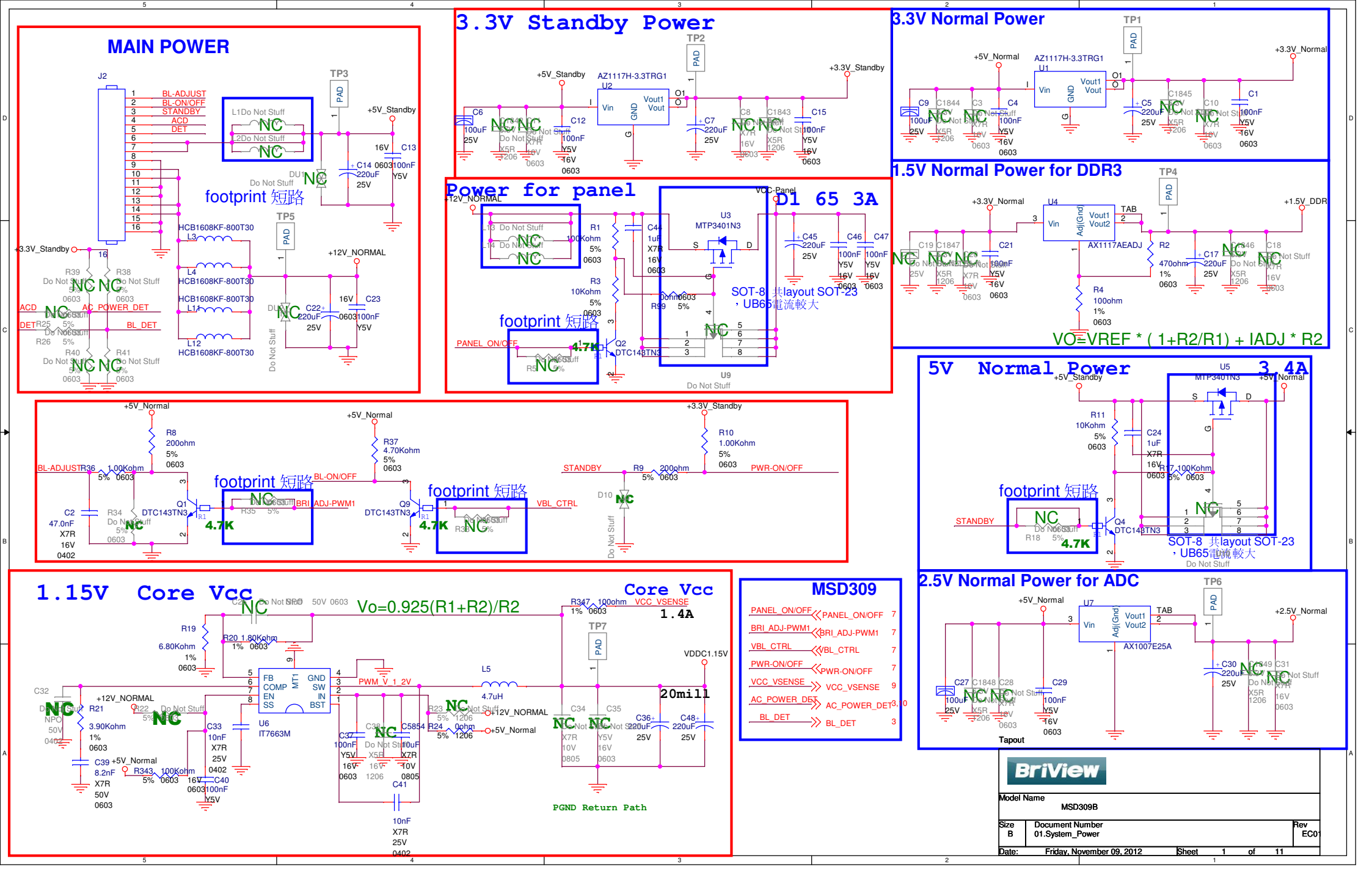
MAIN POWER
3.3V Standby Power
3.3V Normal Power
1.5V Normal Power for DDR3
Power for panel
D1 65 3A
5V Normal Power 3.4A
1.15V Core Vcc
Core Vcc
1.4A
Vo=0.925(R1+R2)/R2
2.5V Normal Power for ADC
footprint 短路
SOT-8 共layout SOT-23，UB65電流較大
VO=VREF * (1+R2/R1) + IADJ * R2
PGND Return Path
MSD309
BL-ADJUST
BL-ON/OFF
STANDBY
ACD
DET
AC_POWER_DET
BL_DET
PANEL_ON/OFF
BRI_ADJ-PWM1
VBL_CTRL
PWR-ON/OFF
VCC_VSENSE
+5V_Standby
+3.3V_Standby
+5V_Normal
+3.3V_Normal
+12V_NORMAL
+1.5V_DDR
+2.5V_Normal
VDDC1.15V
20mill
Tapout
BriView
Model Name
MSD309B
Size
B
Document Number
01.System_Power
Rev
EC01
Date:
Friday, November 09, 2012
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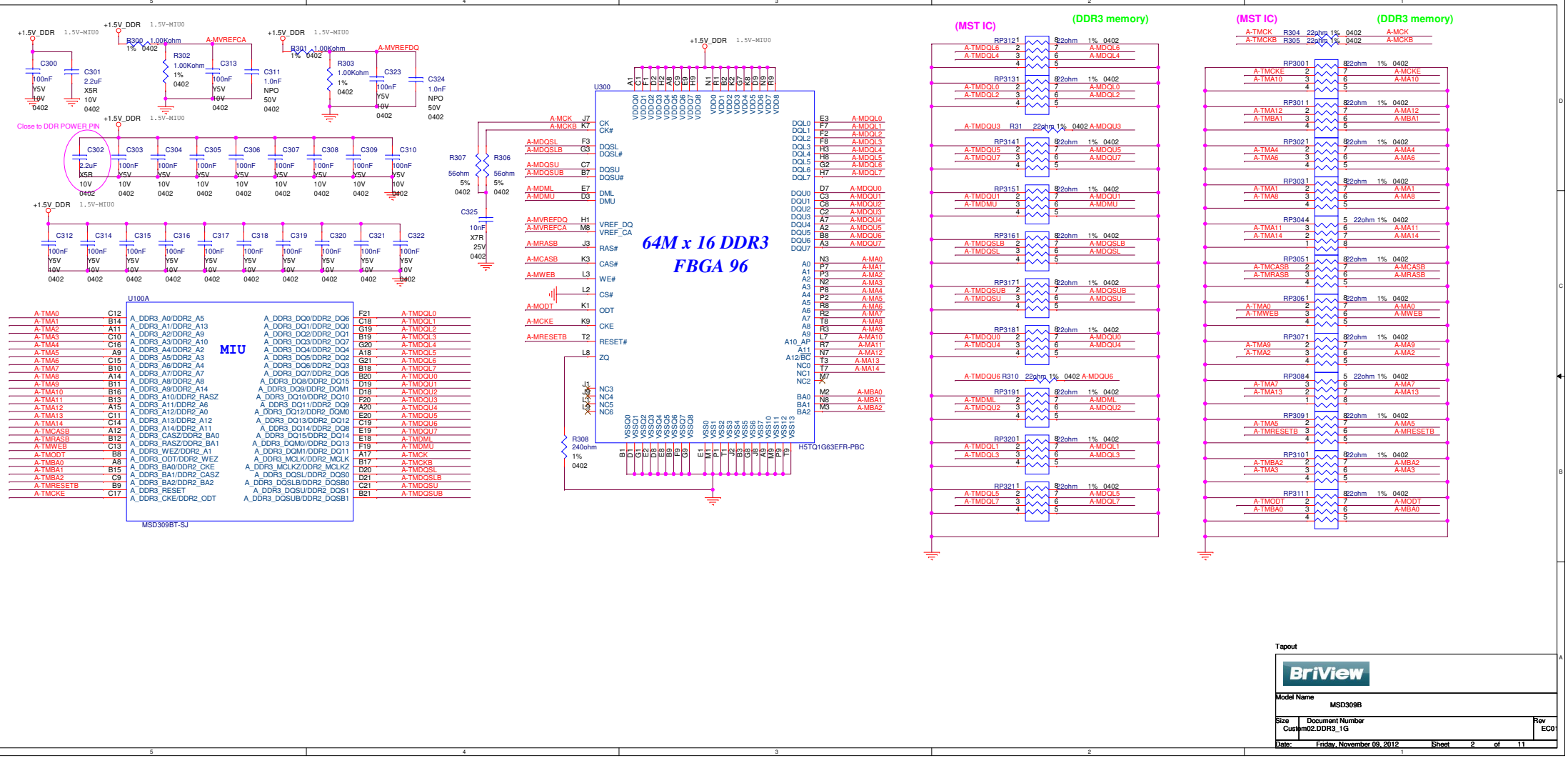
1
of
11


