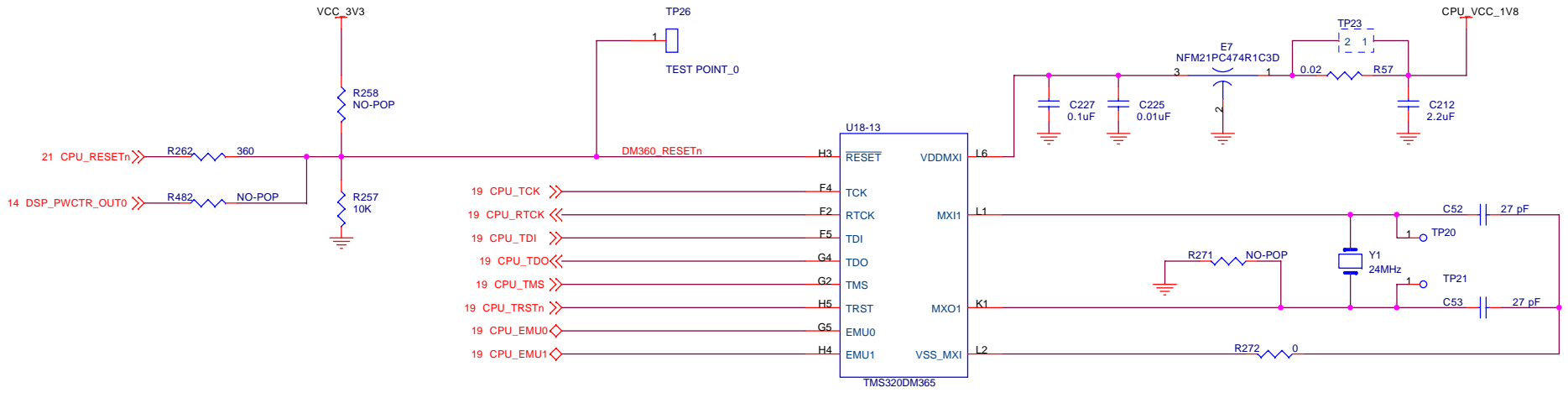
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Title: DM365 Evaluation Module			
Page Contents: DM365 ANALOG VIDEO OUT			
Size: B	DWG NO	510842-0001	Revision: D
Date:	Wednesday, June 30, 2010	Sheet 7	of 53



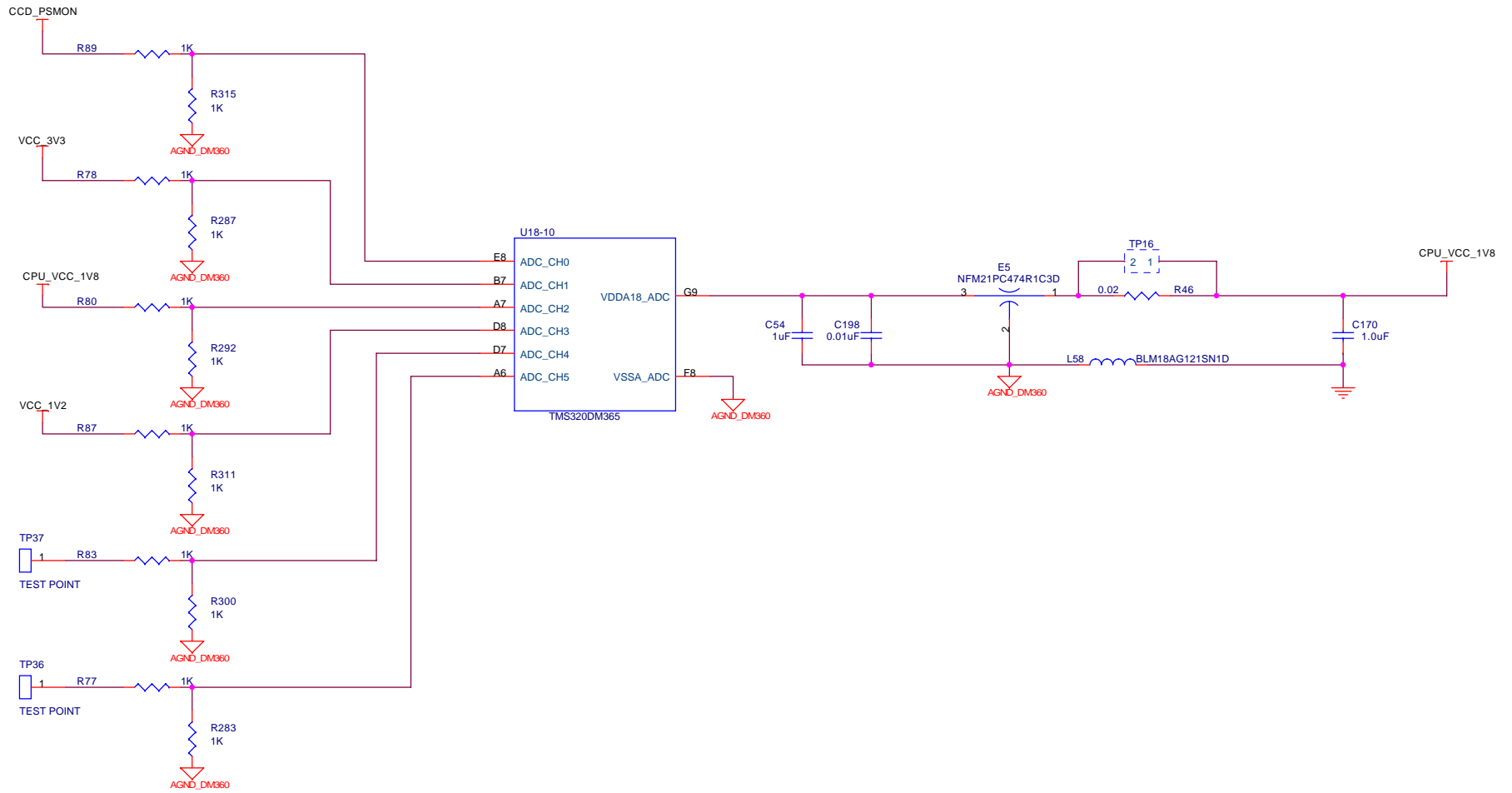
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Title: DM365 Evaluation Module			
Page Contents: DM365 SD/MMC/MS INTERFACE			
Size: B	DWG NO	510842-0001	Revision: A
Date:	Monday, January 05, 2009	Sheet 8 of	53



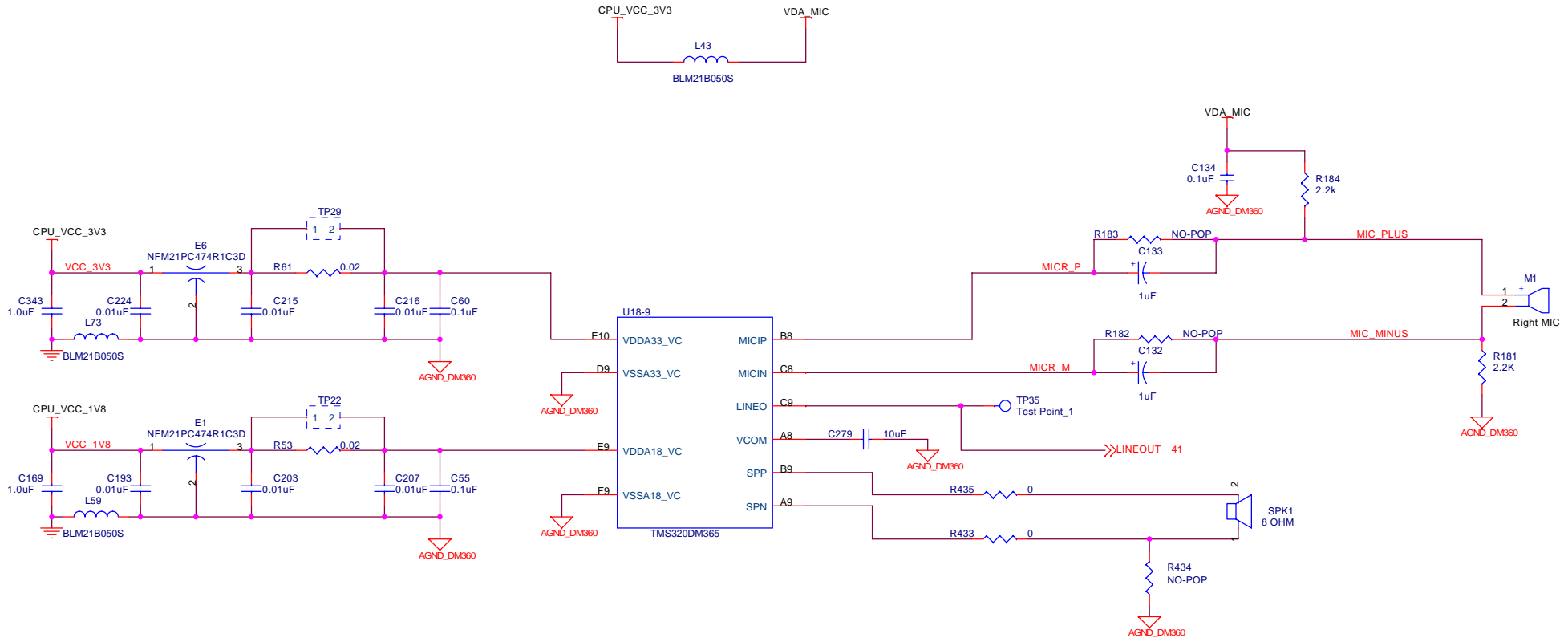
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Page Contents: DM365 I/O			
Size: B	DWG NO	510842-0001	Revision: A
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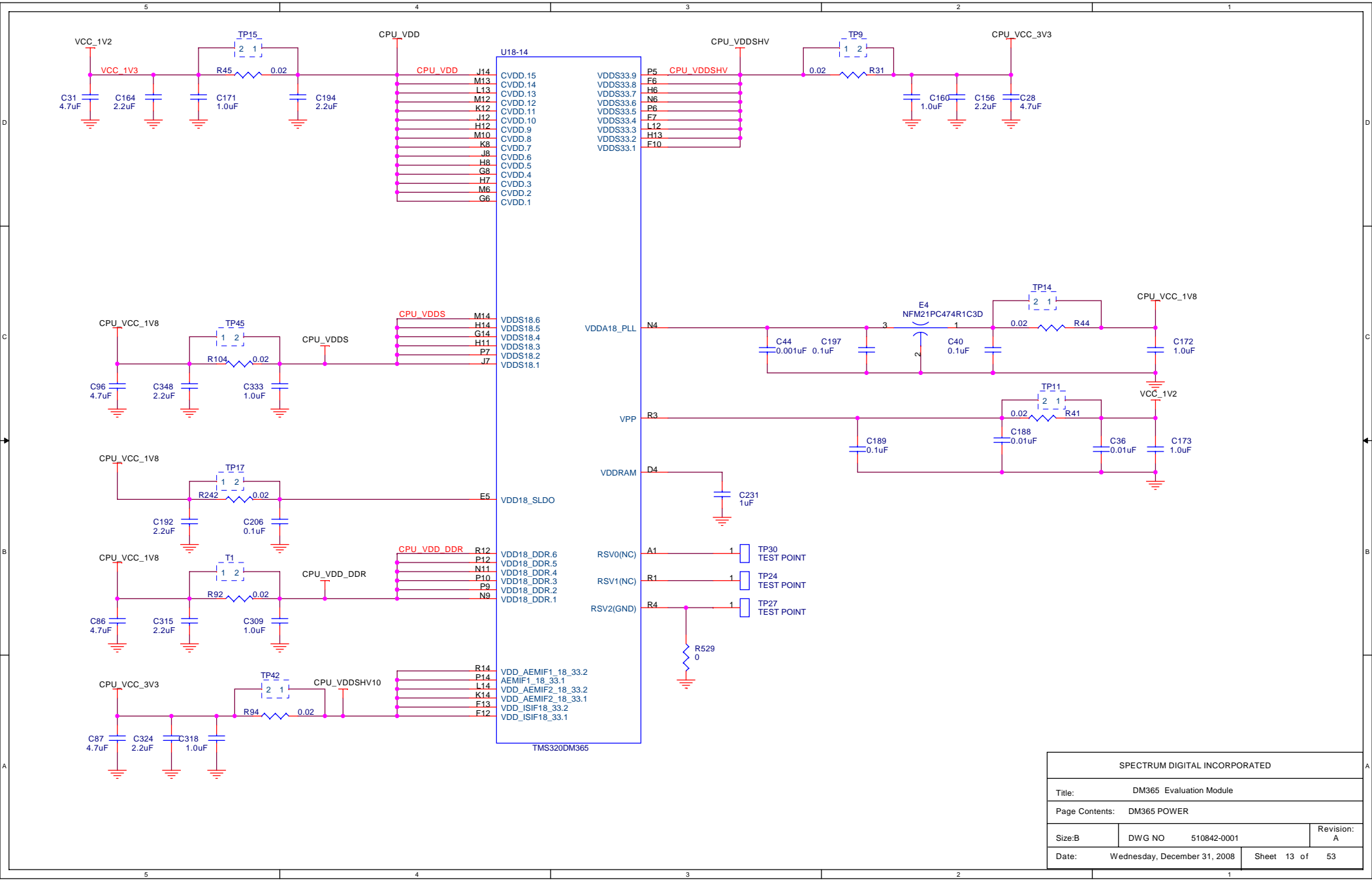
SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: DM365 JTAG,RESET,CLOCKS			
Size: B	DWG NO	510842-0001	Revision: A
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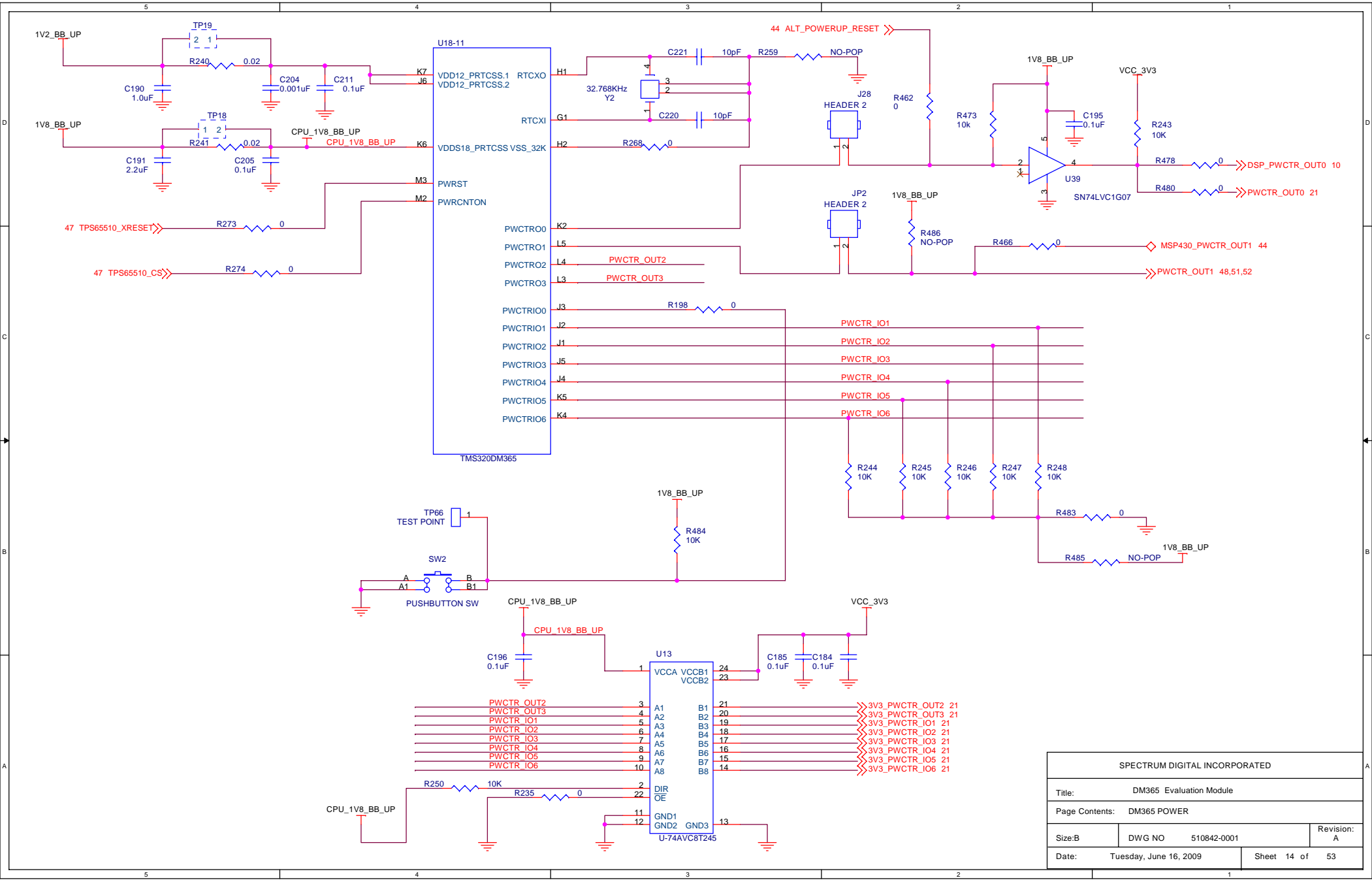
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Title: DM365 Evaluation Module			
Page Contents: DM365 ADC			
Size: B	DWG NO	510842-0001	Revision: A
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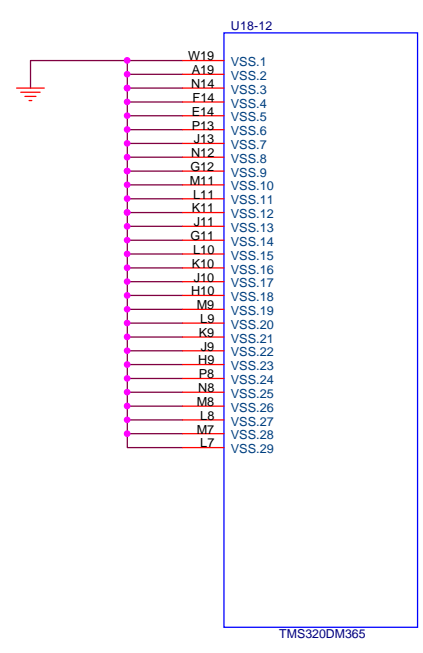
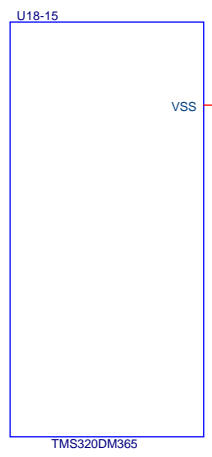
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Title: DM365 Evaluation Module			
Page Contents: DM365 MIC/SPEAKER			
Size: B	DWG NO	510842-0001	Revision: A
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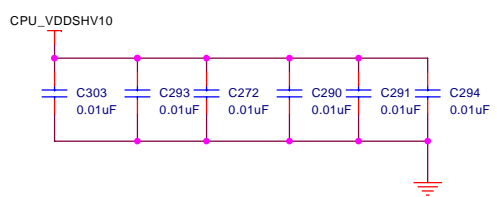
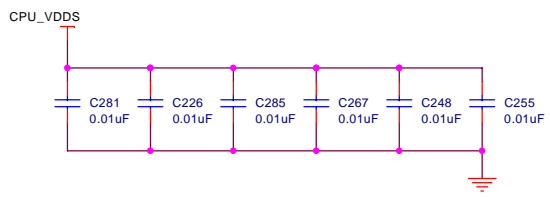
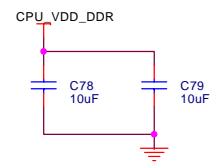
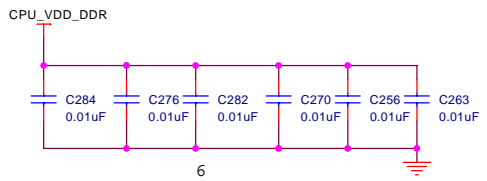
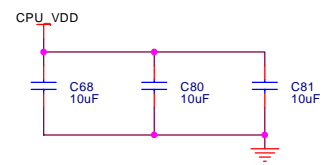
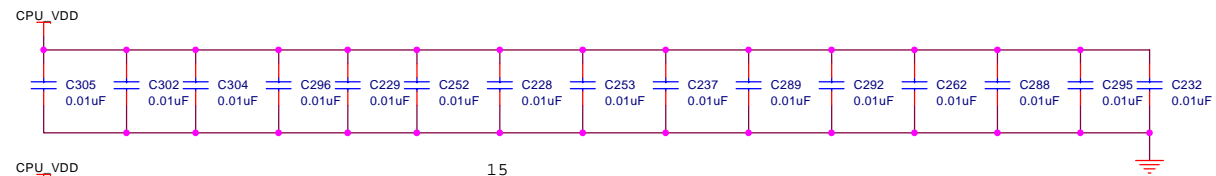
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Title: DM365 Evaluation Module			
Page Contents: DM365 POWER			
Size: B	DWG NO	510842-0001	Revision: A
Date:	Wednesday, December 31, 2008		Sheet 13 of 53



