

ACTIONTEC ARK4

MODEL: GT704

GT704-WG

GT704-WR

GT704-WRU

MODEL: GT704-WG


54 Mbps Wireless DSL Gateway

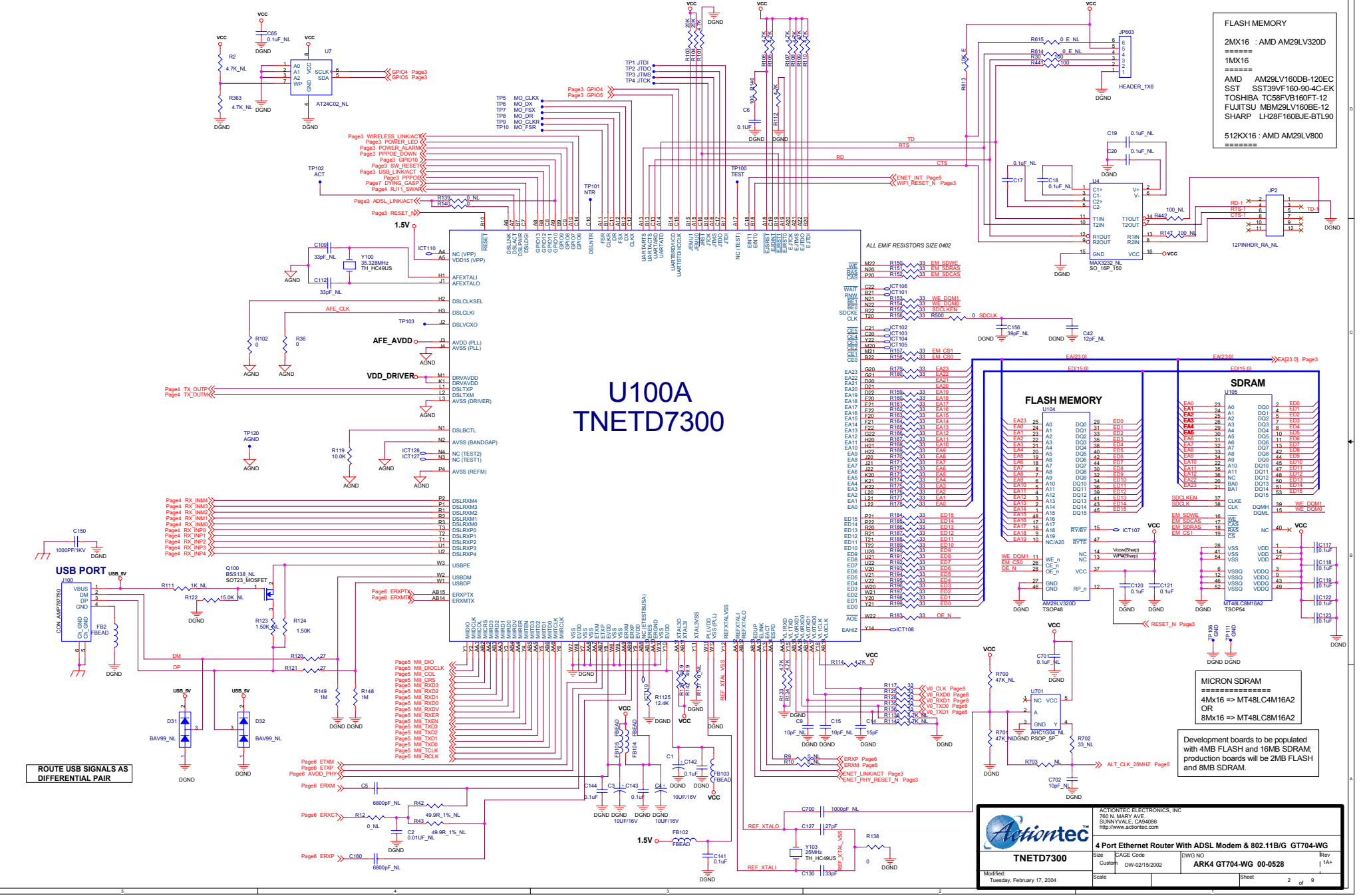
1. TI TNETD7300/A COMMUNICATION PROCESSOR;
2. 4-PORT 10/100M ETHERNET SWITCH WITH MARVELL 88E6060
3. EMBEDDED 802.11B/G(TI V1.2)

REVISION HISTORY:
REV. 1A Initial
Release 05/23/03

COMPONENT PACKAGE INFORMATION:

CAP, RES
_A: CASE A
_K: 0402
_B: 0603
_F: 0805
_G: 1206
_I: 1812
_J: 2010
_NL: DO
NOT LOAD.

	ACTIONTEC ELECTRONICS, INC. 760 N. MARY AVE. SUNNYVALE, CA 94086 http://www.actiontec.com			
	4 Port Ethernet Router With ADSL Modem & 802.11B/G GT704-WG			
COVER	Size C	CAGE Code DW-02/15/2002	DWG NO ARK4 GT704-WG 00-0528	Rev 1 1A*
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ROUTE USB SIGNALS AS DIFFERENTIAL PAIR

FLASH MEMORY
 2MX16 : AMD AM29LV320D
 =====
 1MX16
 =====
 AMD AM29LV160DB-120EC
 SST SST39VF160-90-4C-EK
 TOSHIBA TC58FV160F1-T-12
 FUJITSU MBM29LV160BE-12
 SHARP LH28F160BJE-BT150
 =====
 512KX16 : AMD AM29LV800
 =====