+1.5V_DDR 1.5V-MIU0
R300 1.00Kohm 1% 0402
A-MVREFCA
R301 1.00Kohm 1% 0402
A-MVREFDQ
R302 1.00Kohm 1% 0402
R303 1.00Kohm 1% 0402
C300 100nF Y5V 10V 0402
C301 2.2uF X5R 10V 0402
C313 100nF Y5V 10V 0402
C311 1.0nF NPO 50V 0402
C323 100nF Y5V 10V 0402
C324 1.0nF NPO 50V 0402
Close to DDR POWER PIN
C302 2.2uF X5R 10V 0402
C303 C304 C305 C306 C307 C308 C309 C310 100nF Y5V 10V 0402
C312 C314 C315 C316 C317 C318 C319 C320 C321 C322 100nF Y5V 10V 0402
U100A
MIU
MSD309BT-SJ
A_DDR3_A0/DDR2_A5
A_DDR3_A1/DDR2_A13
A_DDR3_A2/DDR2_A9
A_DDR3_A3/DDR2_A10
A_DDR3_A4/DDR2_A2
A_DDR3_A5/DDR2_A3
A_DDR3_A6/DDR2_A4
A_DDR3_A7/DDR2_A7
A_DDR3_A8/DDR2_A8
A_DDR3_A9/DDR2_A14
A_DDR3_A10/DDR2_RASZ
A_DDR3_A11/DDR2_A6
A_DDR3_A12/DDR2_A0
A_DDR3_A13/DDR2_A12
A_DDR3_A14/DDR2_A11
A_DDR3_CASZ/DDR2_BA0
A_DDR3_RASZ/DDR2_BA1
A_DDR3_WEZ/DDR2_A1
A_DDR3_ODT/DDR2_WEZ
A_DDR3_BA0/DDR2_CKE
A_DDR3_BA1/DDR2_CASZ
A_DDR3_BA2/DDR2_BA2
A_DDR3_RESET
A_DDR3_CKE/DDR2_ODT
A_DDR3_DQ0/DDR2_DQ6
A_DDR3_DQ1/DDR2_DQ0
A_DDR3_DQ2/DDR2_DQ1
A_DDR3_DQ3/DDR2_DQ7
A_DDR3_DQ4/DDR2_DQ4
A_DDR3_DQ5/DDR2_DQ2
A_DDR3_DQ6/DDR2_DQ3
A_DDR3_DQ7/DDR2_DQ5
A_DDR3_DQ8/DDR2_DQ15