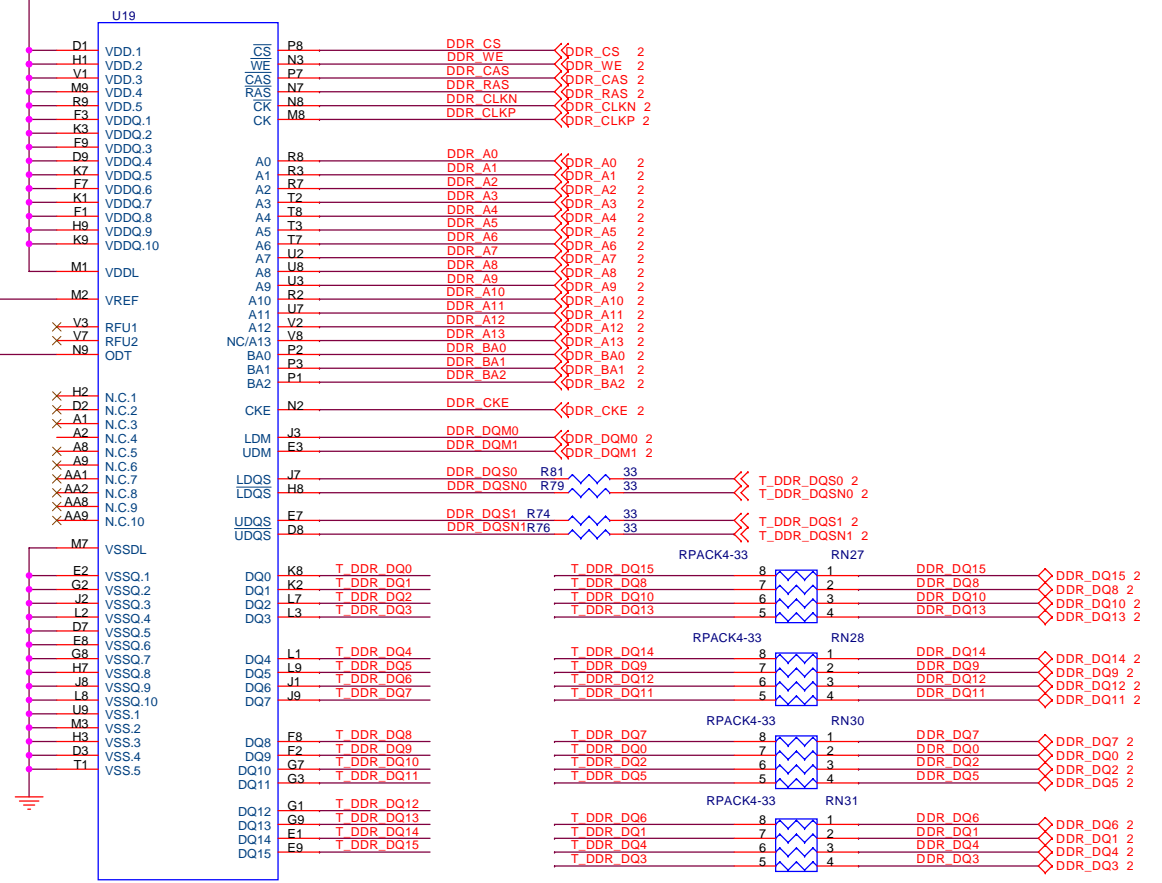
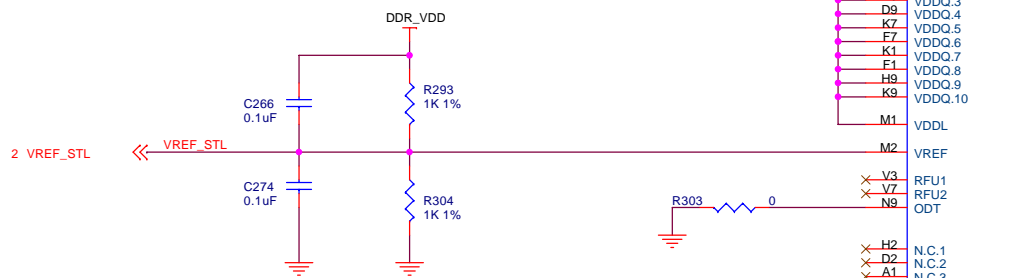
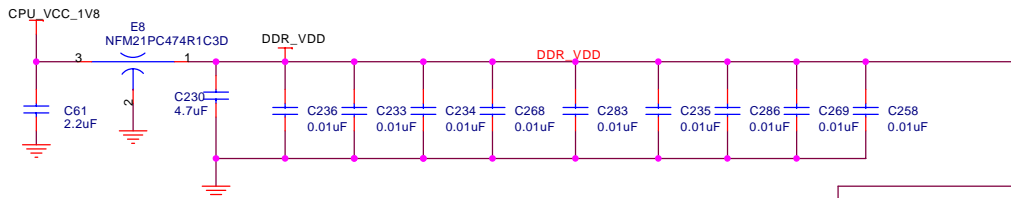
SPECTRUM DIGITAL INCORPORATED			
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Page Contents: DM365 POWER			
Size: B	DWG NO	510842-0001	Revision: A
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SPECTRUM DIGITAL INCORPORATED			
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Page Contents: DM365 POWER			
Size: B	DWG NO	510842-0001	Revision: A
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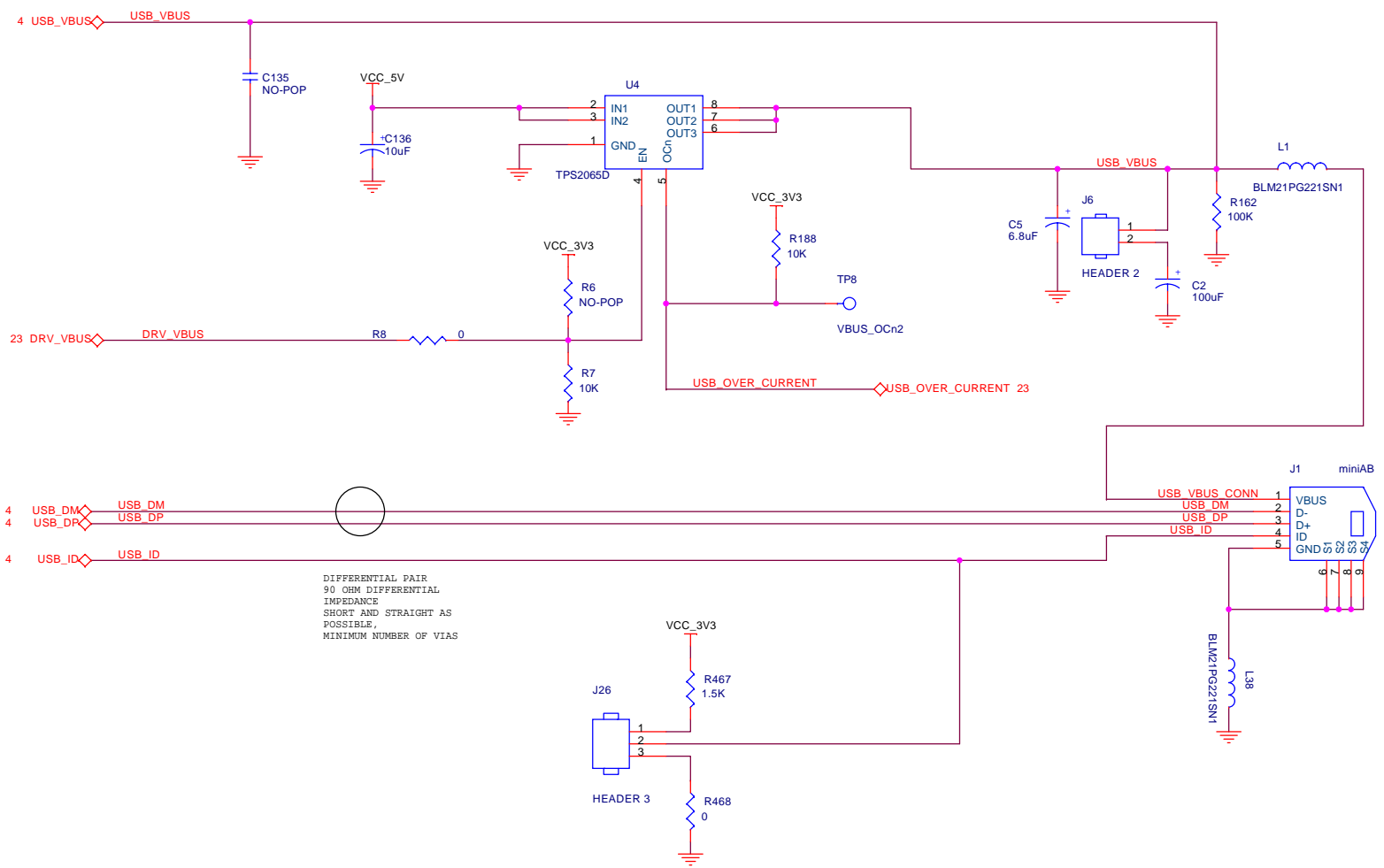
SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: DM365 DECOUPLING CAPACITORS			
Size: B	DWG NO	510842-0001	Revision: A
Date:	Wednesday, December 17, 2008		Sheet 16 of 53



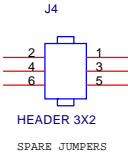
MT47H64M16HR-3:E

Layout for the 92-ball DDR Package but populate the 84-ball MT47H64M16HR-3:E. 84 Ball memories reside in the center section of the 92 Ball Package

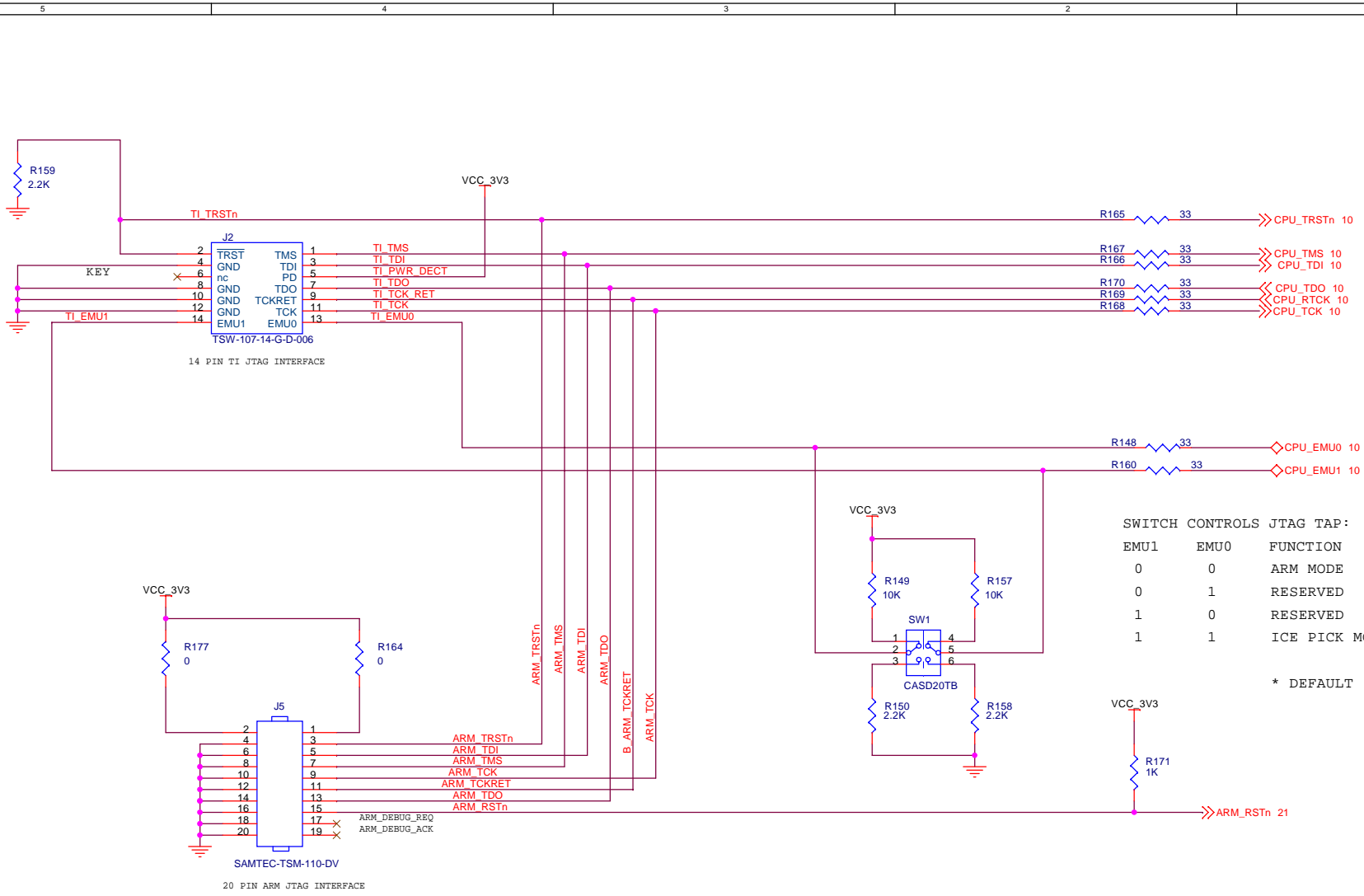
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Title: DM365 Evaluation Module			
Page Contents: DDR2 MEMORY			
Size: B	DWG NO	510842-0001	Revision: A
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DIFFERENTIAL PAIR
 90 OHM DIFFERENTIAL
 IMPEDANCE
 SHORT AND STRAIGHT AS
 POSSIBLE,
 MINIMUM NUMBER OF VIAS



SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: DM365 USB			
Size: B	DWG NO	510842-0001	Revision: A
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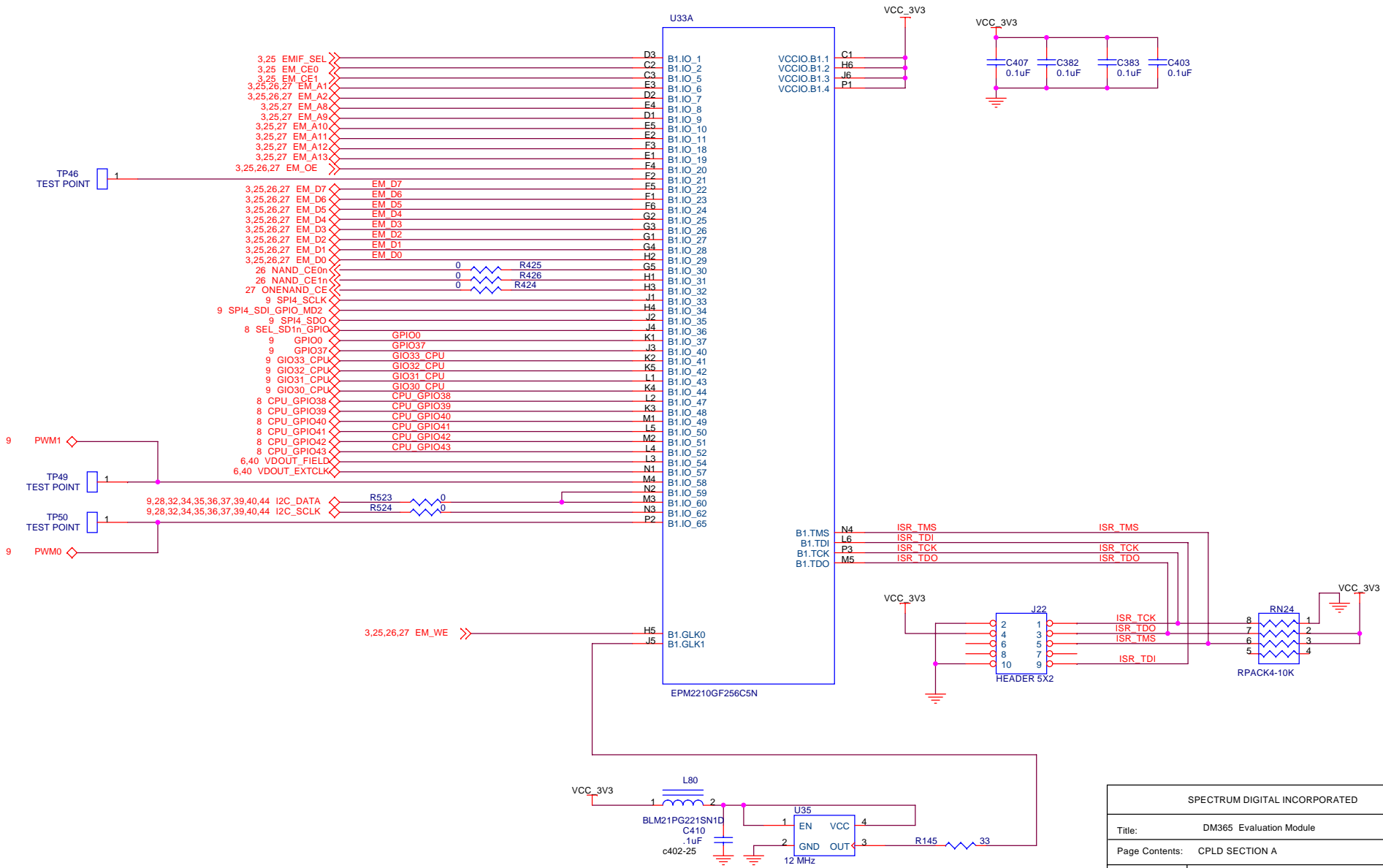


SWITCH CONTROLS JTAG TAP:

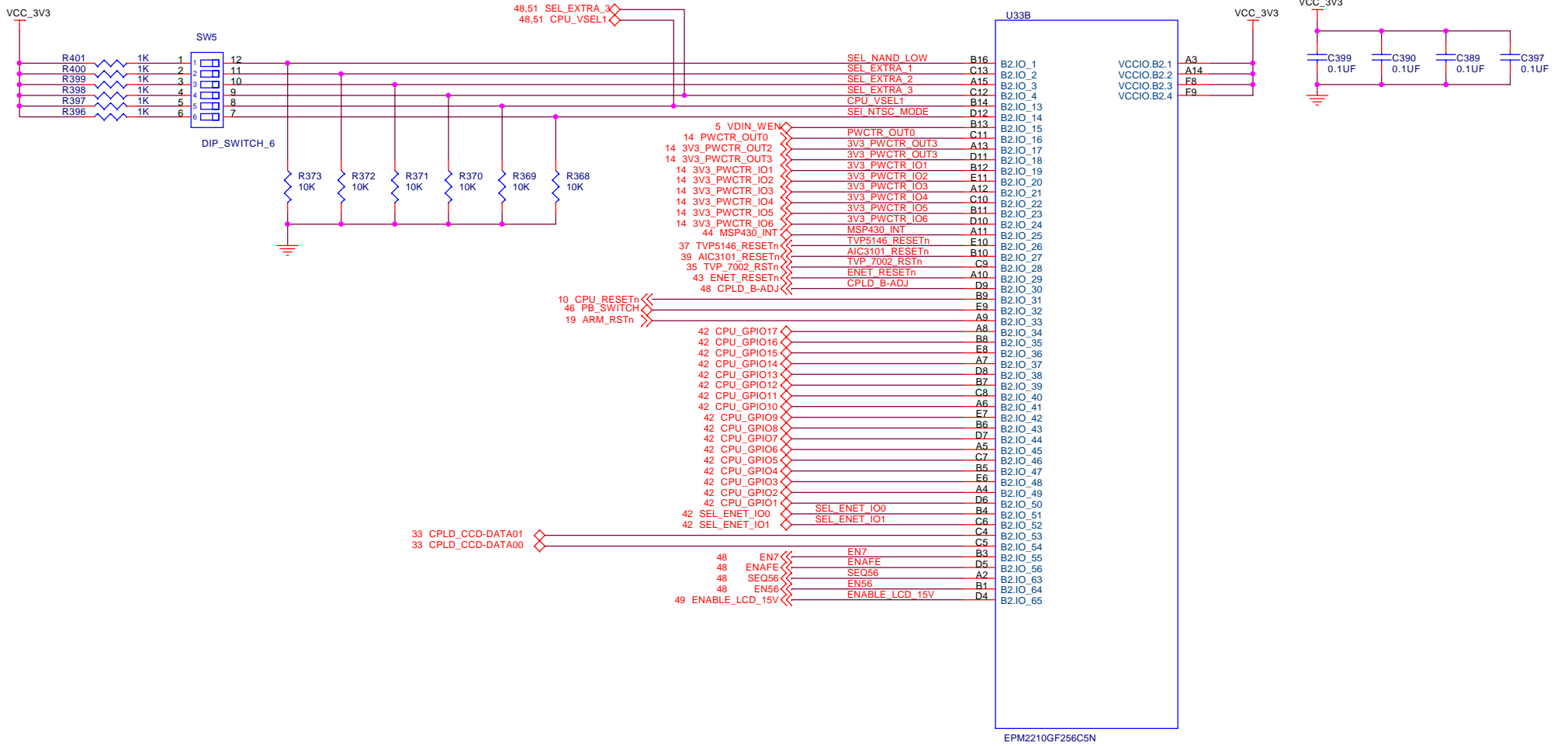
EMU1	EMU0	FUNCTION
0	0	ARM MODE
0	1	RESERVED
1	0	RESERVED
1	1	ICE PICK MODE *

* DEFAULT

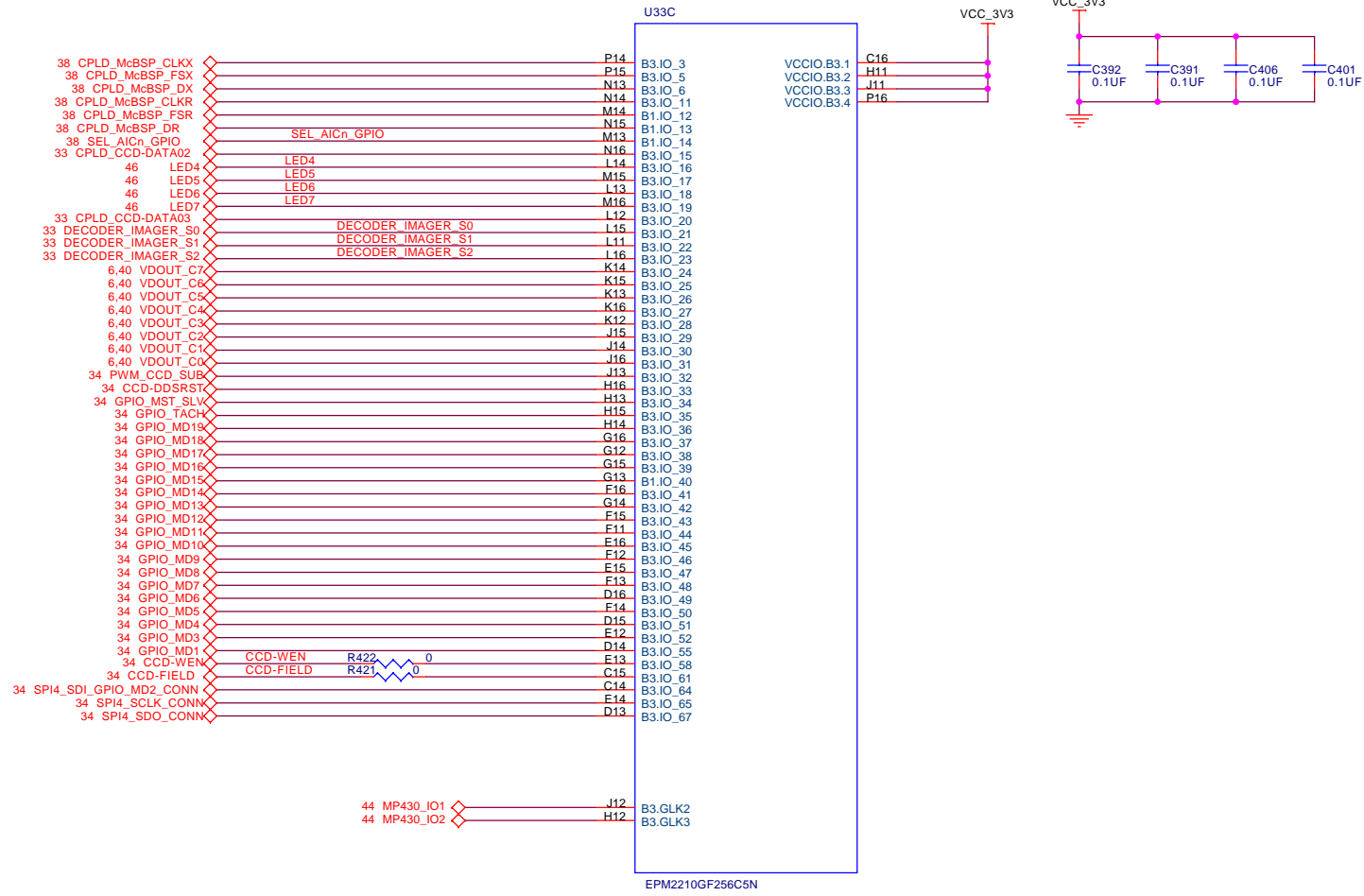
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Title: DM365 Evaluation Module			
Page Contents: JTAG INTERFACE			
Size: B	DWG NO	510842-0001	Revision: A
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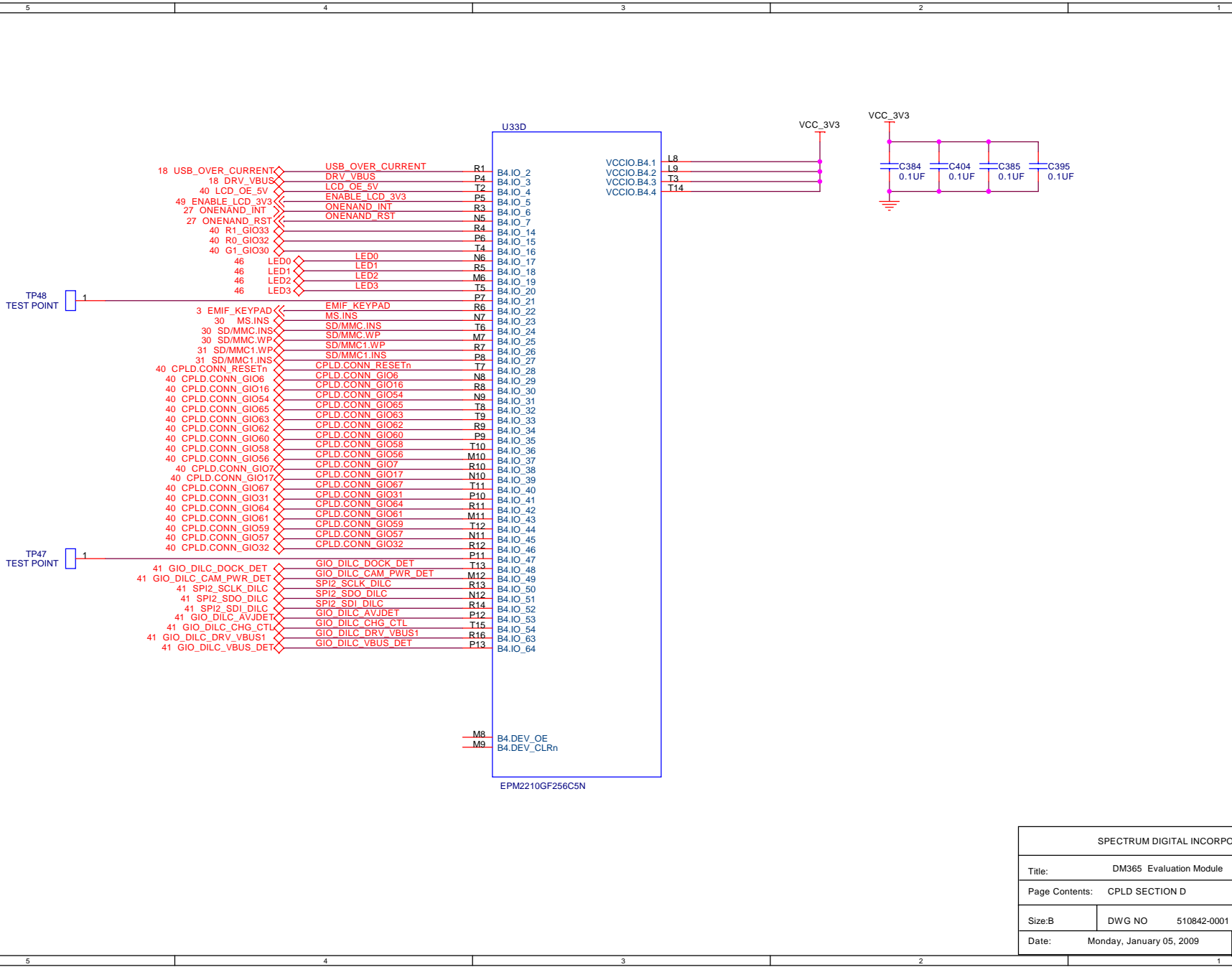
SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: CPLD SECTION A			
Size: B	DWG NO	510842-0001	Revision: A
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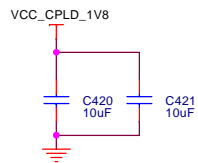
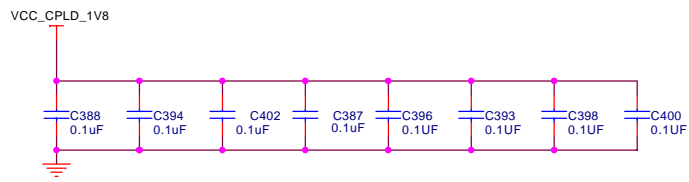
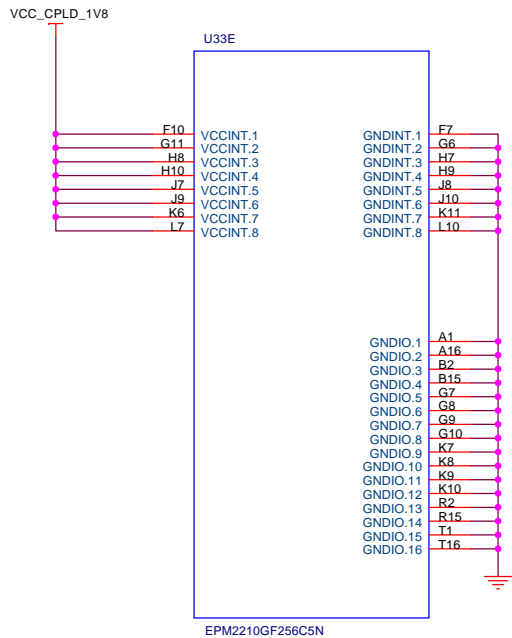
SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: CPLD SECTION B			
Size: B	DWG NO	510842-0001	Revision: A
Date:	Monday, January 05, 2009	Sheet	21 of 53



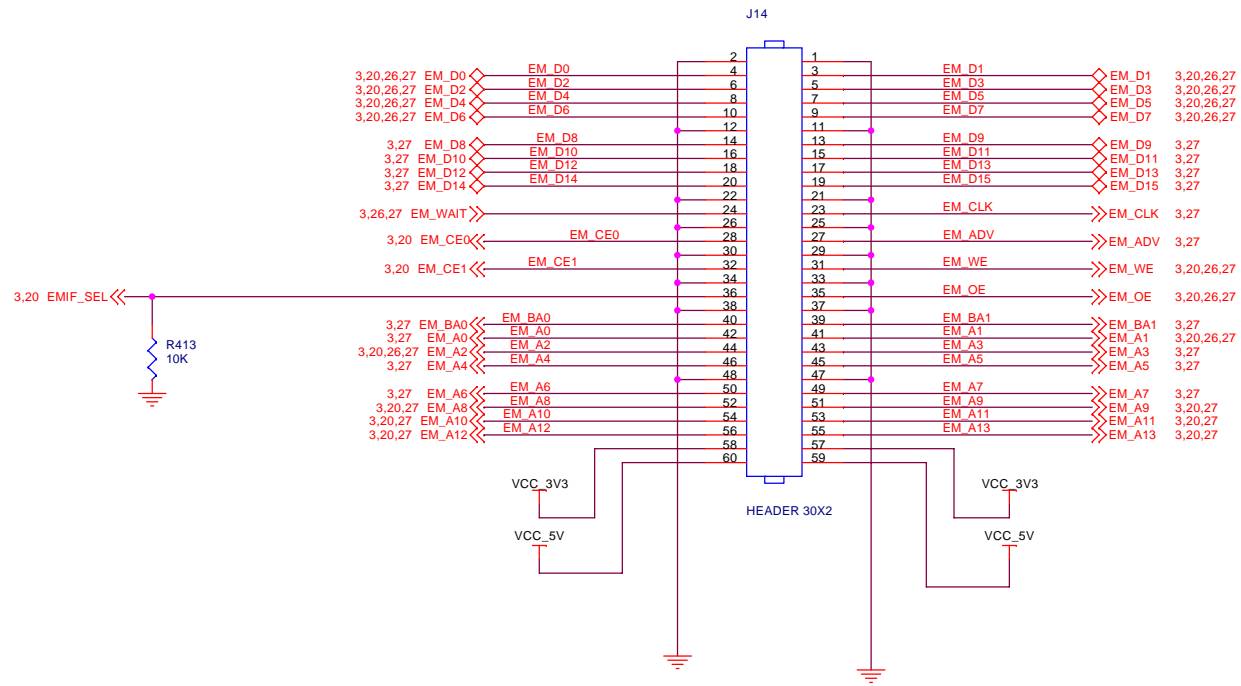
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Title: DM365 Evaluation Module			
Page Contents: CPLD SECTION C			
Size: B	DWG NO	510842-0001	Revision: A
Date:	Monday, January 05, 2009	Sheet 22 of	53