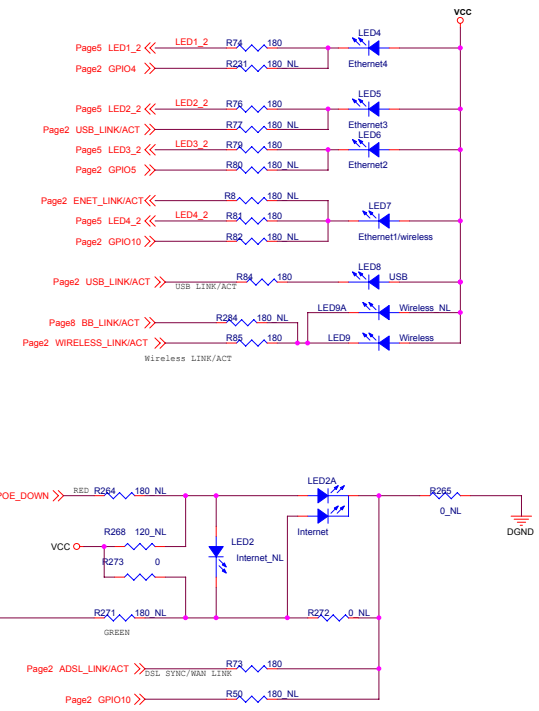
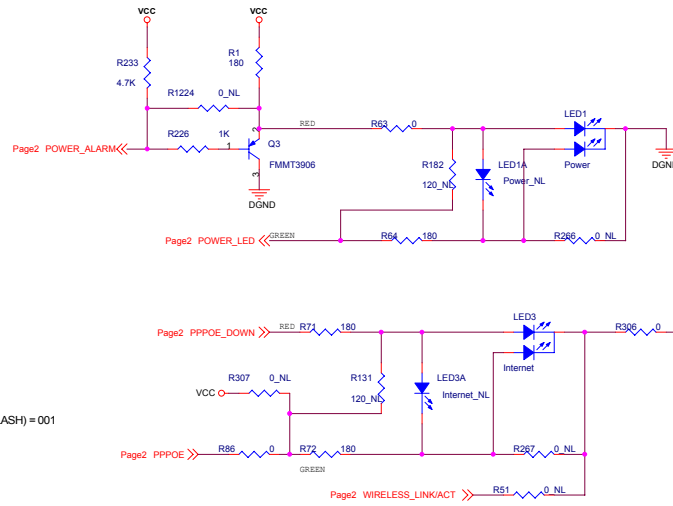
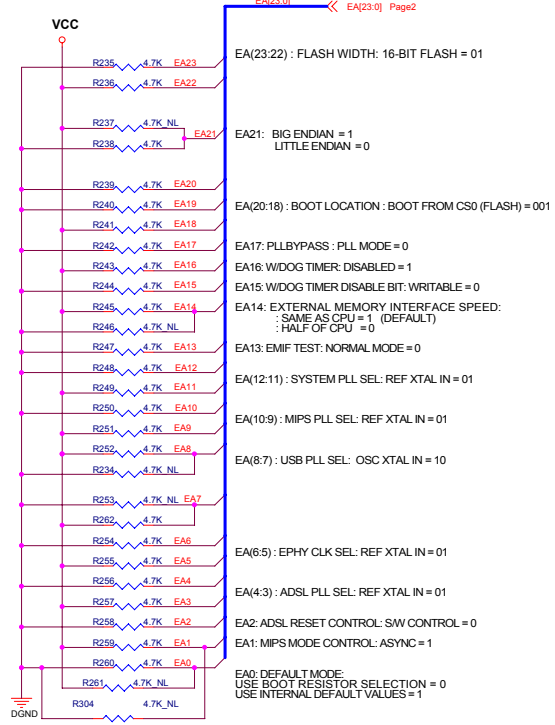
MICRON SDRAM
 =====
 4Mx16 => MT48LC4M16A2
 OR
 8Mx16 => MT48LC8M16A2

Development boards to be populated with 4MB FLASH and 16MB SDRAM; production boards will be 2MB FLASH and 8MB SDRAM.

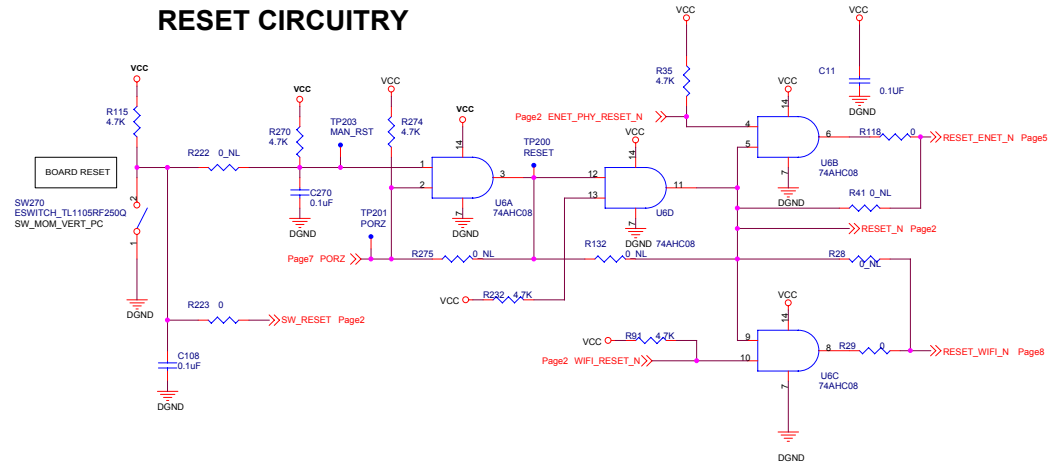
		ACTIONTEC ELECTRONICS, INC.	
		760 N. MARY AVE. SUNNYVALE, CA 94086 http://www.actiontec.com	
TNETD730 Size: Custom Modified: Tuesday, February 17, 2004		4 Port Ethernet Router with ADSL Modem & 802.11b/G GT704-WG Size: Custom DWG NO: DW-02/152002 Scale:	
		DWG NO: ARK4 GT704-WG 00-0528 Rev: 1.1A* Sheet: 2 of 9	