A_DDR3_DQ9/DDR2_DQM1
A_DDR3_DQ10/DDR2_DQ10
A_DDR3_DQ11/DDR2_DQ9
A_DDR3_DQ12/DDR2_DQM0
A_DDR3_DQ13/DDR2_DQ12
A_DDR3_DQ14/DDR2_DQ8
A_DDR3_DQ15/DDR2_DQ14
A_DDR3_DQM0//DDR2_DQ13
A_DDR3_DQM1/DDR2_DQ11
A_DDR3_MCLK/DDR2_MCLK
A_DDR3_MCLKZ/DDR2_MCLKZ
A_DDR3_DQSL/DDR2_DQS0
A_DDR3_DQSLB/DDR2_DQSB0
A_DDR3_DQSU/DDR2_DQS1
A_DDR3_DQSUB/DDR2_DQSB1
U300
64M x 16 DDR3
FBGA 96
H5TQ1G63EFR-PBC
R307 56ohm 5% 0402
R306 56ohm 5% 0402
C325 10nF X7R 25V 0402
R308 240ohm 1% 0402
(MST IC)
(DDR3 memory)
RP3121 RP3131 RP3141 RP3151 RP3161 RP3171 RP3181 RP3191 RP3201 RP3211
R31 22ohm 1% 0402 A-MDQU3
R310 22ohm 1% 0402 A-MDQU6
RP3001 RP3011 RP3021 RP3031 RP3044 RP3051 RP3061 RP3071 RP3084 RP3091 RP3101 RP3111
A-TMCK R304 22ohm 1% 0402 A-MCK
A-TMCKB R305 22ohm 1% 0402 A-MCKB
Tapout
BriView
Model Name
MSD309B
Size Custom
Document Number 02.DDR3_1G
Rev EC01
Date: Friday, November 09, 2012
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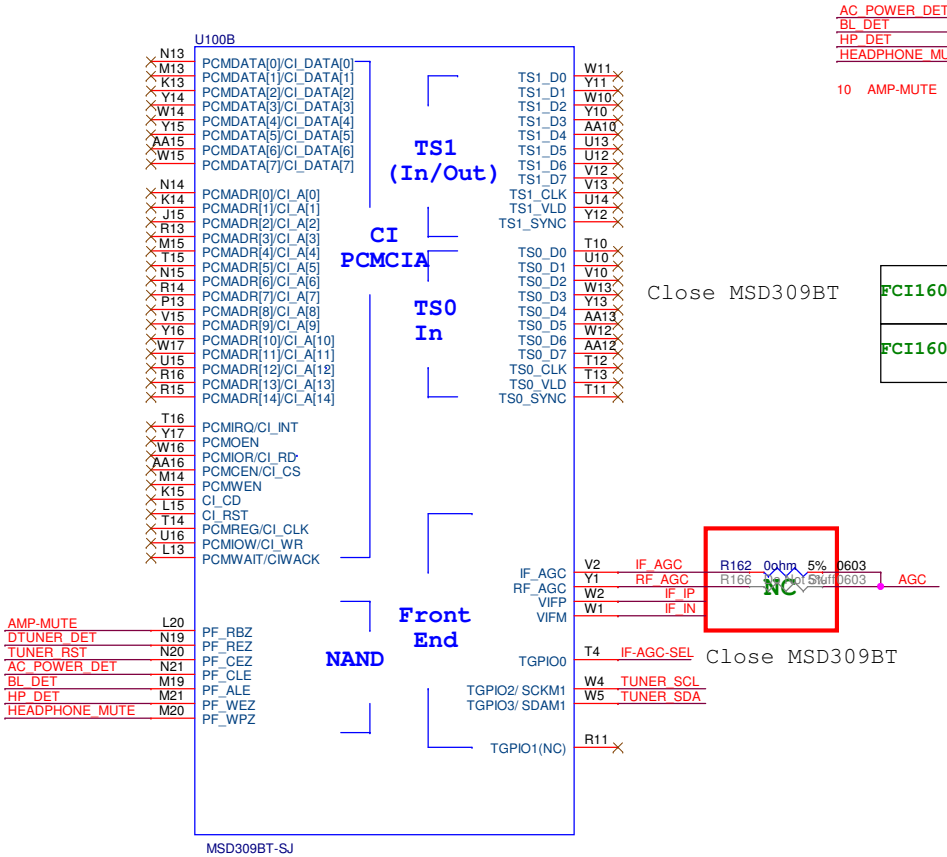
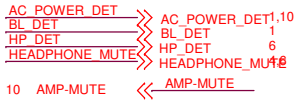
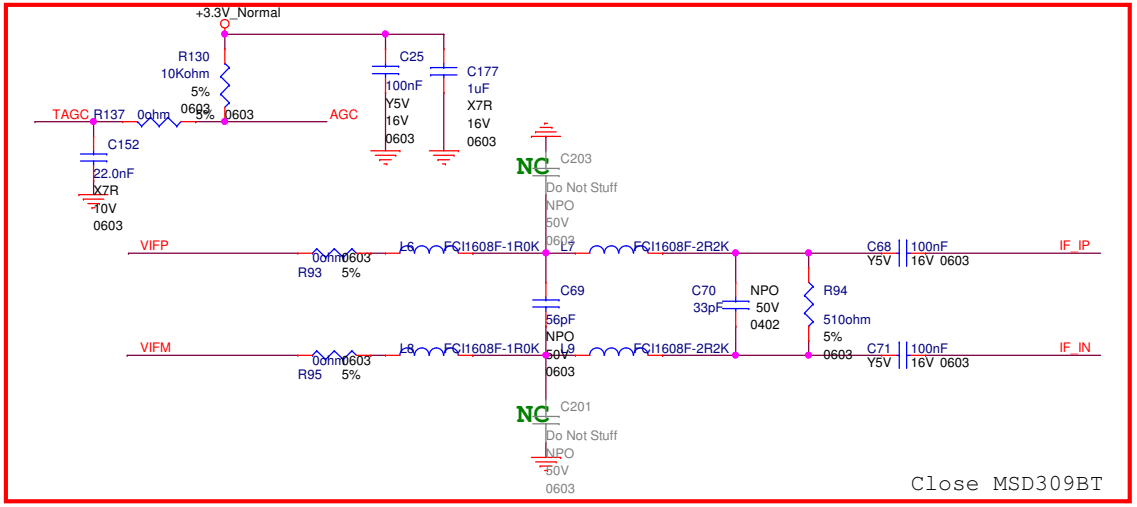
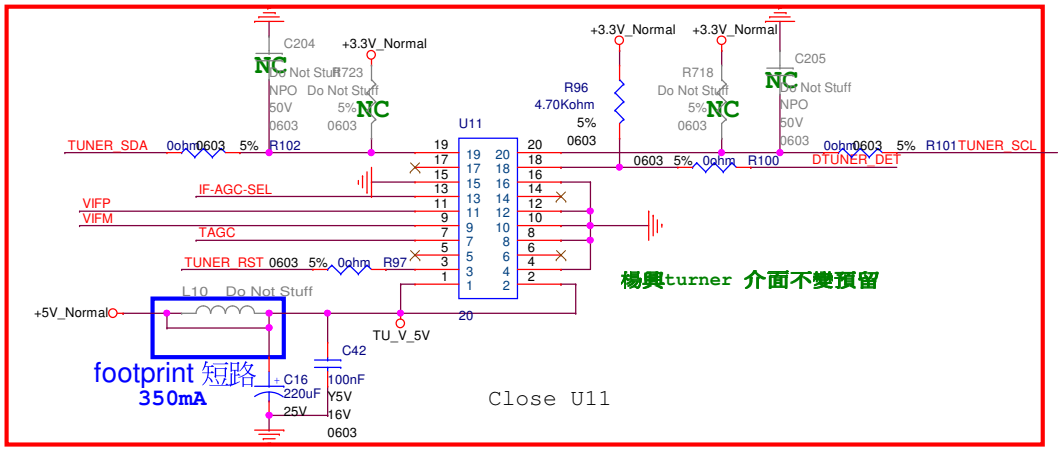