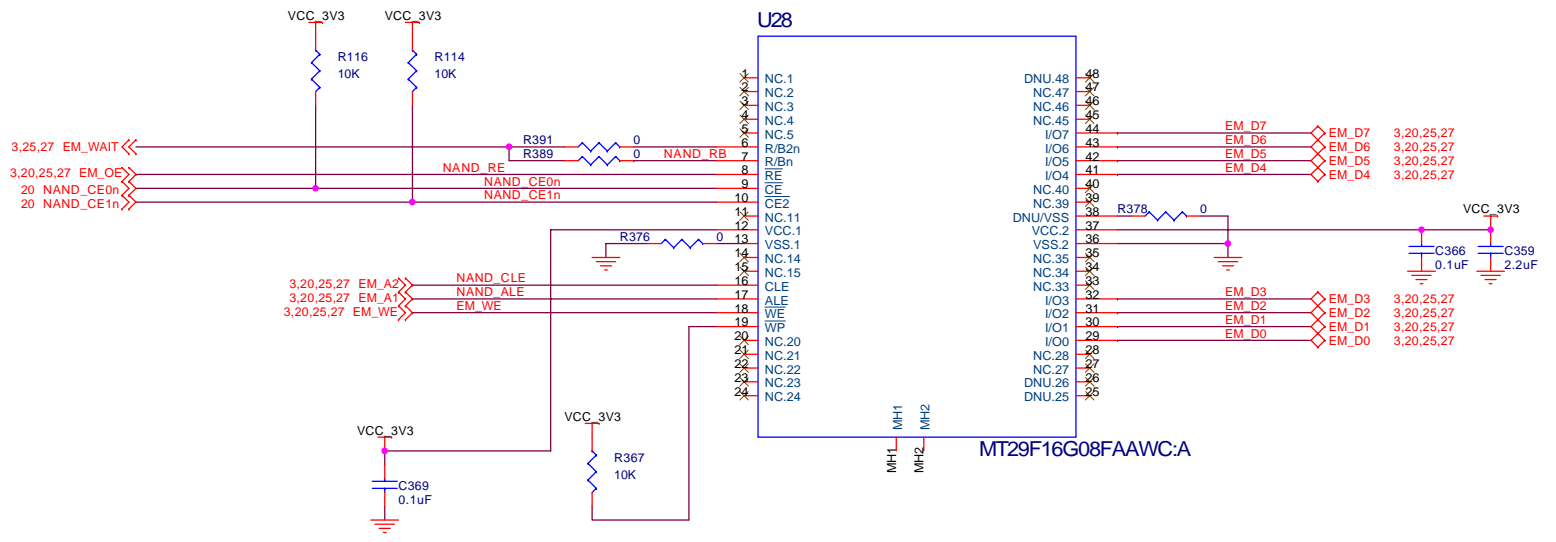
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Page Contents: CPLD SECTION D			
Size: B	DWG NO	510842-0001	Revision: A
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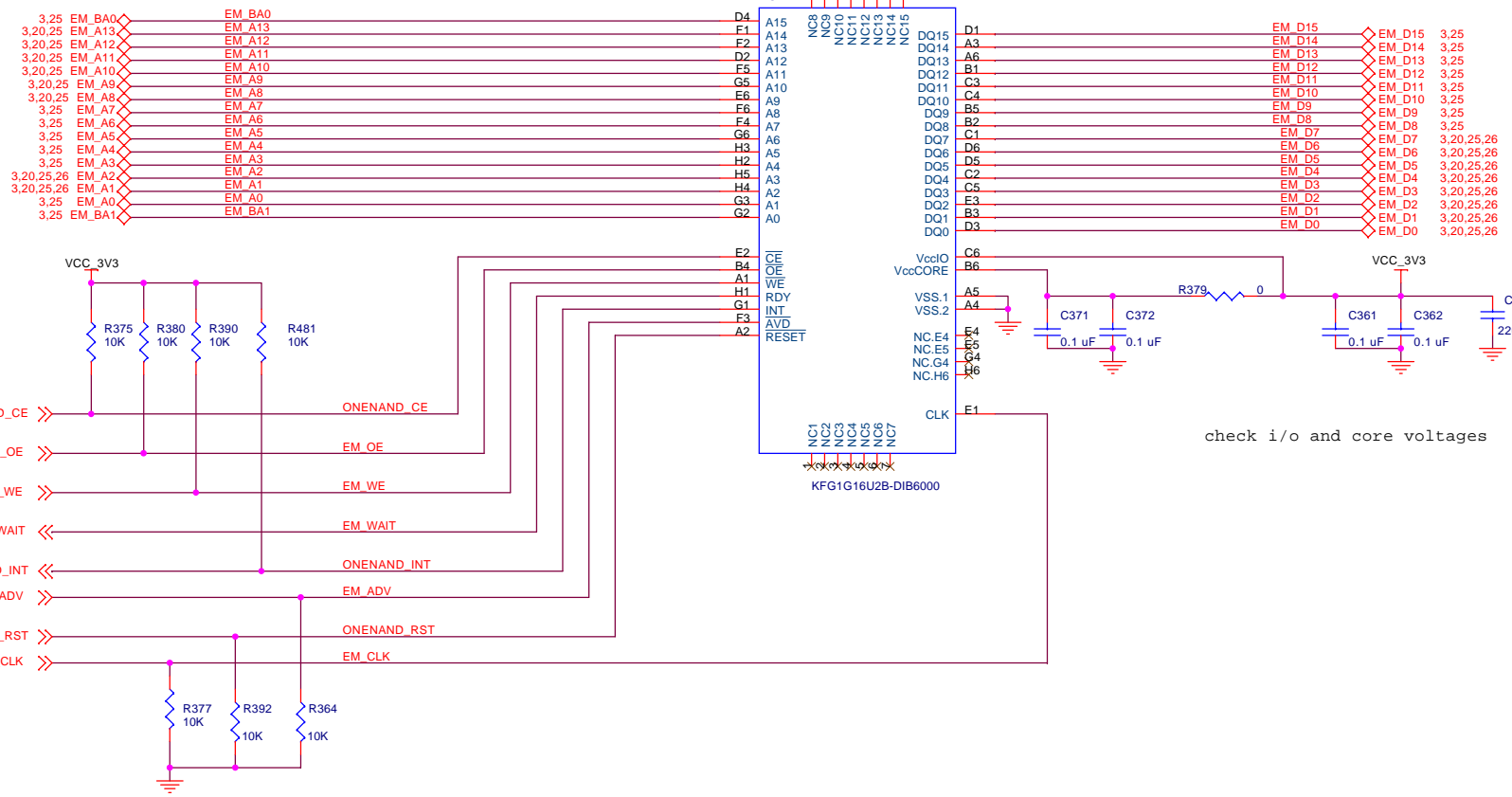
SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: CPLD POWER			
Size: B	DWG NO	510842-0001	Revision: A
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SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: EMIF/UHPI DC INTERFACE			
Size: B	DWG NO	510842-0001	Revision: A
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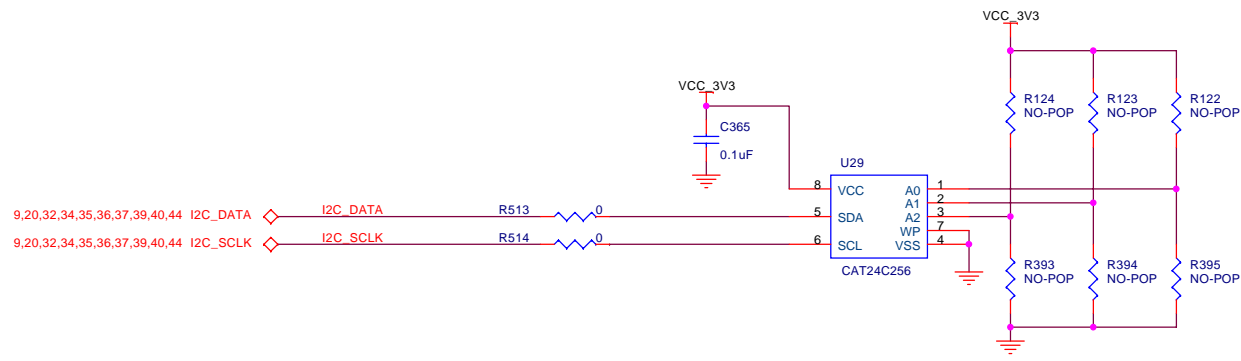
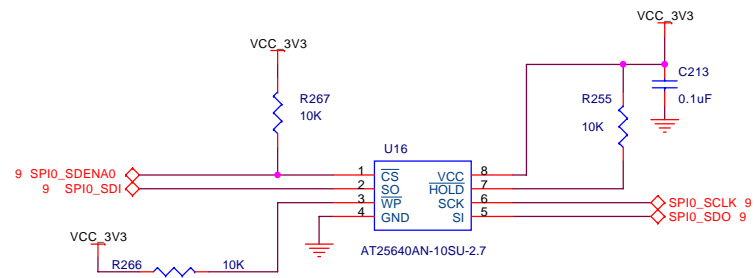


SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: NAND FLASH			
Size: B	DWG NO	510842-0001	Revision: A
Date:	Monday, January 05, 2009	Sheet 26 of	53