TNETD7300 BOOT CONFIGURATION

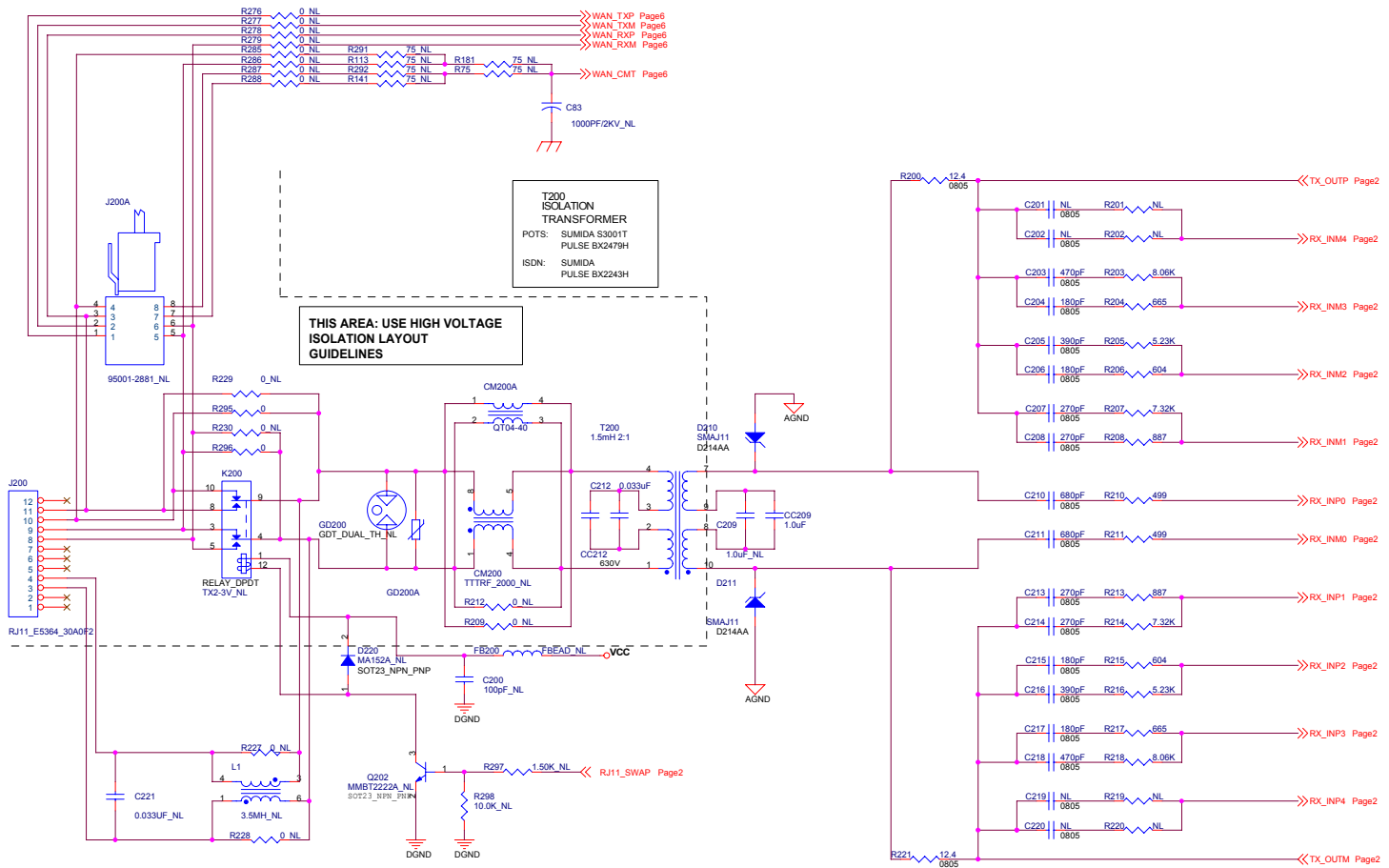
ALL BOOT CONFIG RESISTORS SIZE 0402



RESET CIRCUITRY



	ACTIONTEC ELECTRONICS, INC 760 N. MARY AVE. SUNNYVALE, CA 94086 http://www.actiontec.com		
	4 Port Ethernet Router With ADSL Modem & 802.11B/G GT704-WG		
GPIO_LED_RESET	Size C	CAGE Code DW-02/15/2002	DWG NO ARK4 GT704-WG 00-0528
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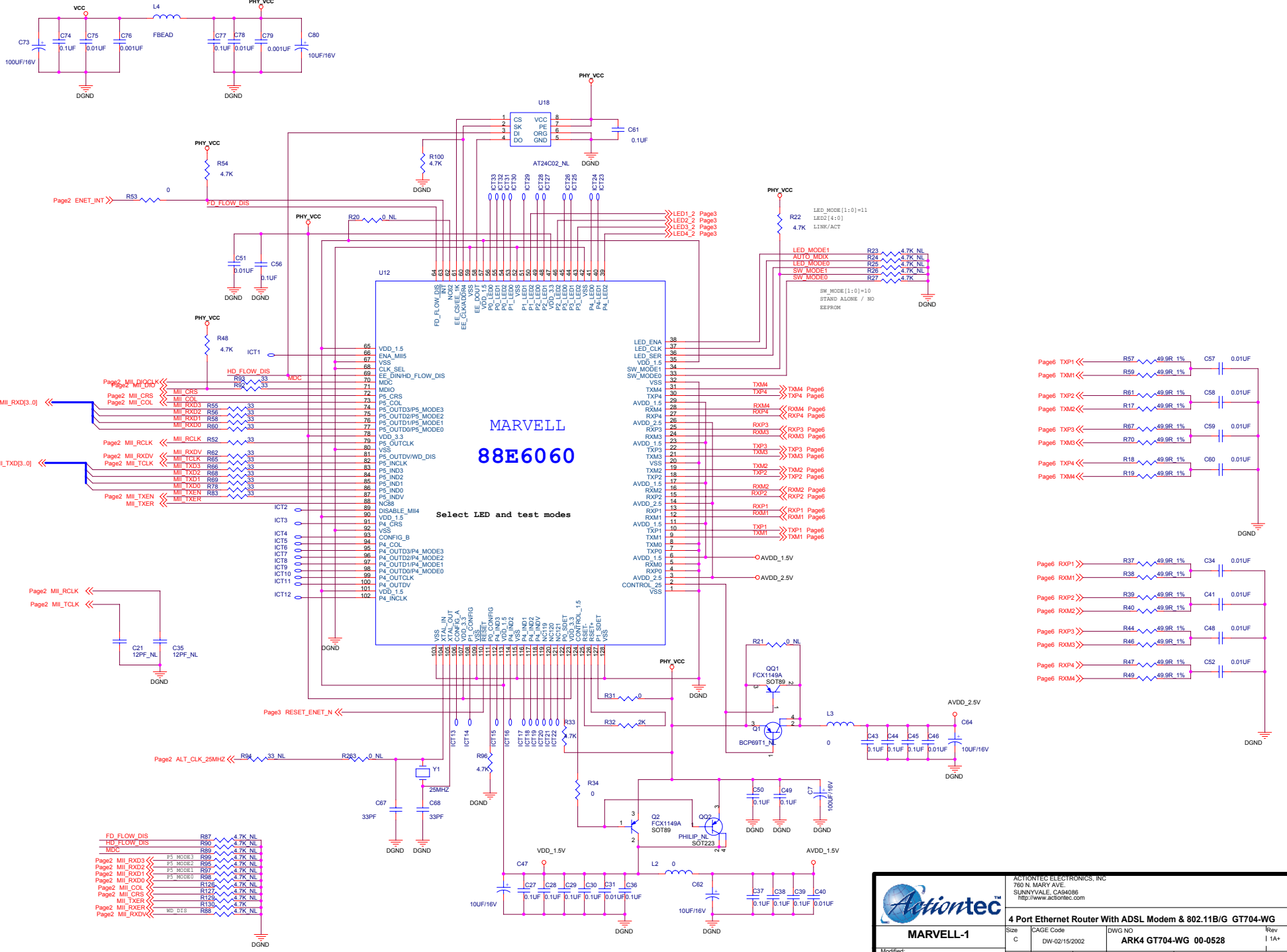


Rev 0.1: 02-27-2003	Completed initial board design.
Rev 0.2: 02-28-2003	Added ALT_CLK_25MHZ; other minor mods - submitted to DSI for board layout quote.
Rev 0.3: 03-04-2003	Updated hybrid values; changed footprint of boot resistors to 0402; changed power switch footprint
Rev 0.4: 03-04-2003	Added alternate 12V power-down circuit driven from LPO signal
Rev 0.5: 03-10-2003	Added relay at RJ11 for inner/outer pair swap; changed Y100 footprint
Rev 0.6: 03-12-2003	Removed P600 RS232 connector; various other minor mods for layout considerations.
Rev 0.7: 03-17-2003	Modified 12V power-down circuit; added C423 10uF ceramic to buck output.