	Inductance (uH)		Q		Rated Current (mA) max	DCR (Ω) max.	SRF (MHz) min.
	Tolerance	Test Frequency (Hz)	min.	Test Frequency (MHz)			
FCI1608F-1R0K	1.0±10%	60mV / 10M	30	10	25	0.60	70
FCI1608F-2R2K	1.0±10%	60mV / 10M	30	10	25	0.60	70





Tapout

BriView

Model Name: MSD309B

Size	Document Number	Rev
B	03.Turner	EC01

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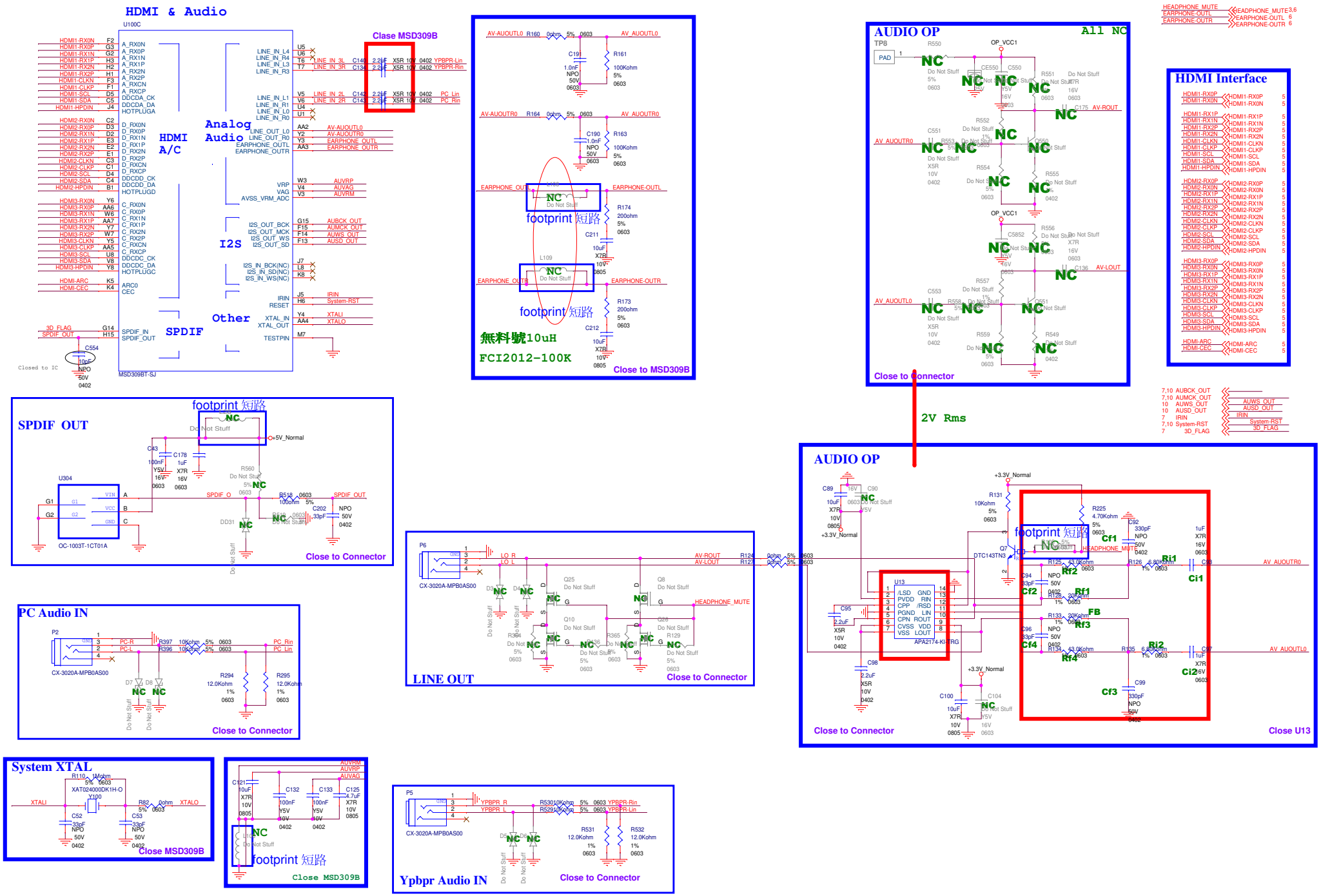