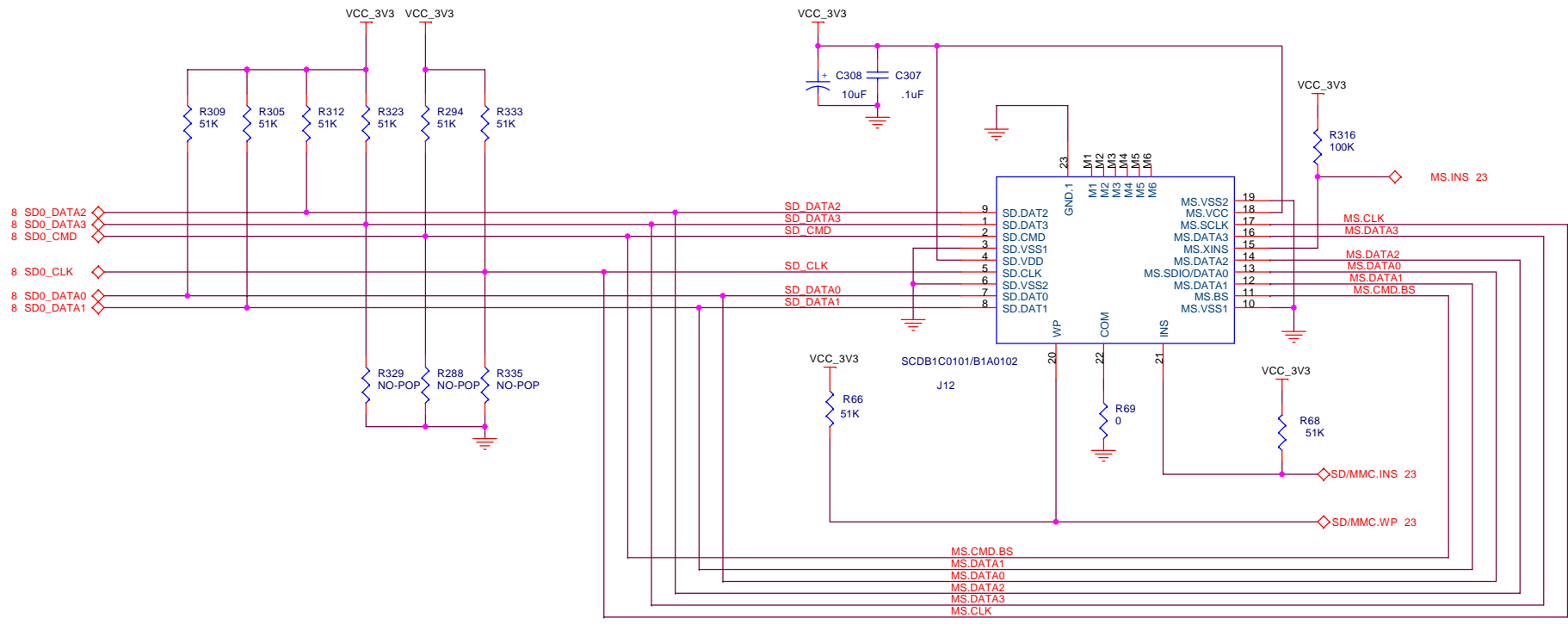


check i/o and core voltages

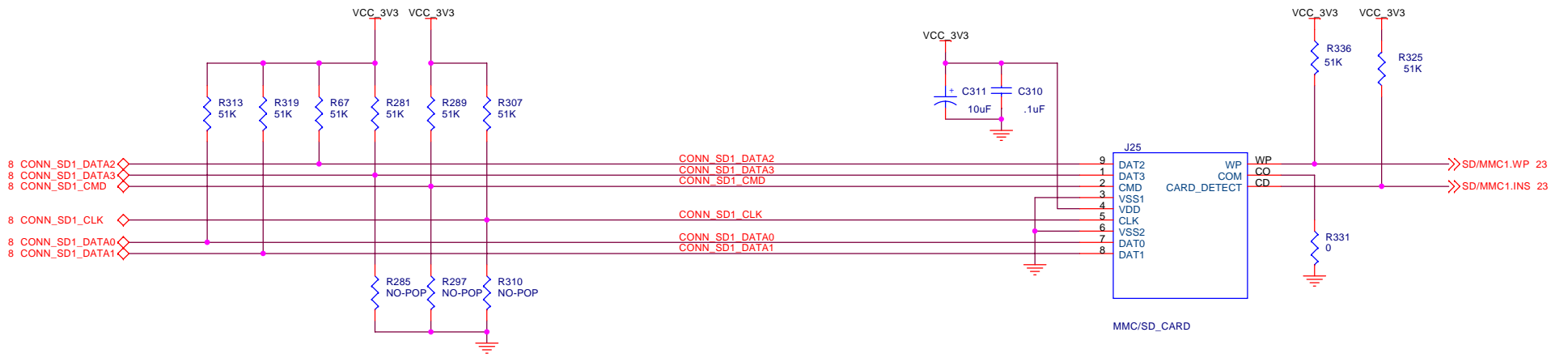
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Page Contents: ONE NAND			
Size: B	DWG NO	510842-0001	Revision: A
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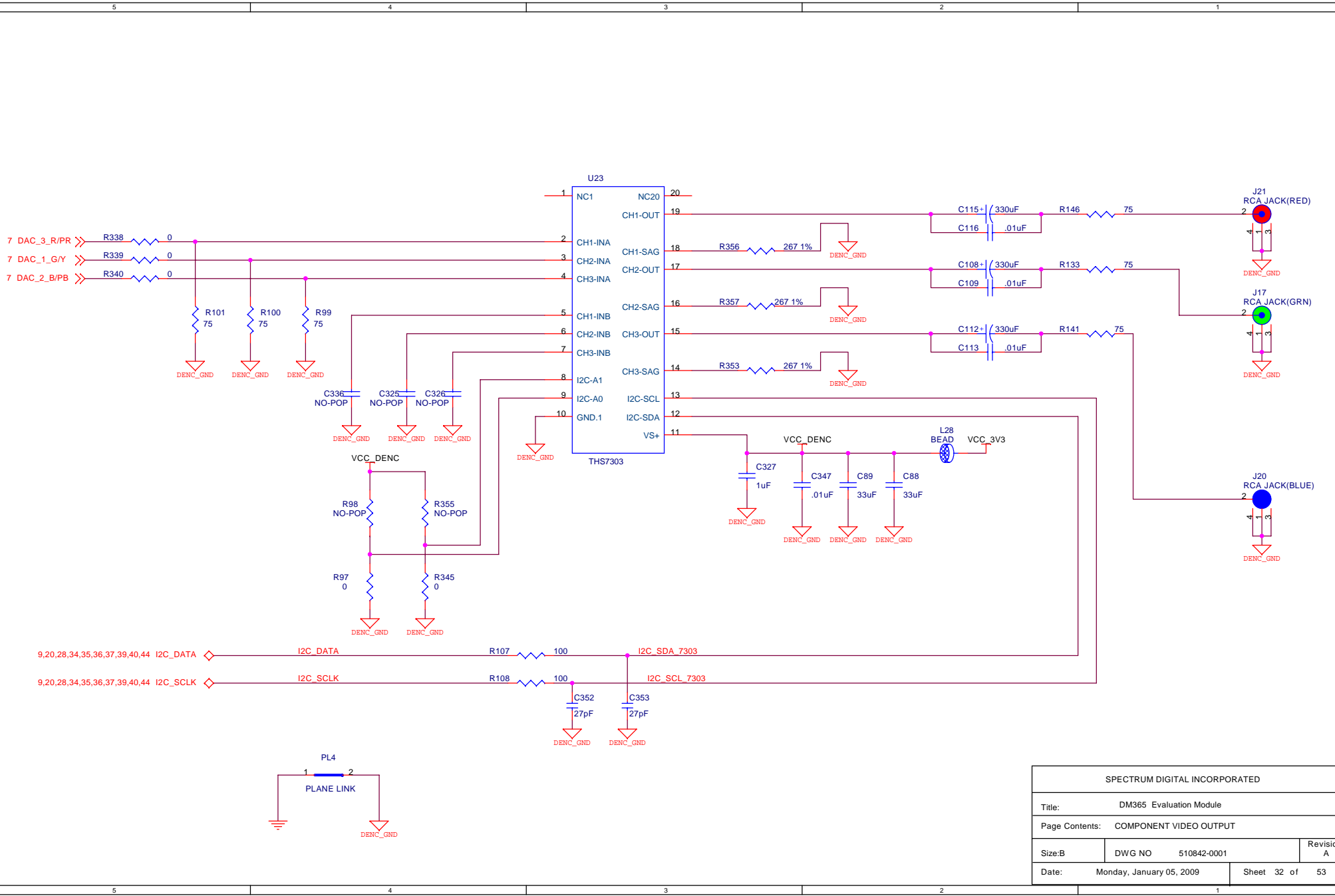
SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: SPI EEPROM			
Size: B	DWG NO: 510842-0001	Revision: A	
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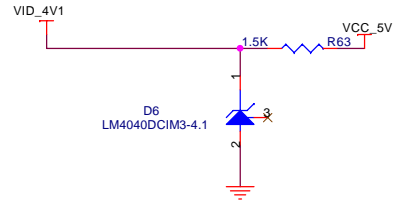
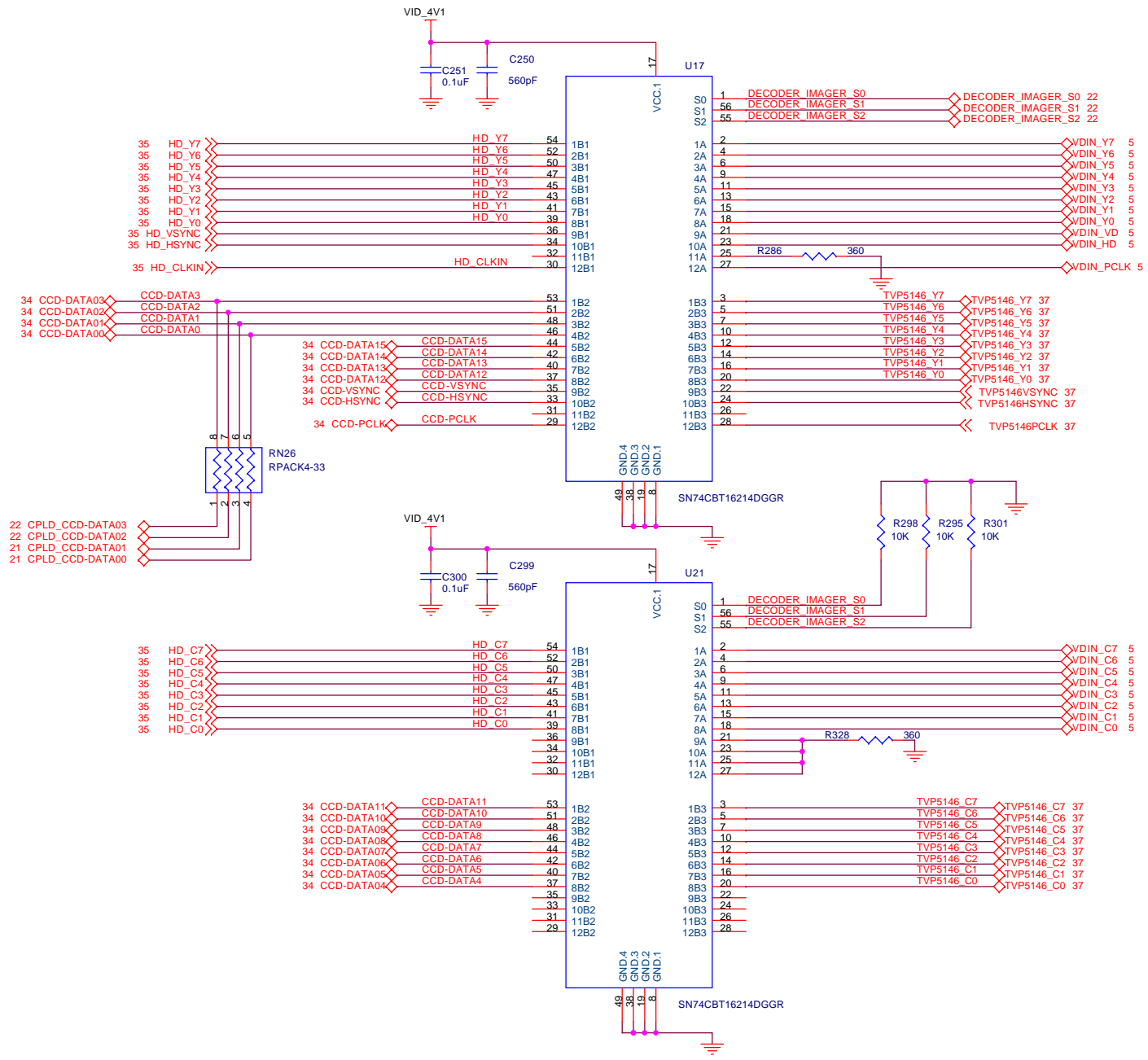
SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: SD/MMC/MS CARD INTERFACE			
Size: B	DWG NO	510842-0001	Revision: A
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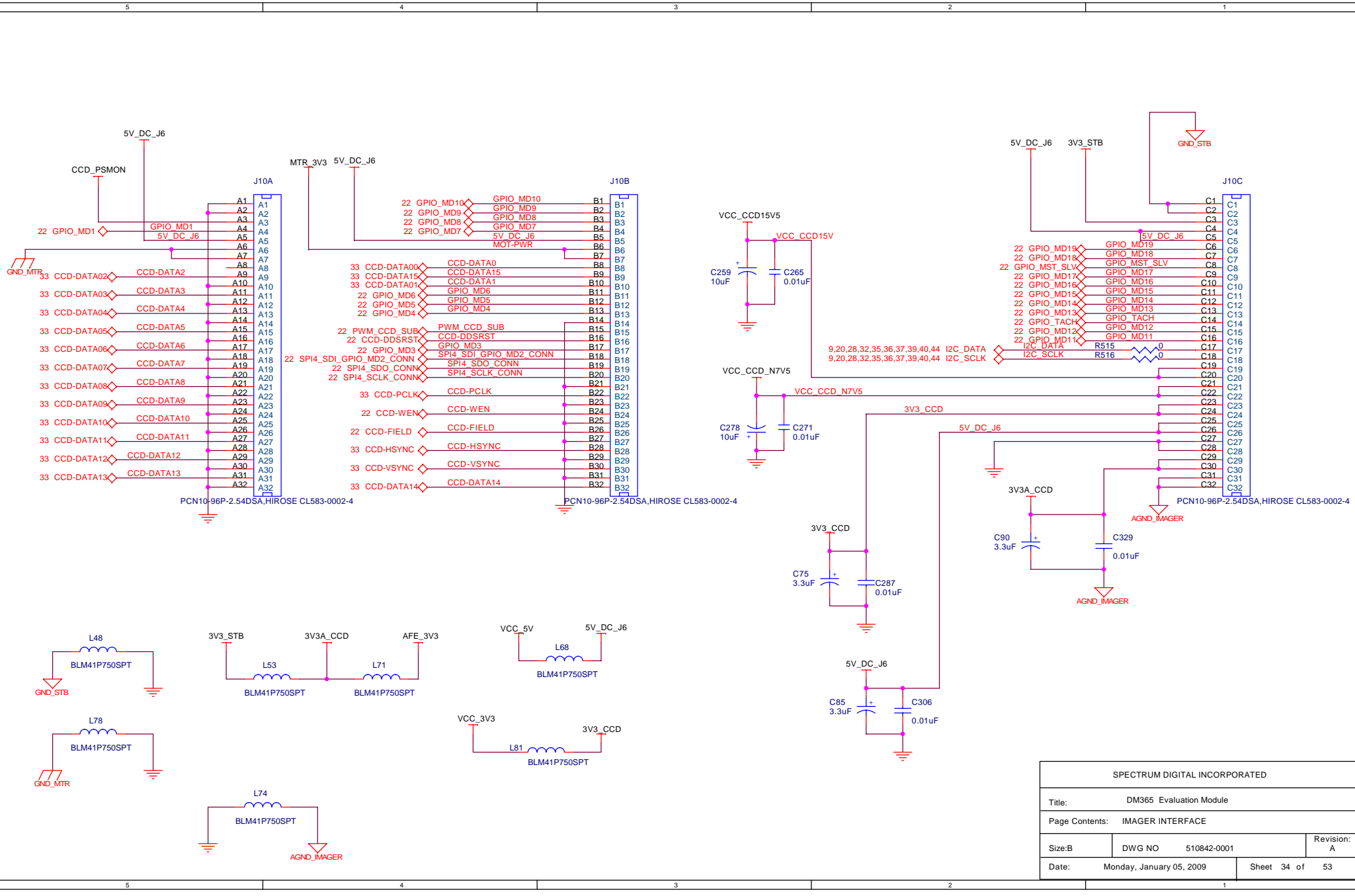
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Size: B	DWG NO	509902-0001	Revision: A
Date:	Monday, January 05, 2009		Sheet 31 of 53



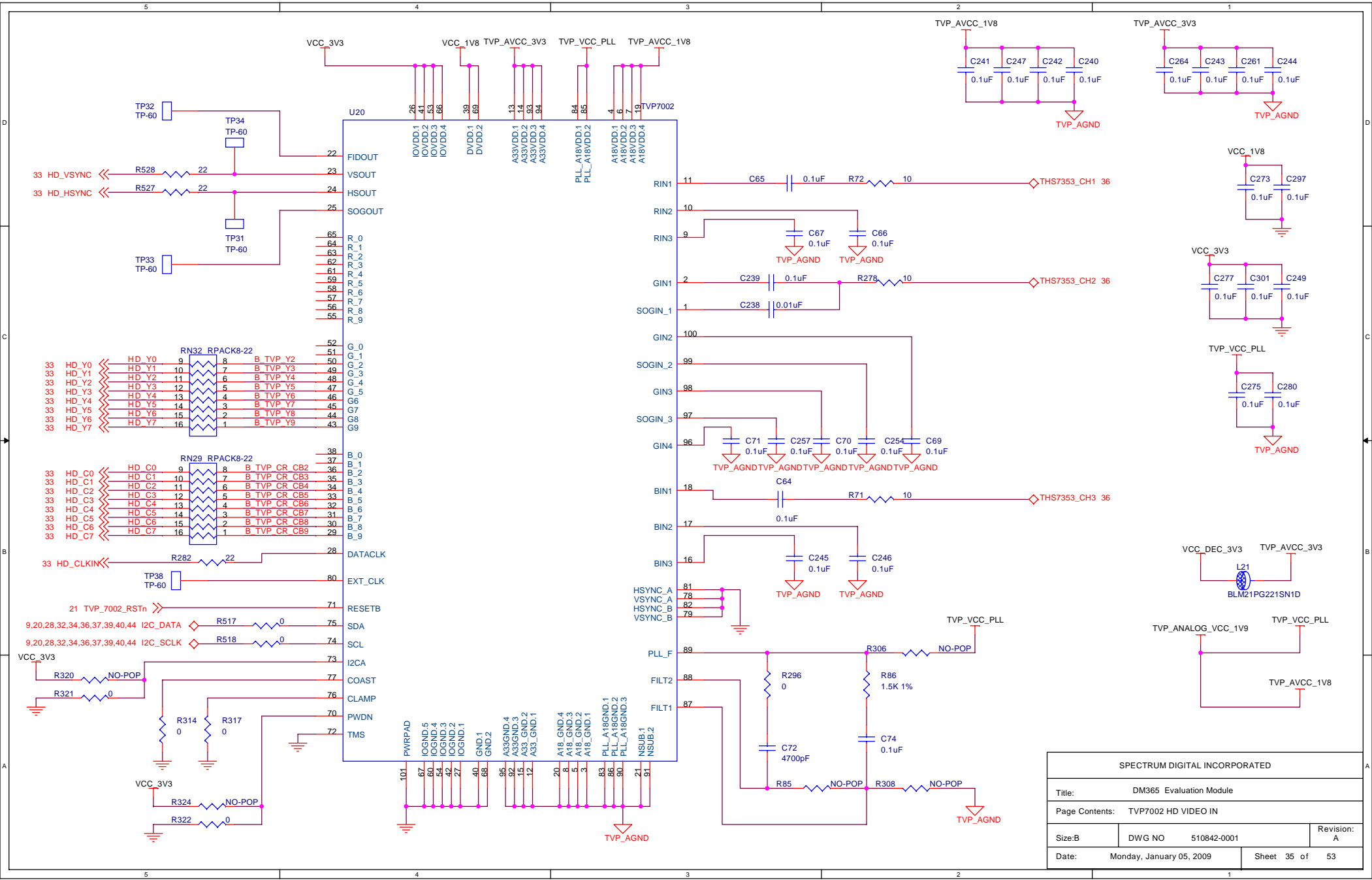
SPECTRUM DIGITAL INCORPORATED			
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Page Contents: COMPONENT VIDEO OUTPUT			
Size: B	DWG NO: 510842-0001	Revision: A	
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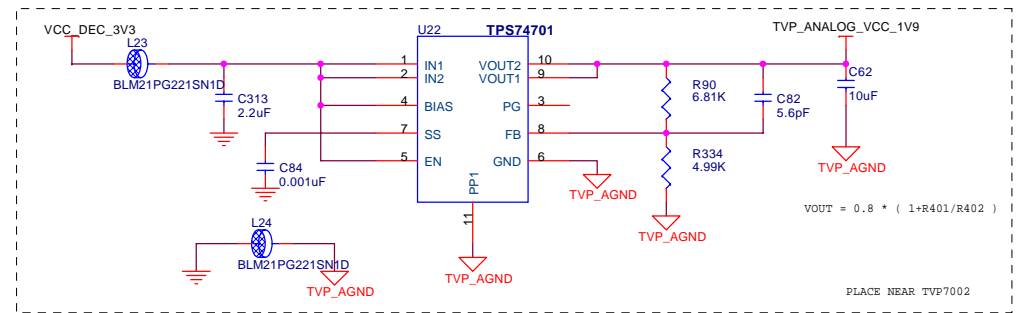
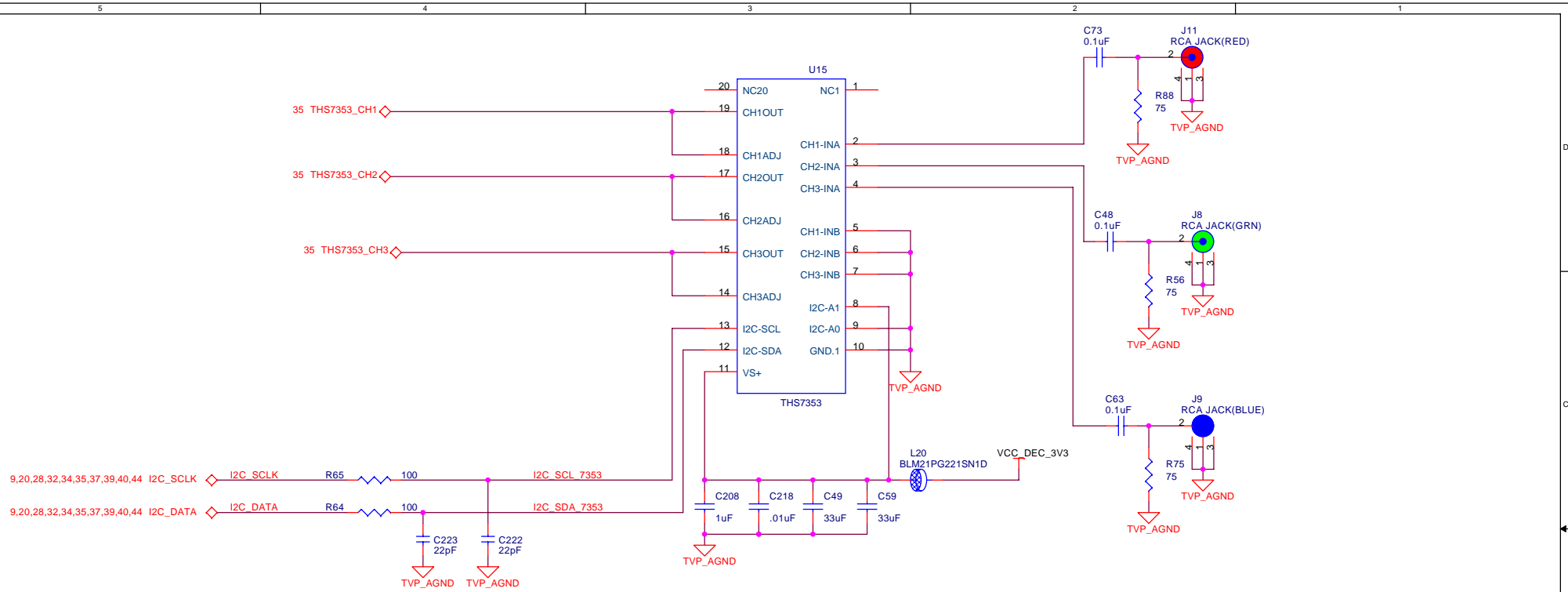
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Title: DM365 Evaluation Module			
Page Contents: VIDEO INPUT MULTIPLEXER			
Size: B	DWG NO	510842-0001	Revision: A
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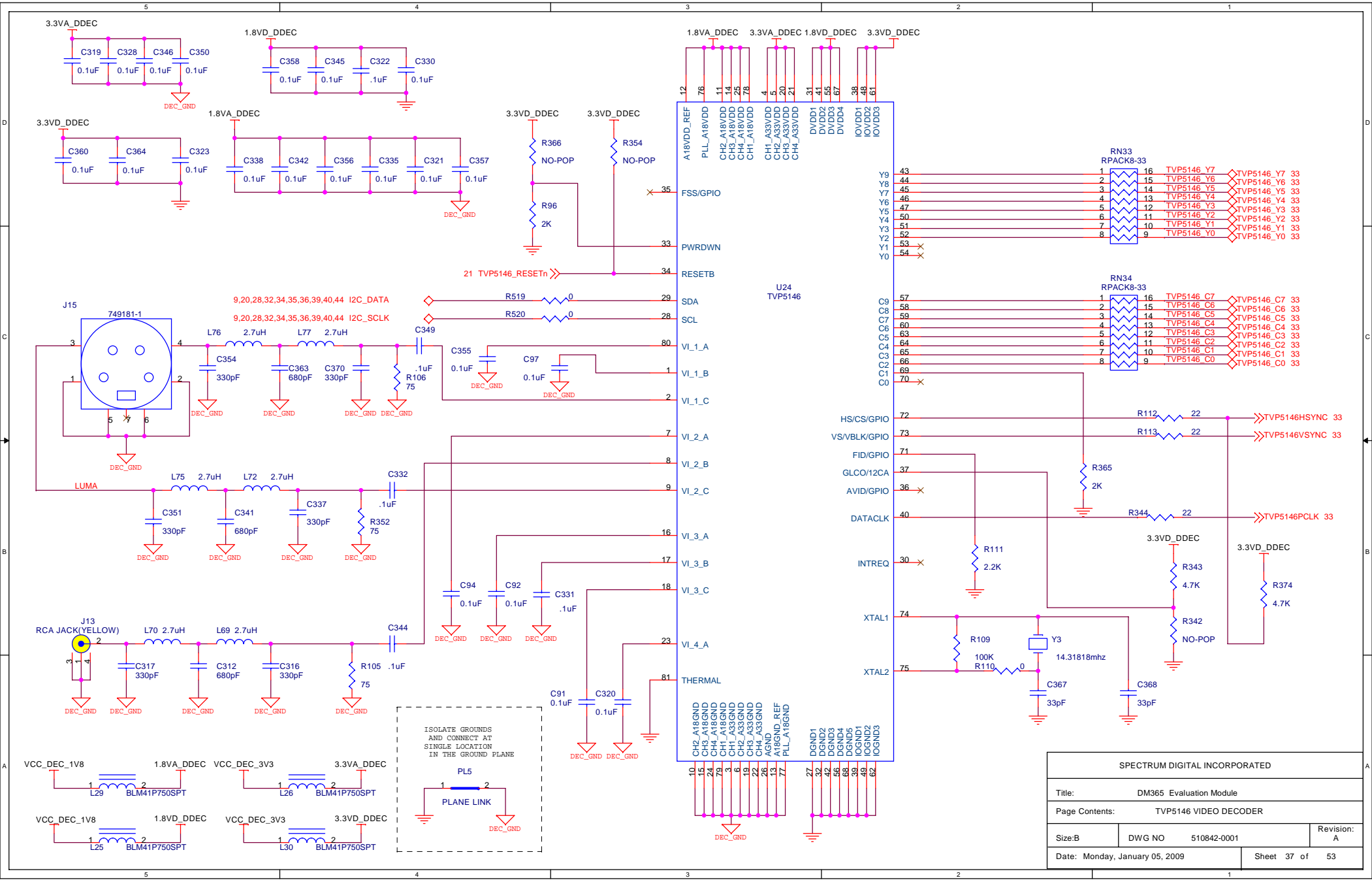
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Page Contents: IMAGER INTERFACE			
Size: B	DWG NO: 510842-0001	Revision: A	
Date: Monday, January 05, 2009	Sheet 34 of 53		