Rev 0.71: 03-19-2003	Changed CLK_SEL pullup to 3.5V_FILTERED for routing.
Rev 0.72: 03-20-2003	Corrected signal name on AFE_CLK; updated values on 3.5V power supply circuitry.
Rev 0.73: 03-20-2003	Changed all 0805 FBs to 0603; deleted unneeded testpoints.
Rev 0.80: 03-25-2003	Added option for filtered supply to AFE_AVDD instead of using integrated LDO; revised tie-offs to unused ethernet PHY; deleted R124 and R426; deleted connections to B4 and C4 pins.
Rev 0.81: 03-31-2003	Changed chassis gnd caps to 1808 footprint; added extra board HF decoupling caps. Updated hybrid values and population options.
Release 1	

For ISDN, populate values as follows

R208, R213 = 976 ohms;	C208, C213 = 180pF
R207, R214 = 59.0K ohms;	C207, C214 = 100pF
R206, R215 = 1.37K ohms;	C206, C215 = 100pF
R205, R216 = 17.4Kohms;	C205, C216 = 150pF
R204, R217 = 909 ohms;	C204, C217 = 180pF
R203, R218 = NL;	C203, C218 = NL
R202, R219 = NL;	C202, C219 = NL
R201, R220 = NL;	C201, C220 = NL
C212 = 0.022uF	
C210, C211 = 330pF	