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Model Name: MSD309B		
Size: C	Document Number: 04.HDMI_Audio	Rev: EC01
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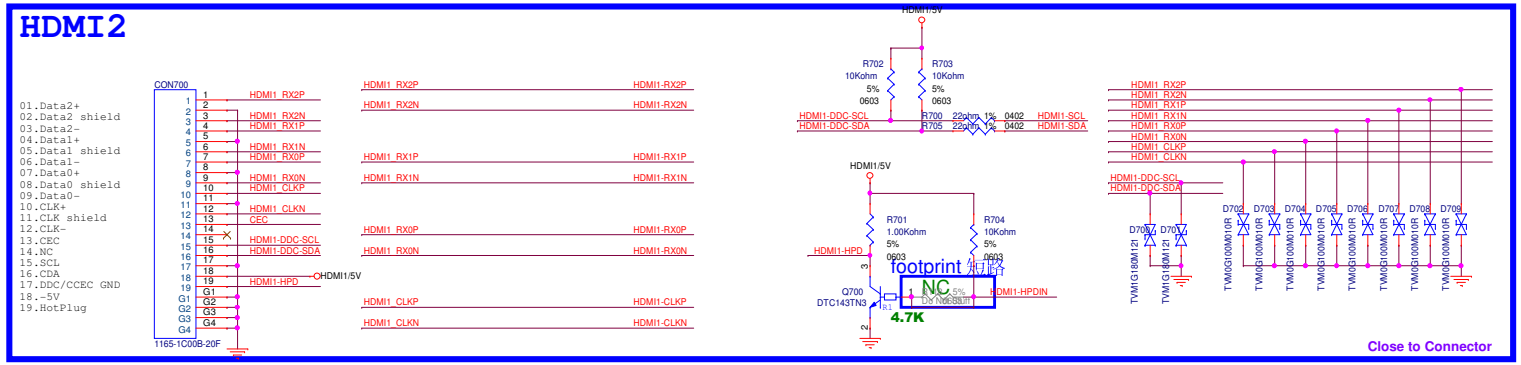
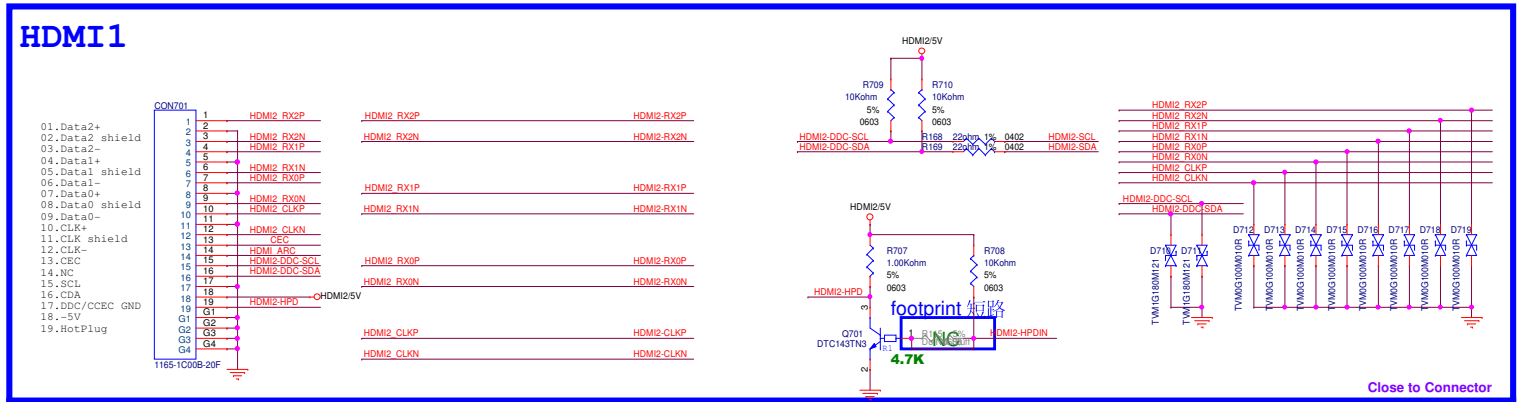
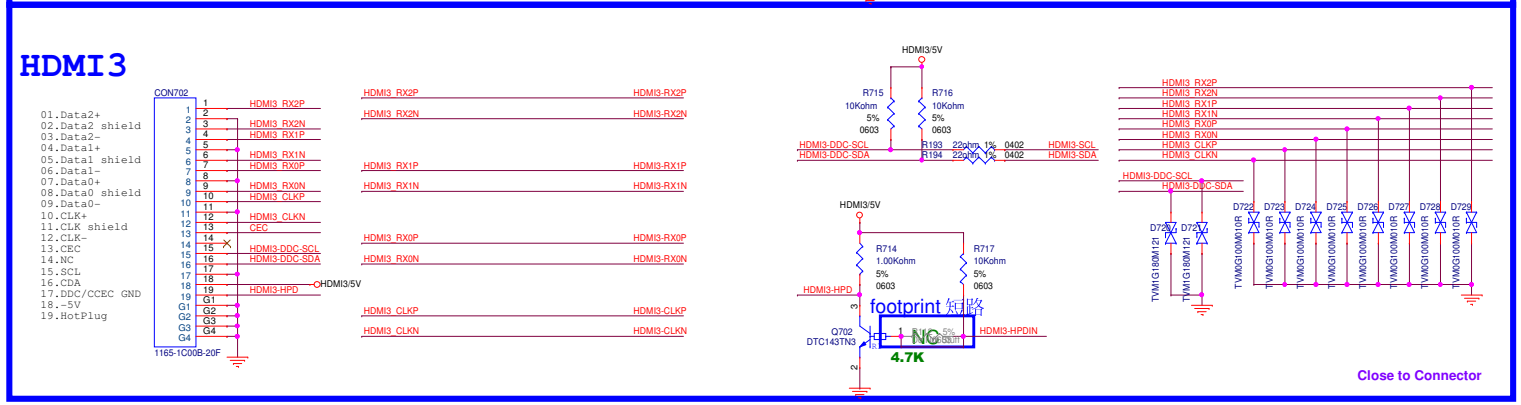
HDMI2