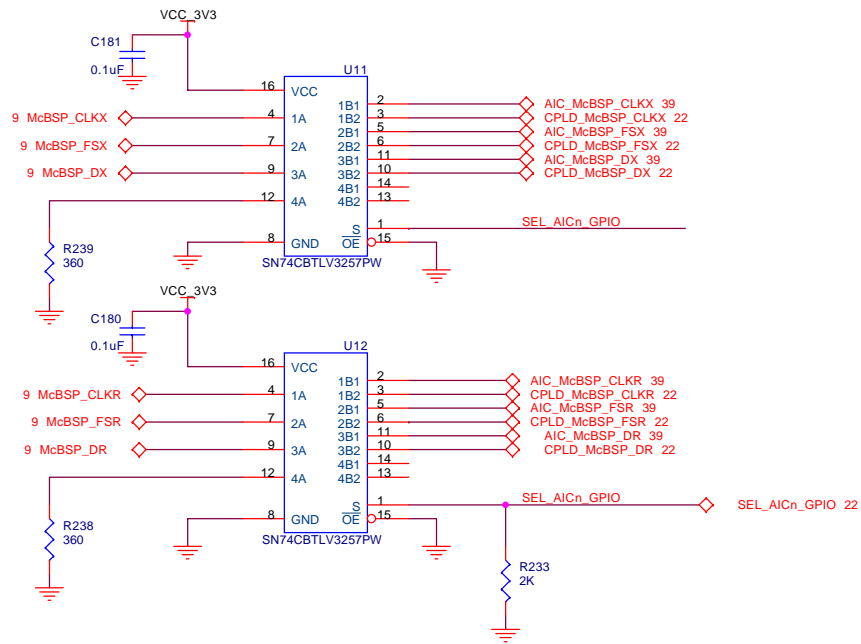
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Title: DM365 Evaluation Module			
Page Contents: TVP7002 HD VIDEO IN			
Size: B	DWG NO	510842-0001	Revision: A
Date:	Monday, January 05, 2009	Sheet 35 of	53



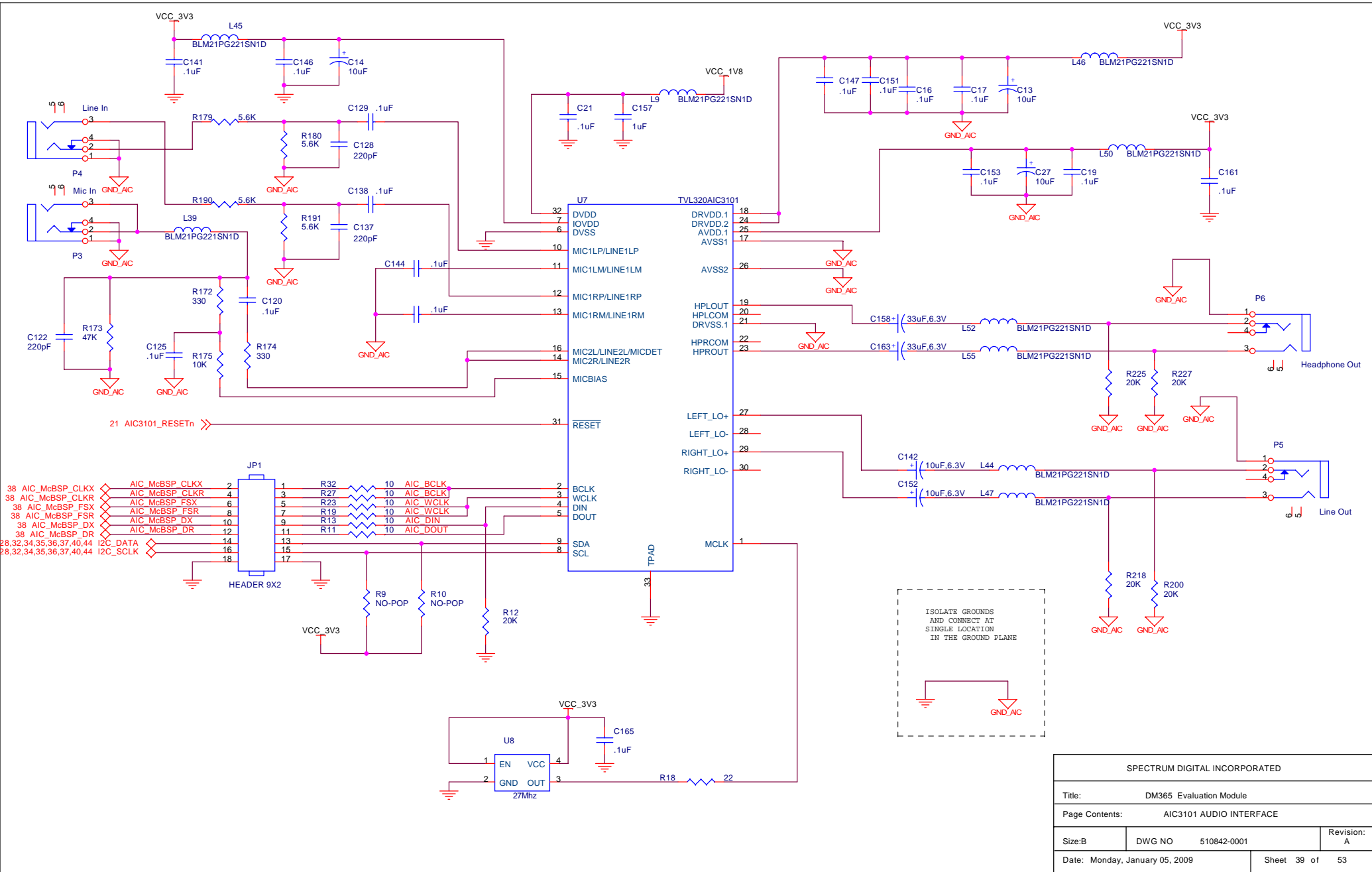
SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: TVP7002 HD VIDEO IN			
Size: B	DWG NO	510842-0001	Revision: A
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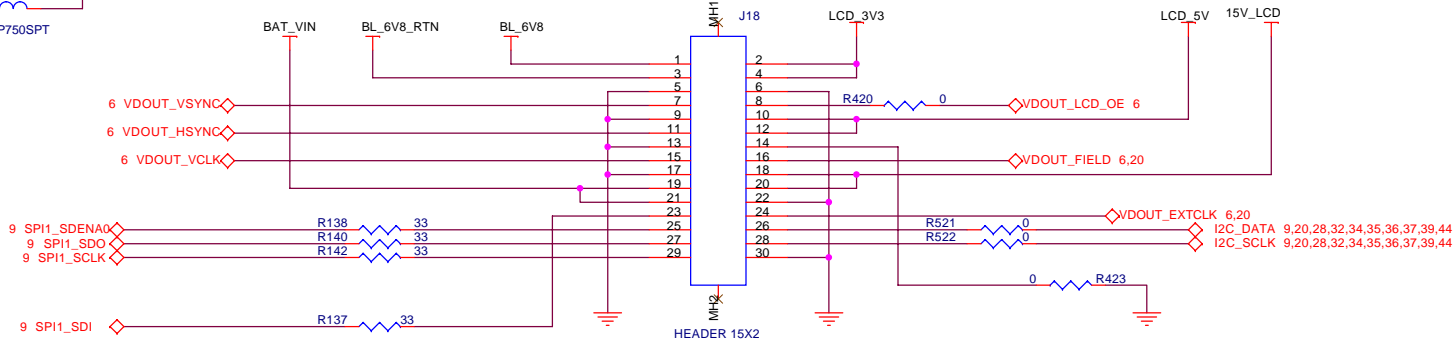
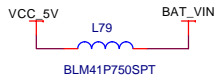
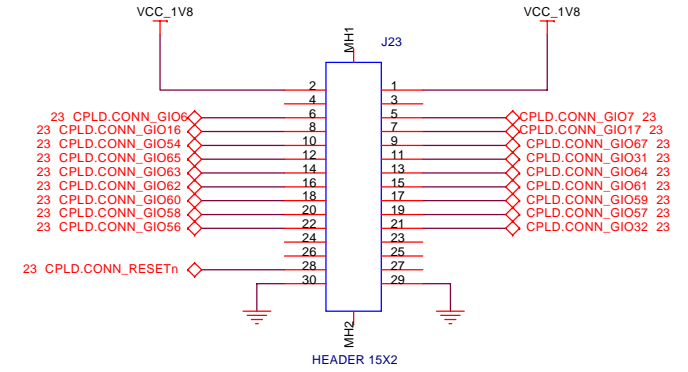
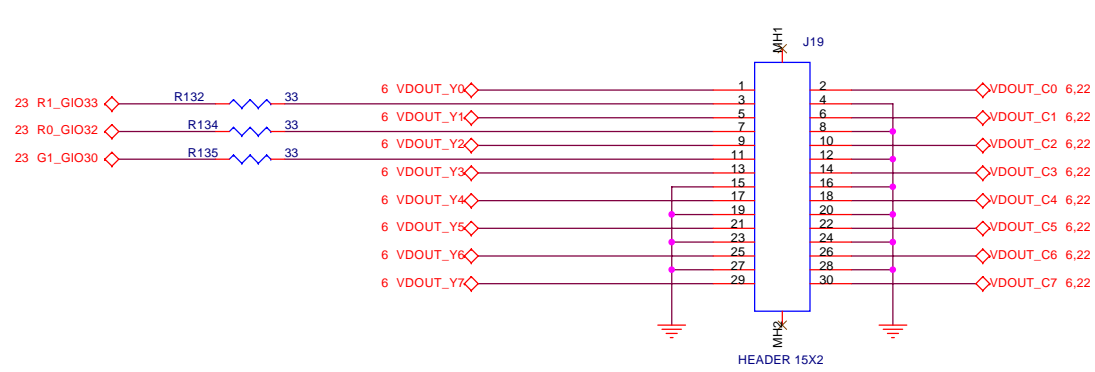
SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: TVP5146 VIDEO DECODER			
Size: B	DWG NO	510842-0001	Revision: A
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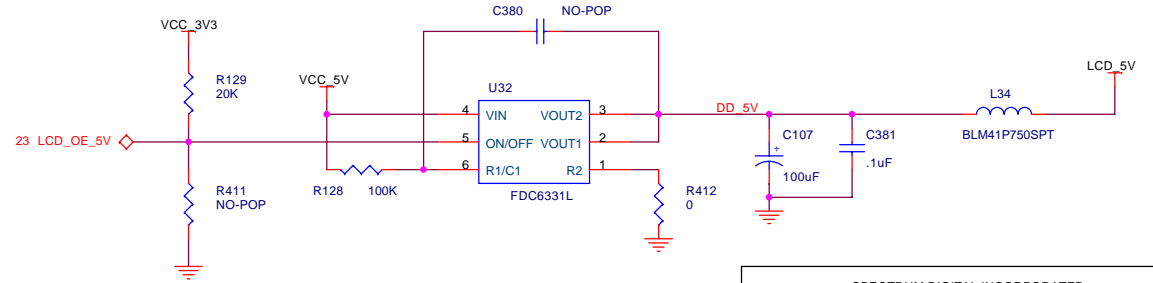
SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: McBSP Muxes			
Size: B	DWG NO	510842-0001	Revision: A
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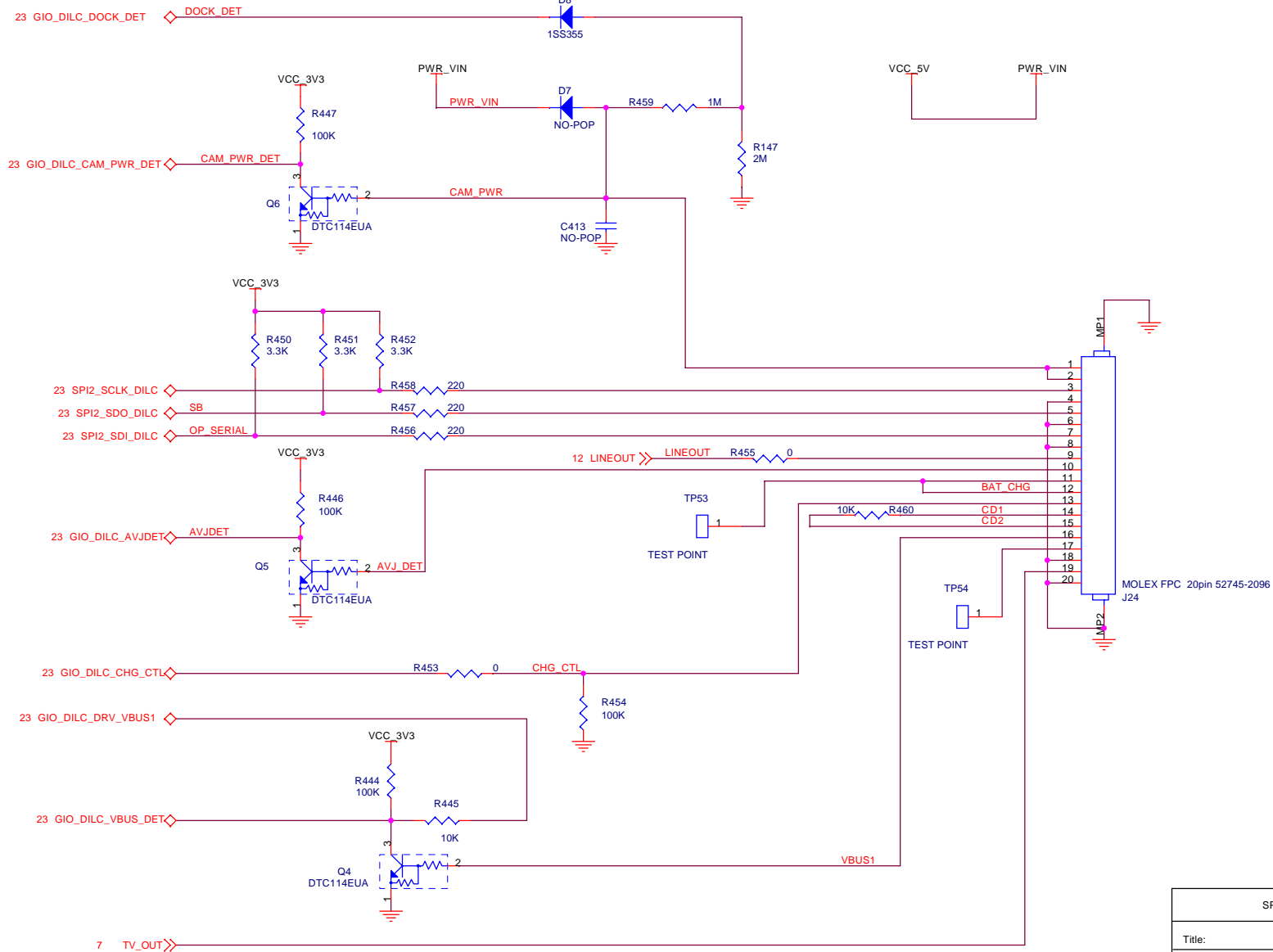
SPECTRUM DIGITAL INCORPORATED			
Title:		DM365 Evaluation Module	
Page Contents:		AIC3101 AUDIO INTERFACE	
Size: B	DWG NO	510842-0001	Revision: A
Date: Monday, January 05, 2009		Sheet 39 of 53	