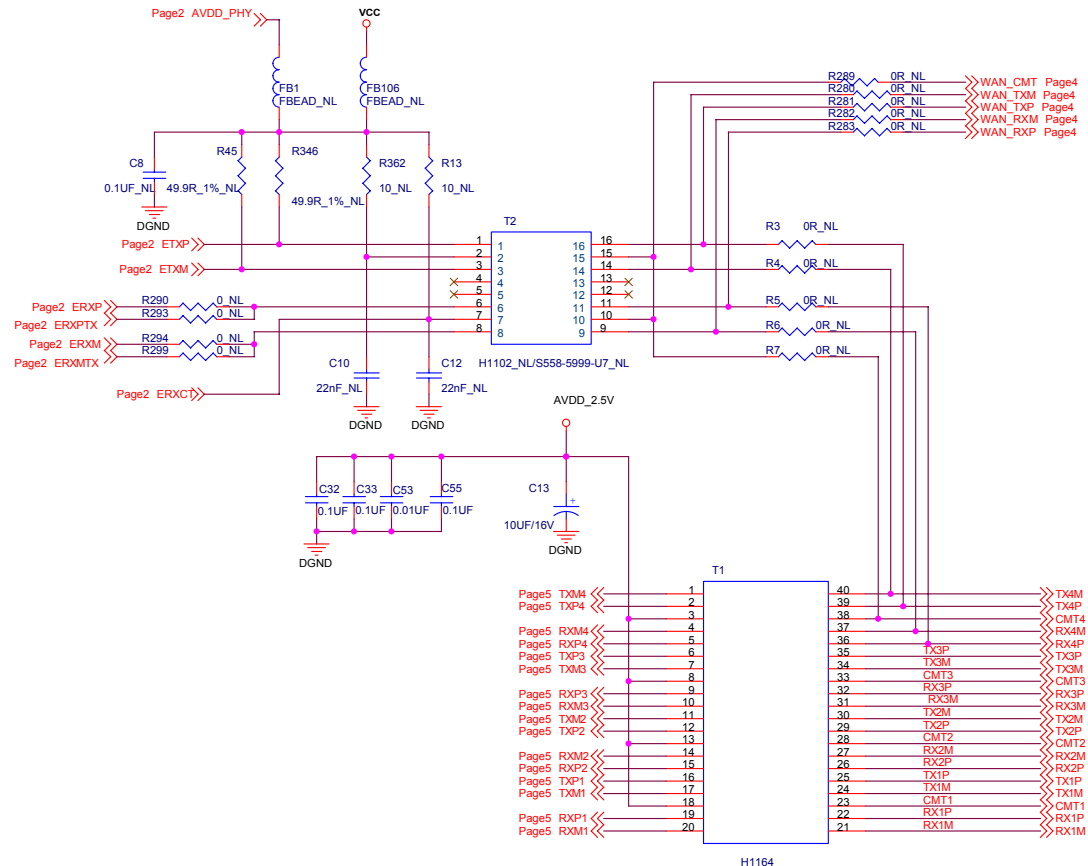
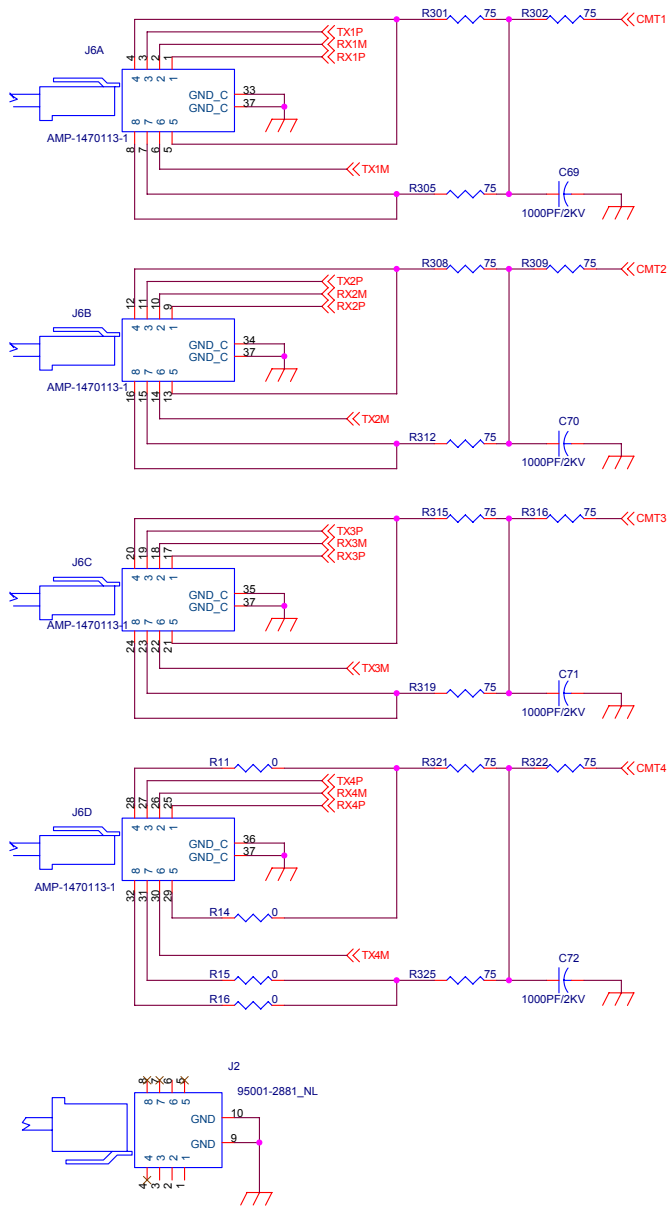
	ACTIONTEC ELECTRONICS, INC. 760 N. MARY AVE. SUNNYVALE, CA 94086 http://www.actiontec.com			
	4 Port Ethernet Router With ADSL Modem & 802.11B/G GT704-WG			
HYBRID	Size C	CAGE Code DW-02/15/2002	DWG NO ARK4 GT704-WG 00-0528	Rev 1 1A+
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MARVELL 88E6060