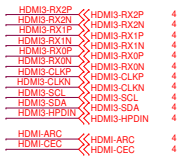


HDMI1

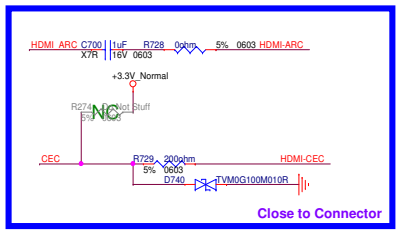


HDMI3





CEC & ARC



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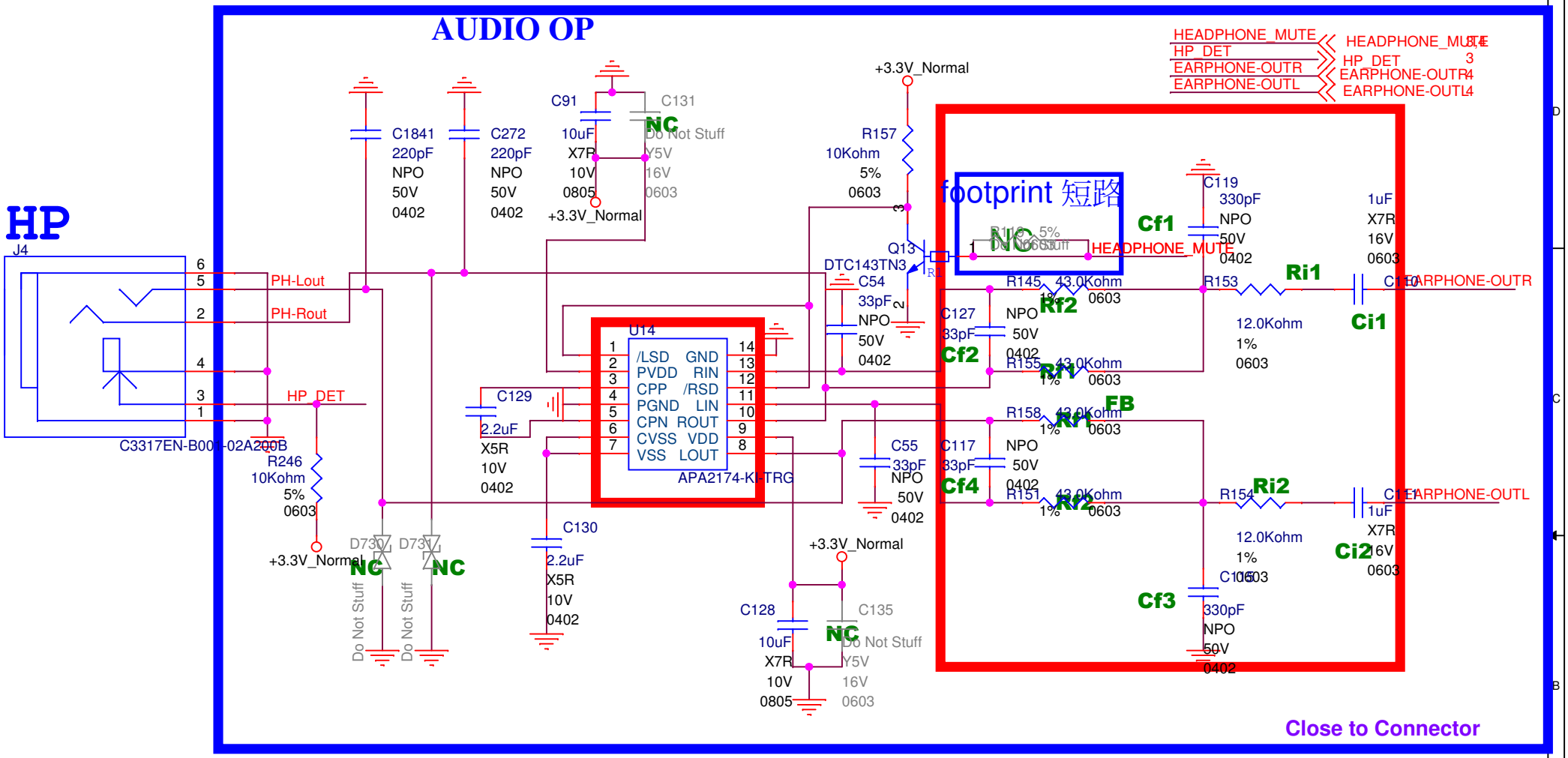
Model Name MSD309B		
Size C	Document Number 05.HDMII_IO	Rev EC01
Date: Friday, November 09, 2012	Sheet 5 of 11	



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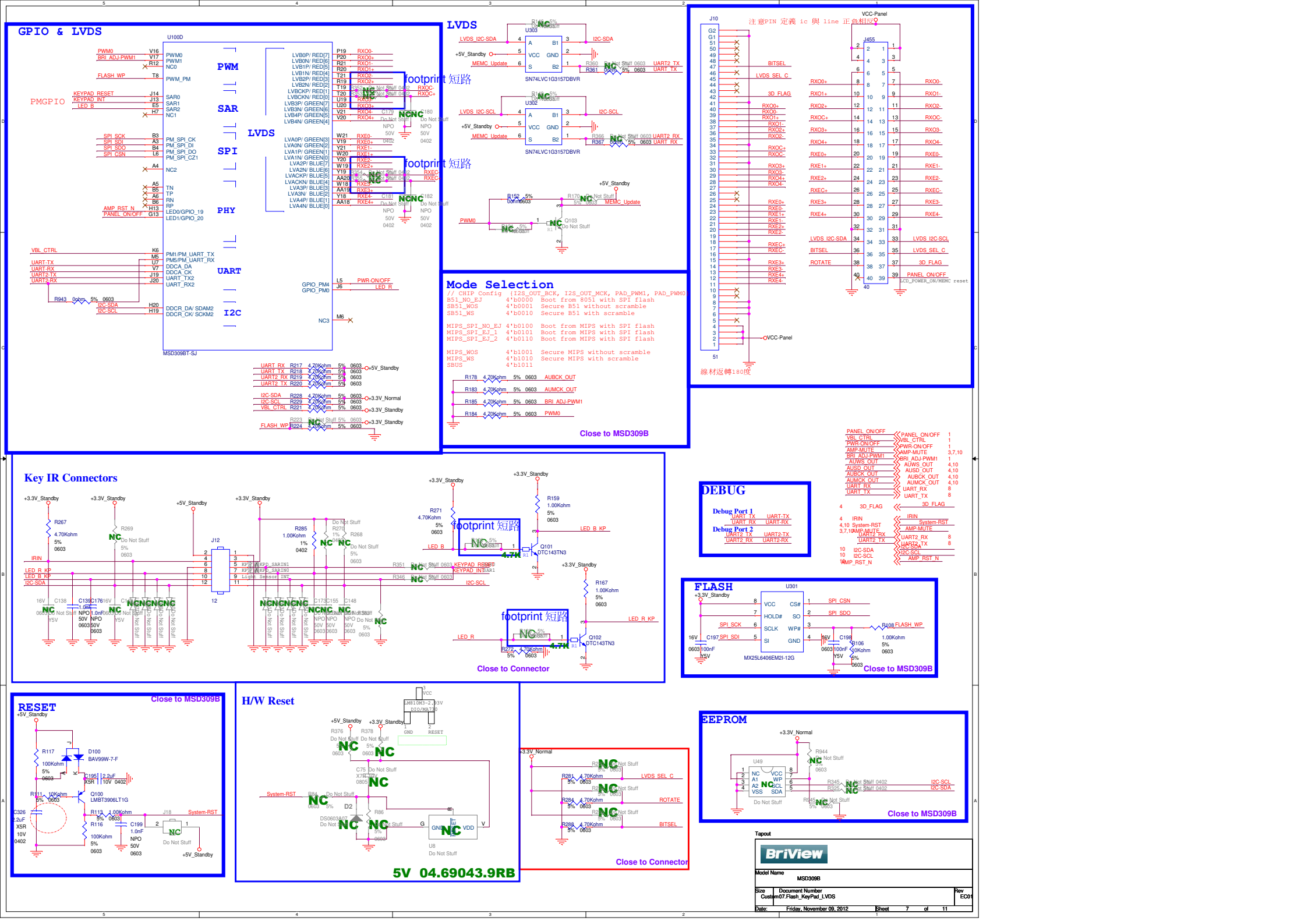
MSD309B		
Size A	Document Number 06.AMP	Rev EC01
Date: Friday, November 09, 2012	Sheet 6 of 11	