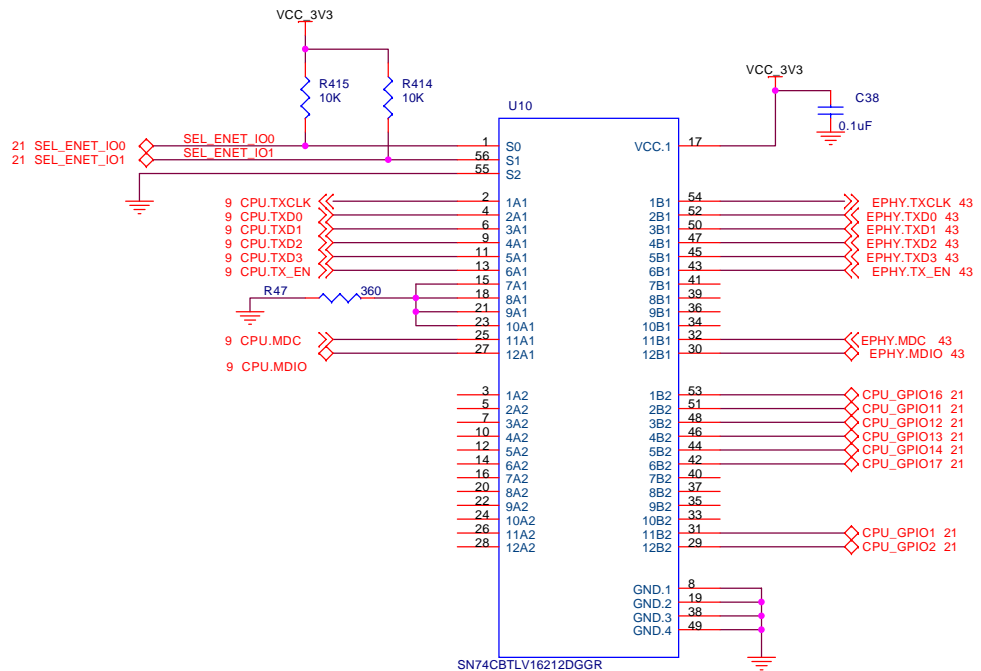
- R0 R1_GIO33
- R1 R1_GIO33
- R2 VDOUT_FIELD
- R3 YOUT3
- R4 YOUT4
- R5 YOUT5
- R6 YOUT6
- R7 YOUT7
- B0 SPI1_SDI
- B1 SPI1_CLK
- B2 VDOUT_VCLK
- B3 COUT0
- B4 COUT1
- B5 COUT2
- B6 COUT3
- B7 COUT4
- G0 SPI1_SDENA0
- G1 G1_GIO30
- G2 COUT5
- G3 COUT6
- G4 COUT7
- G5 YOUT0
- G6 YOUT1
- G7 YOUT2



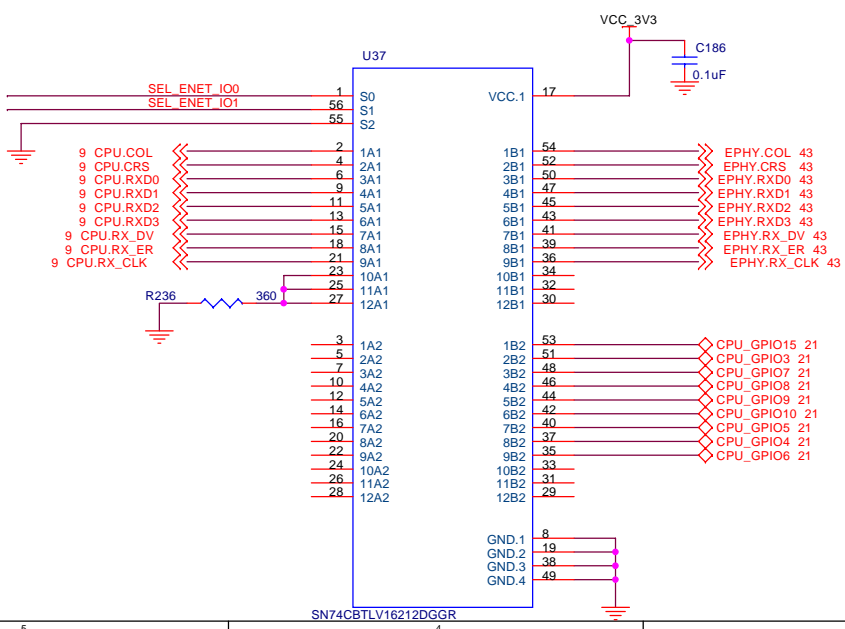
SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: VIDEO OUTPUT DC J41/J42			
Size: B	DWG NO	510842-0001	Revision: D
Date: Wednesday, June 30, 2010		Sheet 40 of 53	



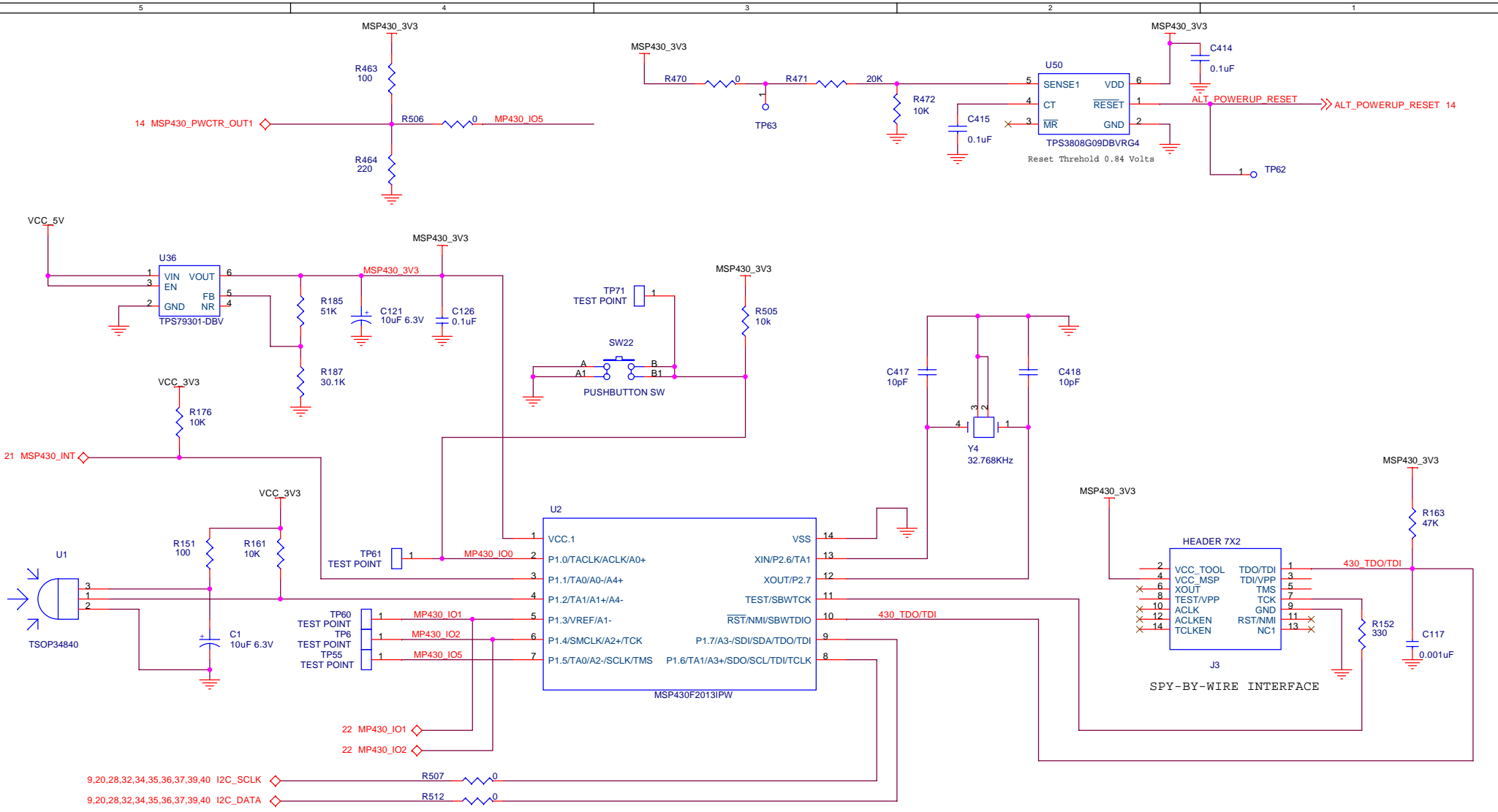
SPECTRUM DIGITAL INCORPORATED			
Title:		DM365 Evaluation Module	
Page Contents:		DILC HOST CONNECTOR	
Size: B	DWG NO	510842-0001	Revision: A
Date: Monday, January 05, 2009		Sheet 41 of 53	



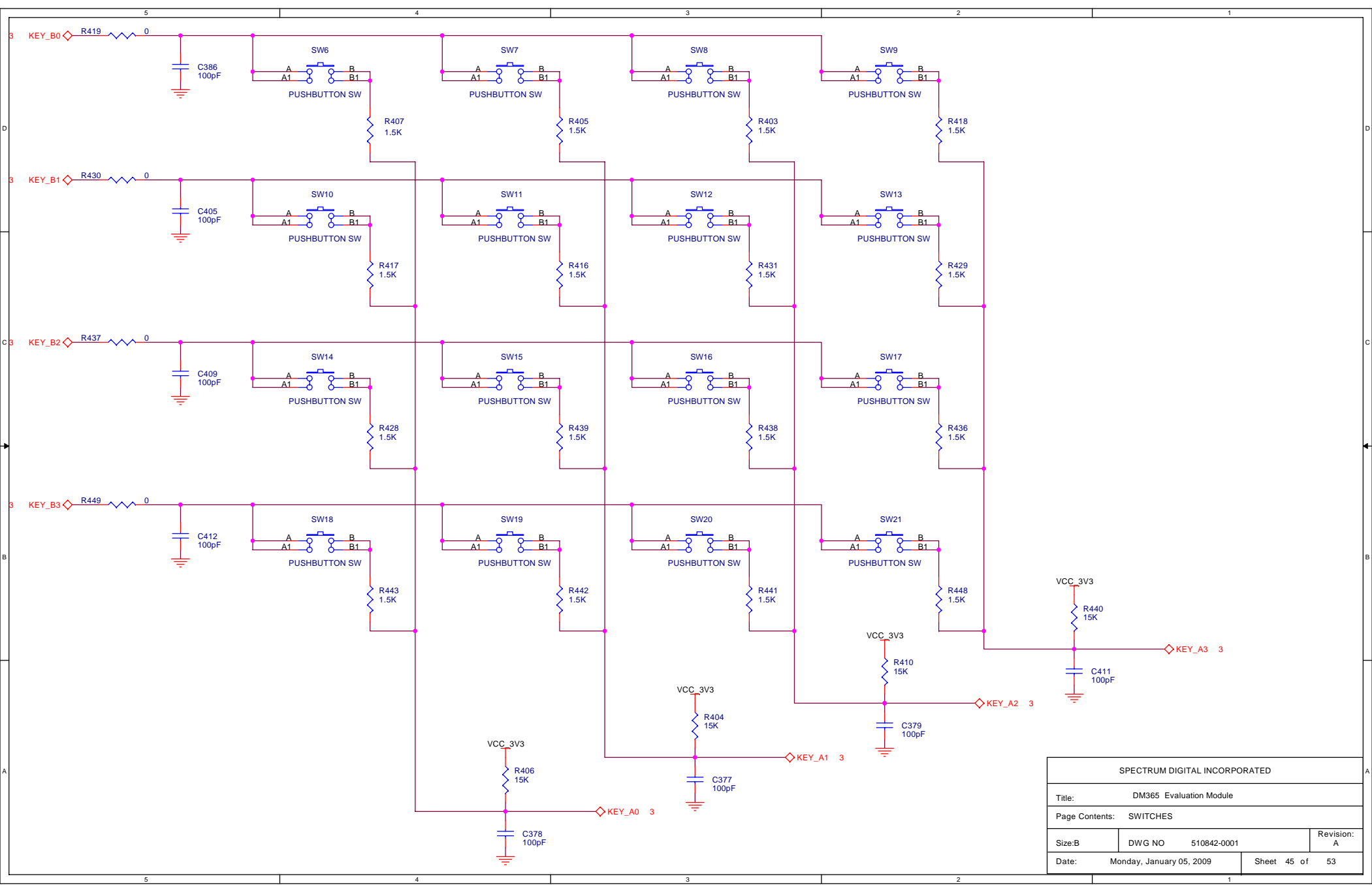
S2	S1	S0	A1	A2	FUNCTION
0	0	0	Z	Z	DISCONNECT
0	0	1	B1	Z	A1 TO B1
0	1	0	B2	Z	A1 TO B2
0	1	1	Z	B1	A2 TO B1
1	0	0	Z	B2	A2 TO B2
1	0	1	Z	Z	DISCONNECT
1	1	0	B1	B2	A1 TO B1 A2 TO B2
1	1	1	B2	B1	A1 TO B2 A2 TO B1



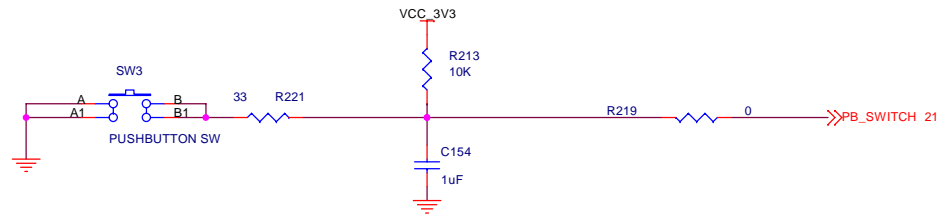
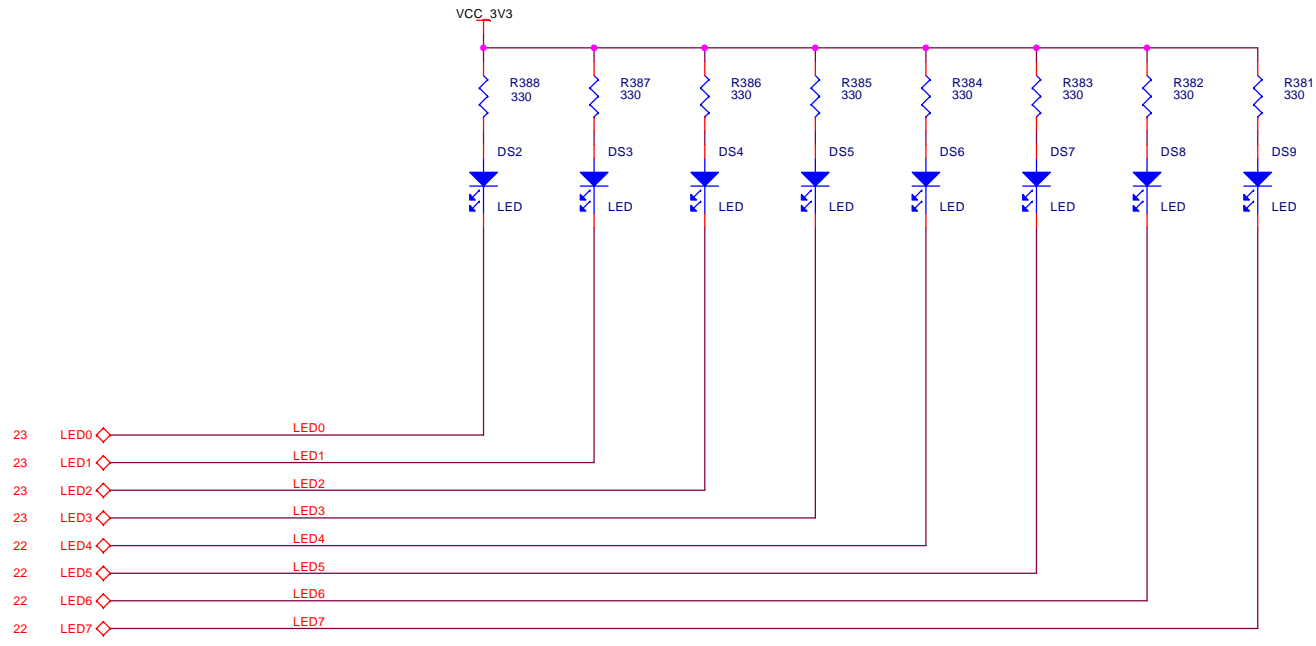
SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: ETHERNET MUXES			
Size: B	DWG NO	510842-0001	Revision: A
Date:	Monday, January 05, 2009	Sheet	42 of 53