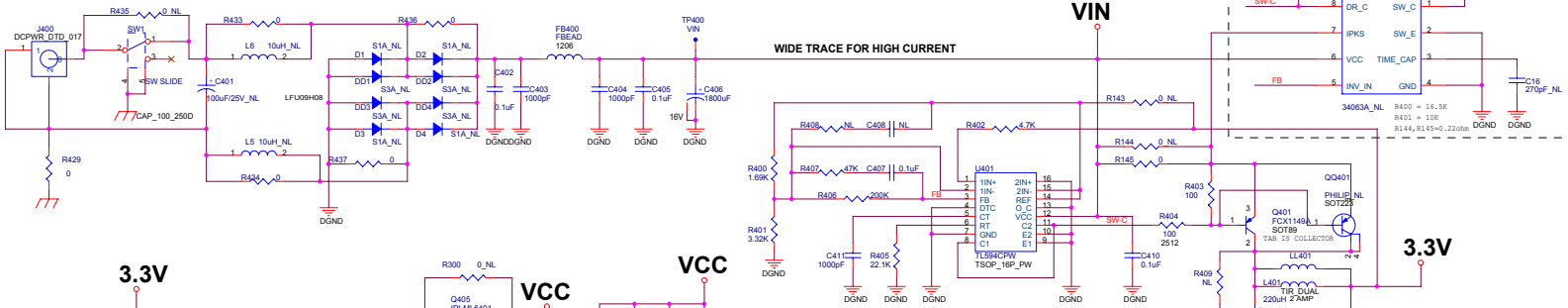
Select LED and test modes

 MARVELL-1	ACTIONTEC ELECTRONICS, INC. 760 N. MARY AVE. SUNNYVALE, CA 94086 http://www.actiontec.com		
	4 Port Ethernet Router With ADSL Modem & 802.11B/G GT704-WG		
	Size C Modified: Tuesday, February 17, 2004	CAGE Code DW-02/15/2002	DWG NO ARK4 GT704-WG 00-0528 Rev 1.1A+
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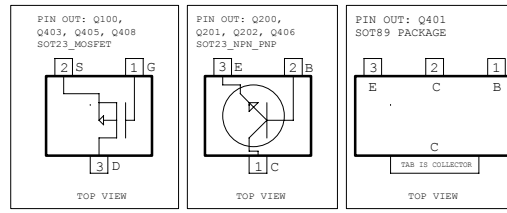
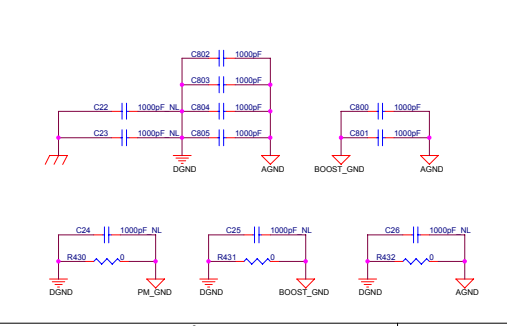
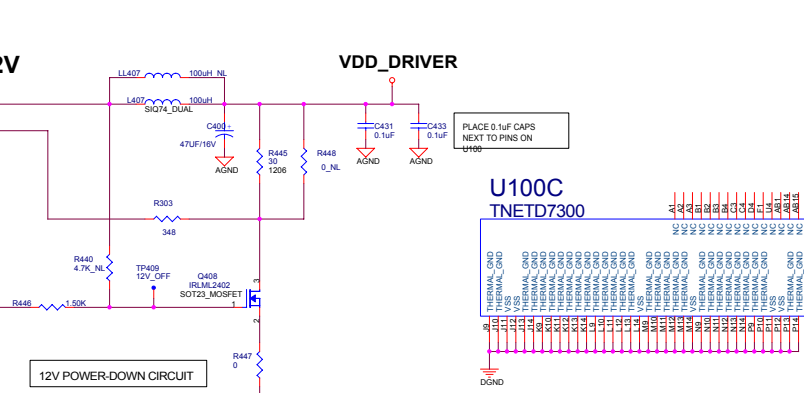
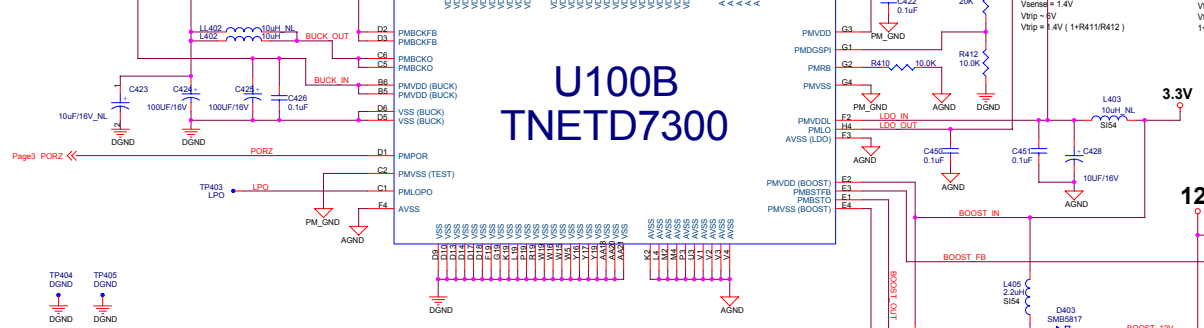
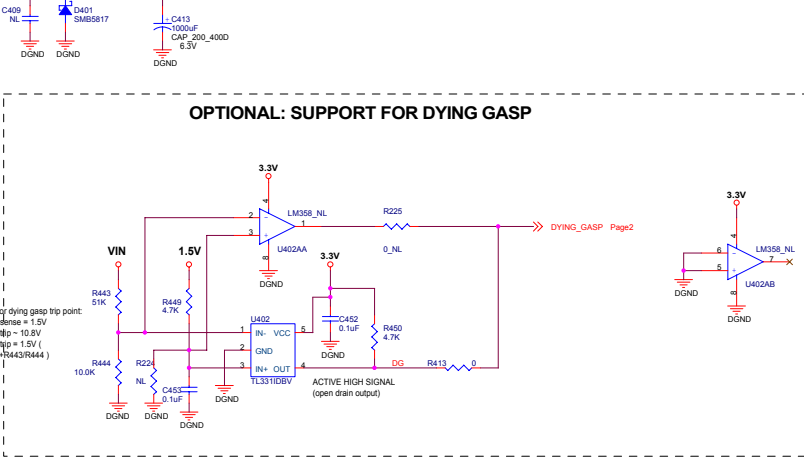
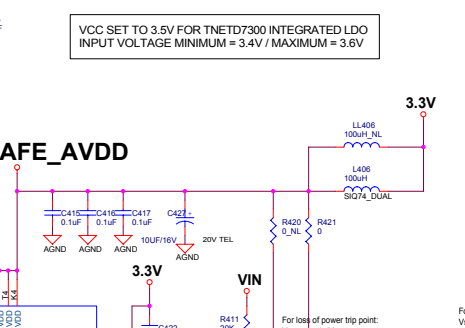
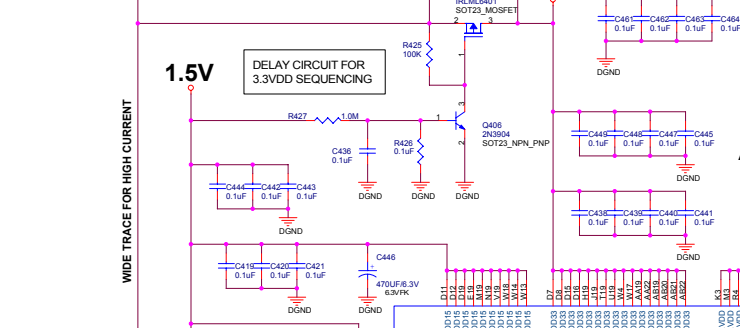