GPIO & LVDS
U100D
PWM
SAR
LVDS
SPI
PHY
UART
I2C
PMGPIO
MSD309BT-SJ
footprint 短路
LVDS
U303
SN74LVC1G3157DBVR
U302
SN74LVC1G3157DBVR
Mode Selection
// CHIP Config (I2S_OUT_SCK, I2S_OUT_MCK, PAD_PWM1, PAD_PWM0)
B51_NO_EJ 4'b0000 Boot from 8051 with SPI flash
SB51_WOS 4'b0001 Secure B51 without scramble
SB51_WS 4'b0010 Secure B51 with scramble
MIPS_SPI_NO_EJ 4'b0100 Boot from MIPS with SPI flash
MIPS_SPI_EJ_1 4'b0101 Boot from MIPS with SPI flash
MIPS_SPI_EJ_2 4'b0110 Boot from MIPS with SPI flash
MIPS_WOS 4'b1001 Secure MIPS without scramble
MIPS_WS 4'b1010 Secure MIPS with scramble
SBUS 4'b1011
Close to MSD309B
J10
注意PIN 定義 ic 與 line 正負相反
線材返轉180度
VCC-Panel
J455
Key IR Connectors
J12
Close to Connector
DEBUG
Debug Port 1
Debug Port 2
FLASH
U301
MX25L6406EM2I-12G
Close to MSD309B
RESET
Close to MSD309B
H/W Reset
5V 04.69043.9RB
EEPROM
U49
Close to MSD309B
Close to Connector
Tapout
BriView
Model Name
MSD309B
Size
Document Number
Custom07.Flash_KeyPad_LVDS
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EC01
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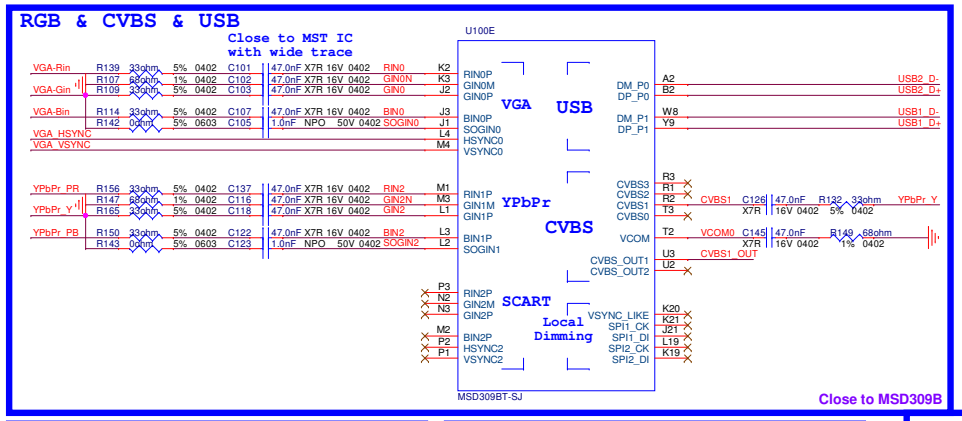