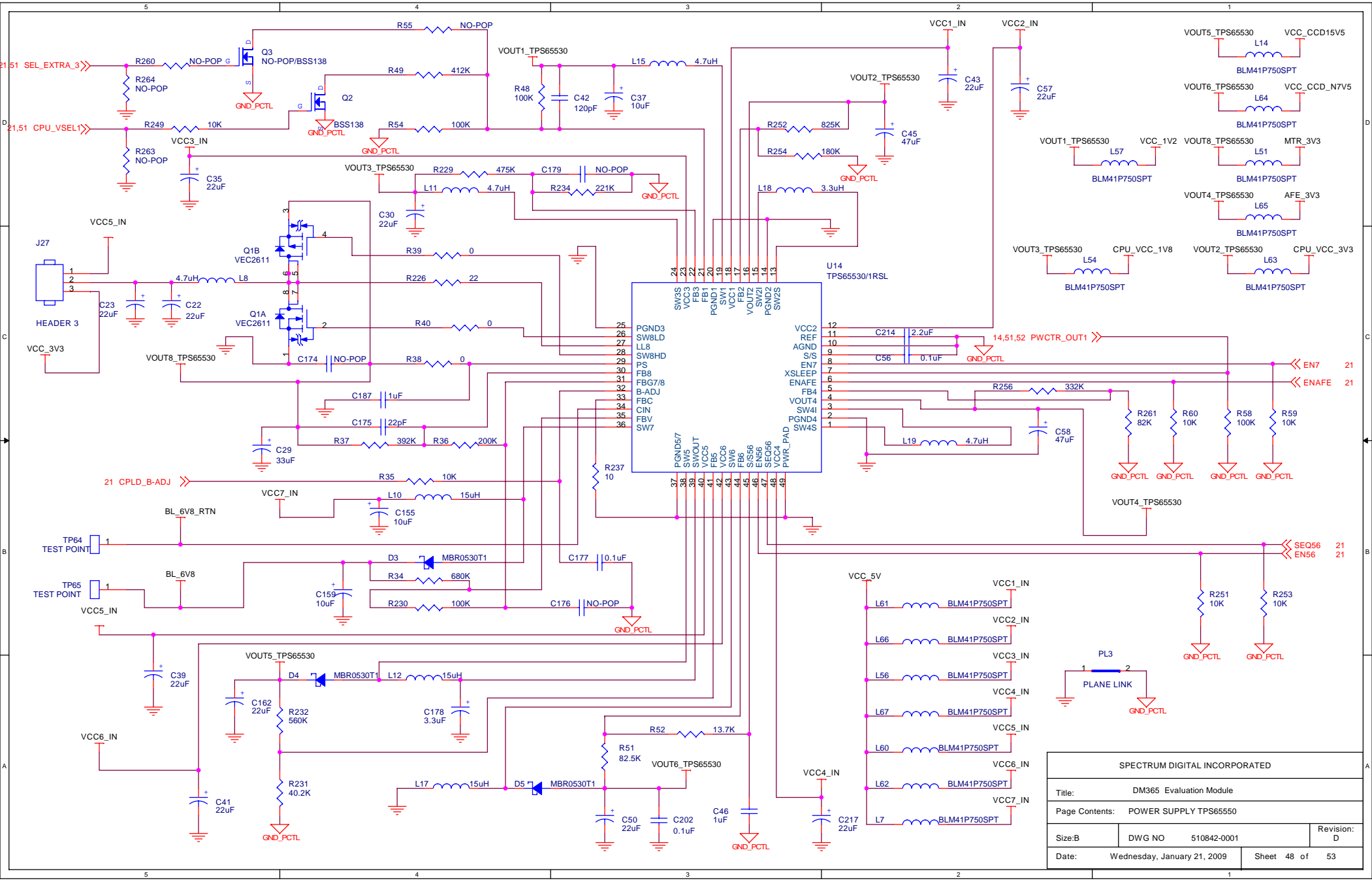
SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: MSP430 & IR INTERFACE			
Size: B	DWG NO	510842-0001	Revision: A
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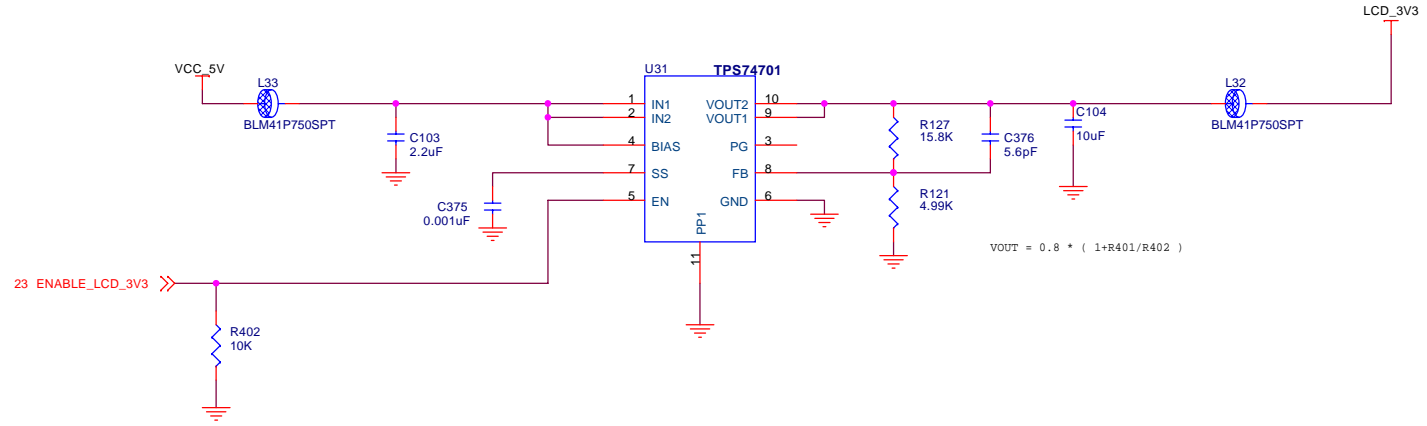
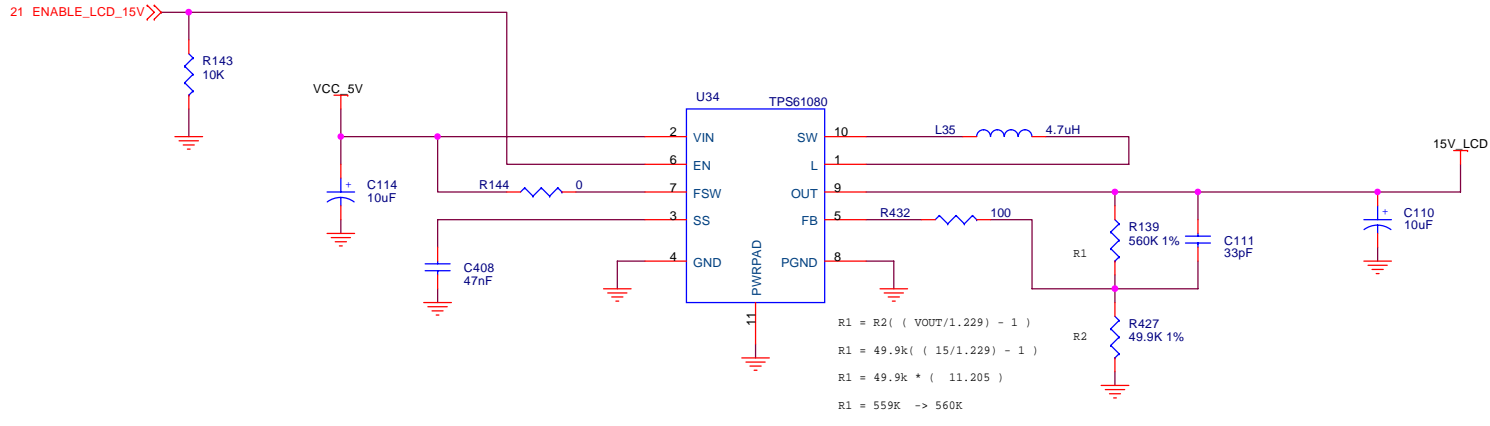
SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: SWITCHES			
Size: B	DWG NO	510842-0001	Revision: A
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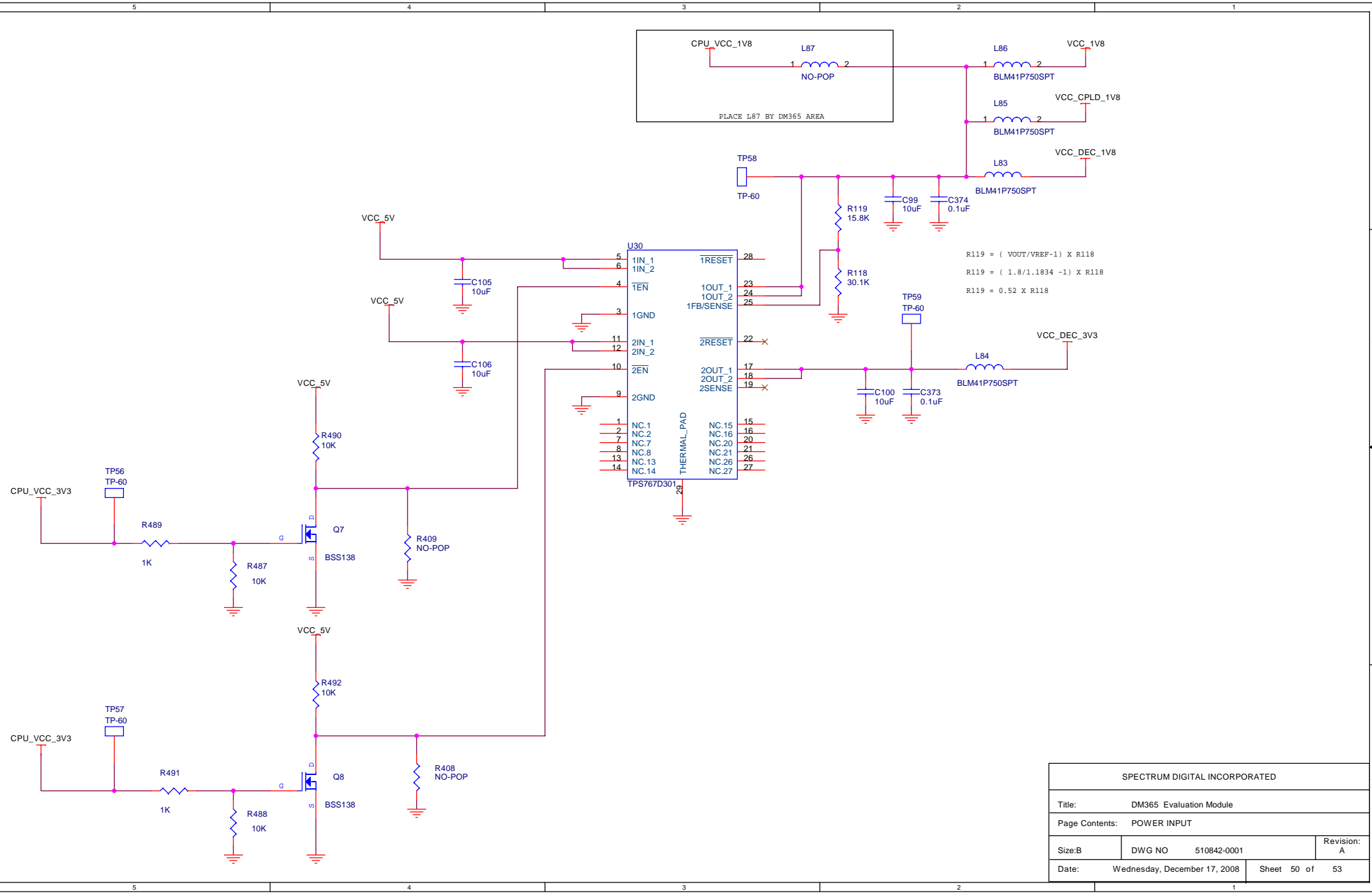
SPECTRUM DIGITAL INCORPORATED		
Title: DM365 Evaluation Module		
Page Contents: SWITCHES		
Size: B	DWG NO: 510842-0001	Revision: A
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SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: POWER SUPPLY TPS65530			
Size: B	DWG NO: 510842-0001	Revision: D	
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SPECTRUM DIGITAL INCORPORATED			
Title: DM365 Evaluation Module			
Page Contents: POWER SUPPLY			
Size: B	DWG NO	510842-0001	Revision: A
Date:	Monday, January 05, 2009	Sheet 49 of	53

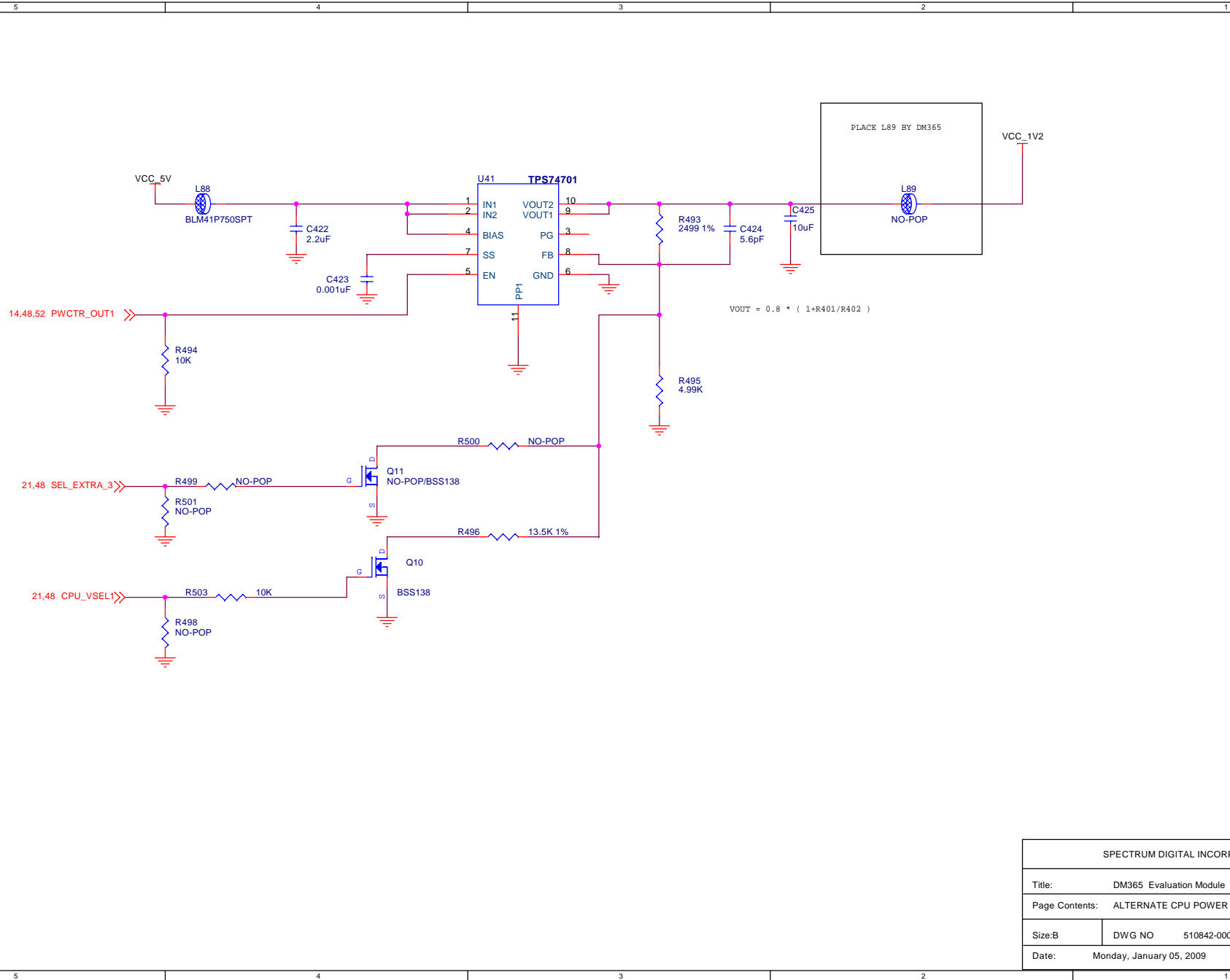


$$R119 = (V_{OUT}/V_{REF}-1) \times R118$$

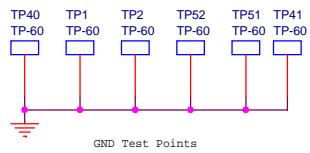
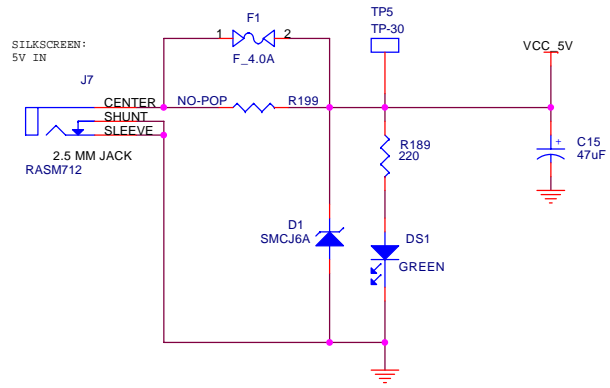
$$R119 = (1.8/1.1834 - 1) \times R118$$

$$R119 = 0.52 \times R118$$

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Page Contents:		POWER INPUT	
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SPECTRUM DIGITAL INCORPORATED			
Title:		DM365 Evaluation Module	
Page Contents:		ALTERNATE CPU POWER	
Size: B	DWG NO	510842-0001	Revision: A
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SPECTRUM DIGITAL INCORPORATED			
Title:		DM365 Evaluation Module	
Page Contents: POWER INPUT			
Size:B	DWG NO	510842-0001	Revision: A
Date:	Wednesday, December 17, 2008	Sheet 53 of	53