 MARVELL-2	ACTIONTEC ELECTRONICS, INC 760 N. MARY AVE. SUNNYVALE, CA94086 http://www.actiontec.com	
	4 Port Ethernet Router With ADSL Modem & 802.11B/G GT704-WG	
Size: A3 Modified: Tuesday, February 17, 2004	CAGE Code: DW-02/15/2002 Scale:	DWG NO: ARK4 GT704-WG 00-0528 Rev: 1A+
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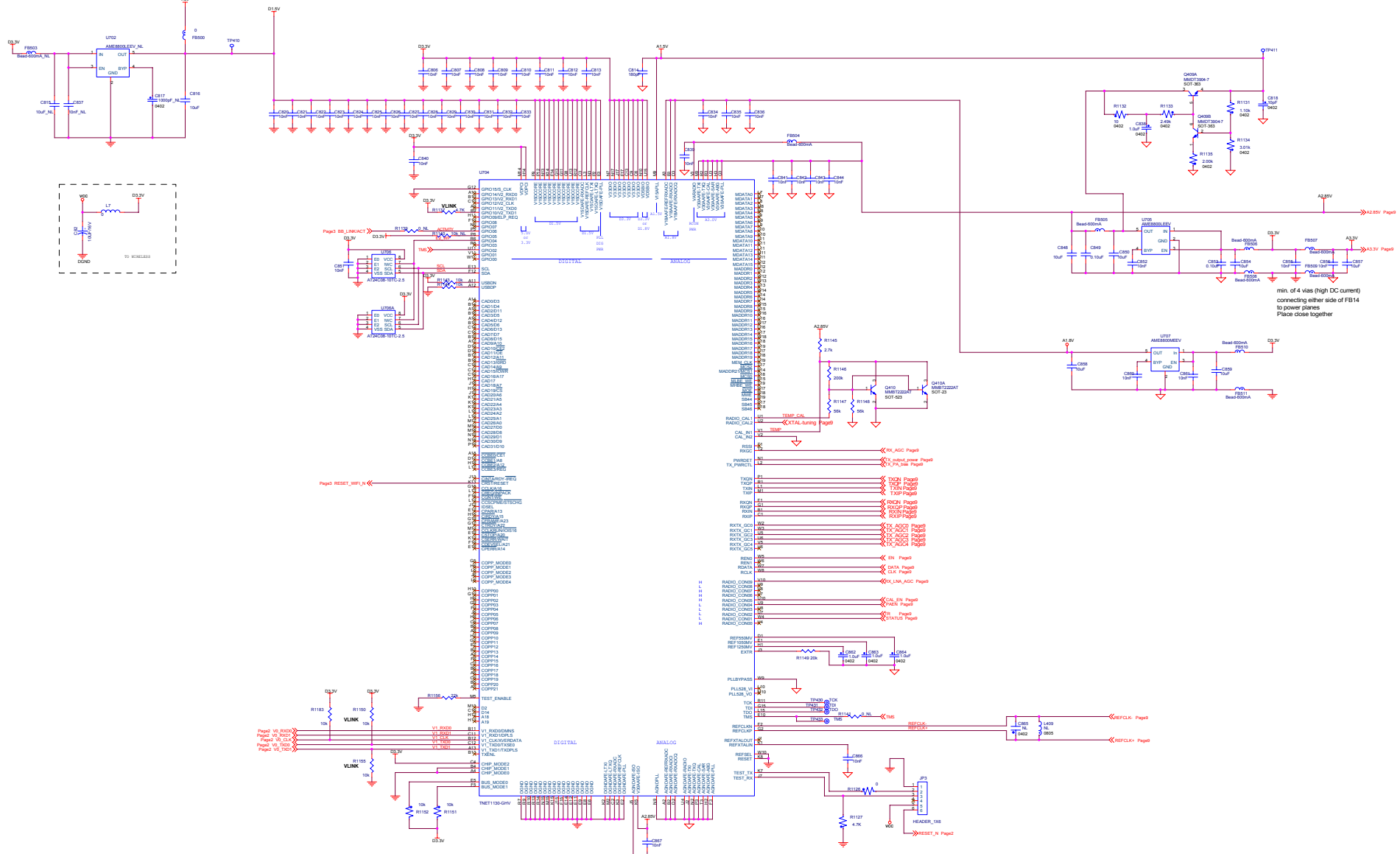
WALL BRICK INPUT
9VAC / 12VDC @ 500mA



VCC SET TO 3.5V FOR TNETD7300 INTEGRATED LDO
 INPUT VOLTAGE MINIMUM = 3.4V / MAXIMUM = 3.6V

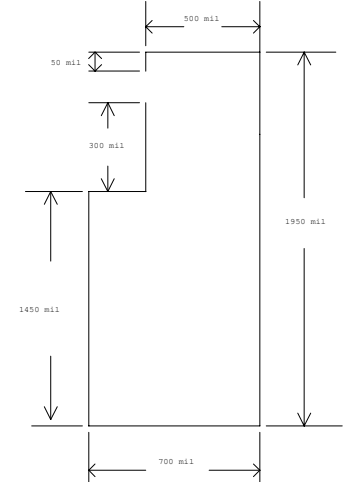
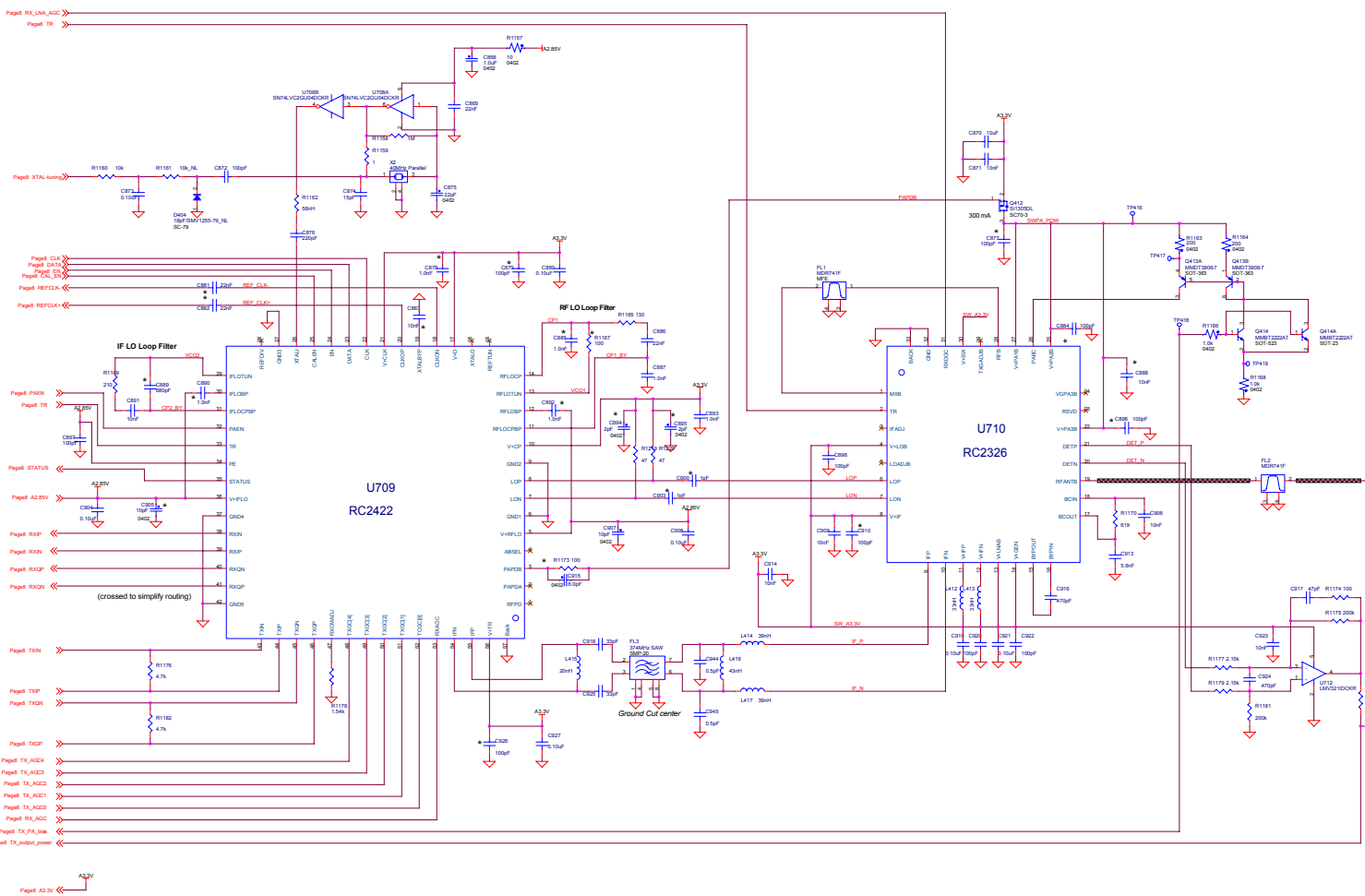


		ACTIONTEC ELECTRONICS, INC.	
		760 N. MARY AVE. SUNNYVALE, CA 94086 http://www.actiontec.com	
POWER		4 Port Ethernet Router With ADSL Modem & 802.11B/G GT704-WG	
Size	CAGE Code	DWG NO	Rev
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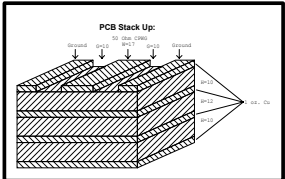


min. of 4 vias (high DC current) connecting either side of FB14 to power planes. Place close together

		AIRTIMED ELECTRONICS, INC. 7914 AMITY AVE. CHRYSTLER, GEORGIA REP: www.airtimed.com	
		4 Port Ethernet Router With ADSL Modem & 802.11G/GT704-WG	
T 802.11G-B BASEBAND		Size: 01W-0712033	DWG NO: ARK4 GT704-WG 00-0528
Title:	Date:	Sheet:	Rev:
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- Notes:
1. * = place close to chip
 2. The LO lines and the IF lines are to be run as differential pairs. It is recommended that the lines within the pairs be as close as possible and as thin as possible. Note that the LO pair is to have preferential routing over the IF pair. Layout should be symmetric to reduce 50 2nd harmonic radiation.
 3. U2 pin 25 draws high current. Ensure that the trace width between Q4 & pin 25 is wide enough to minimize the voltage drop due to trace losses.



Special Instructions for Radio Routing

1. Keep all RF lines as short as possible
2. Do not route digital control lines near RF lines
3. Keep all RF traces isolated with GND on both sides of the trace whenever possible
4. Clock/O lines should be embedded to minimize noise coupling

XXXXXXXXXX Critical 50 Ohm Transmission Lines

		ANALOGTEK ELECTRONICS, INC. 7901 AMVY BLVD DALLAS, TEXAS 75249 TEL: 972.382.2200 FAX: 972.382.2201 WWW.ANALOGTEK.COM	
		4 Port Ethernet Router With ADSL Modem & 802.11B/G GT704-WG	
TI 802.11B-G RADIO	Size: 0 Date: 01/17/2004	Part No: ARK4 GT704-WG 00-0528	Rev: 104
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