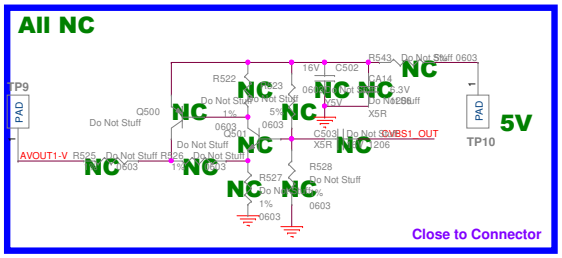

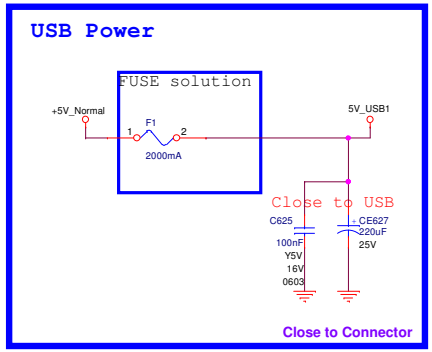

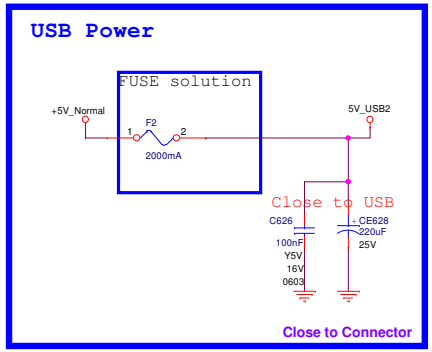

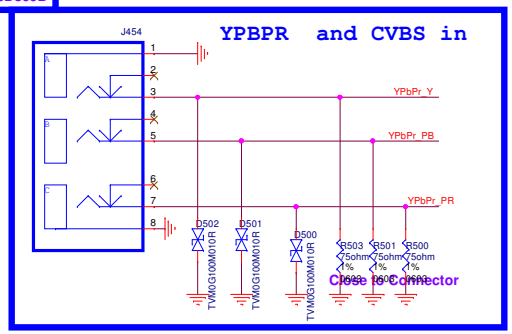

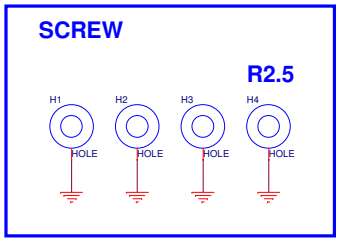

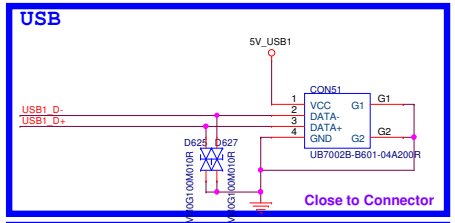

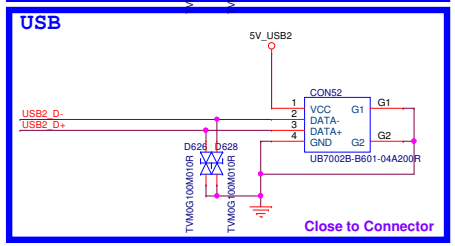

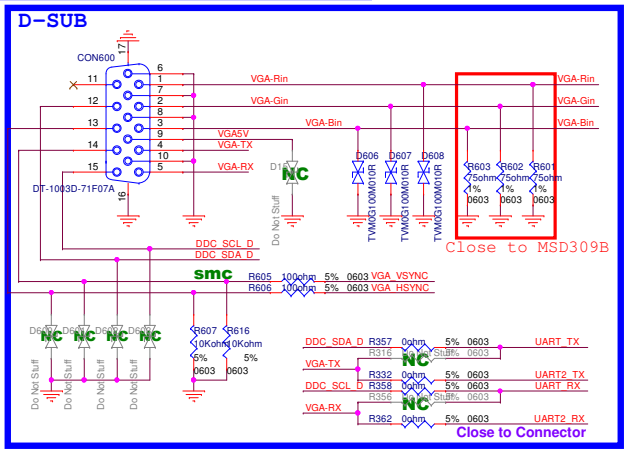

UART_RX 7
UART_TX 7
UART2_RX 7
UART2_TX 7

Tapout

BriView

Model Name	MSD309B
Size	Custom
Document Number	08.Video_IN_USB
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Date:	Friday, November 09, 2012
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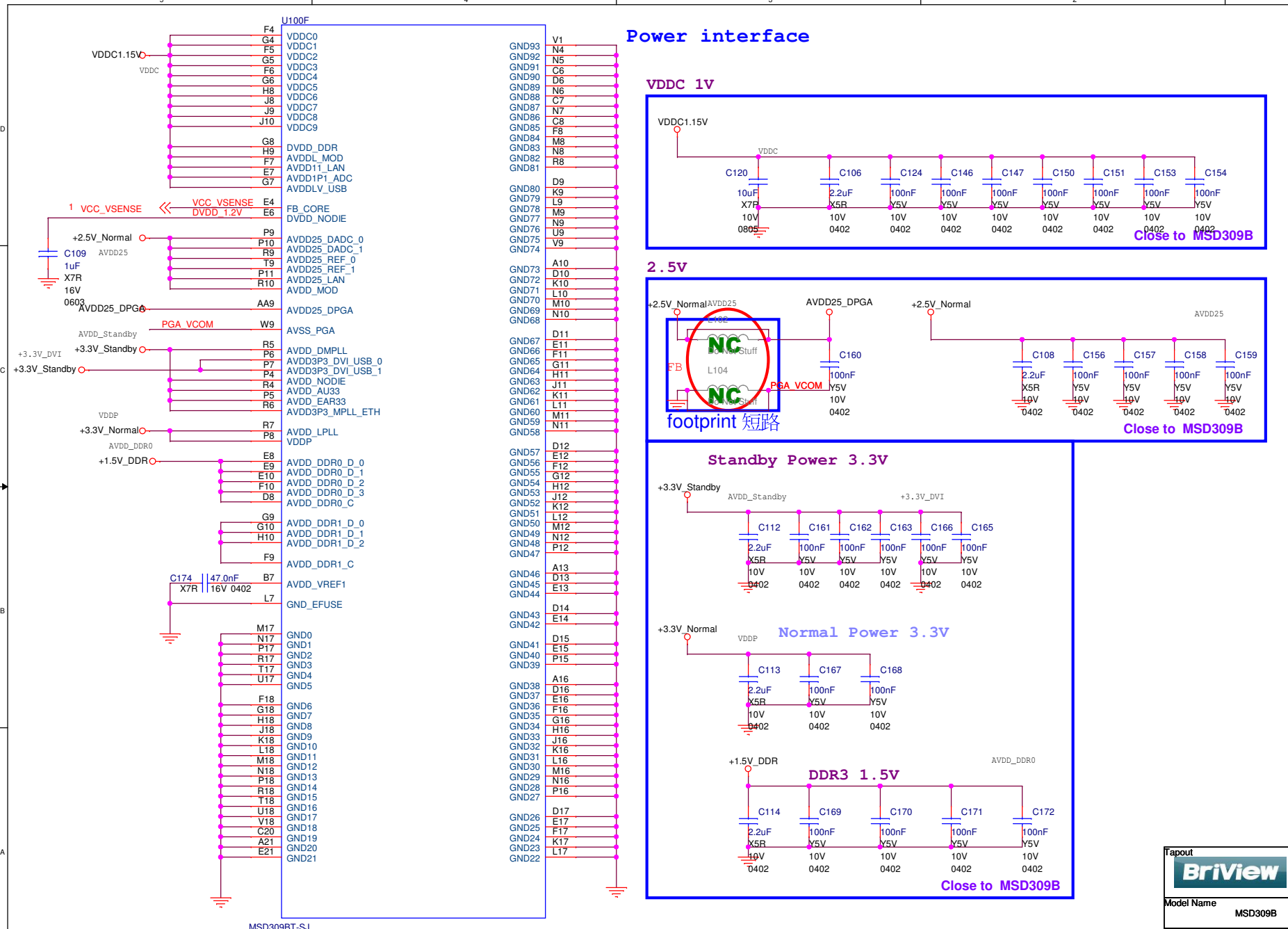

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Model Name	MSD309B
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Rev	EC01
Date:	Friday, November 09, 2012
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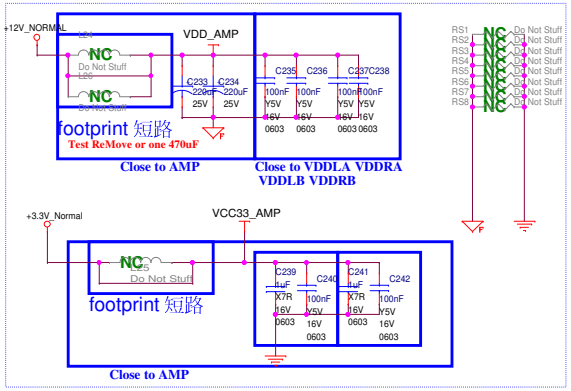
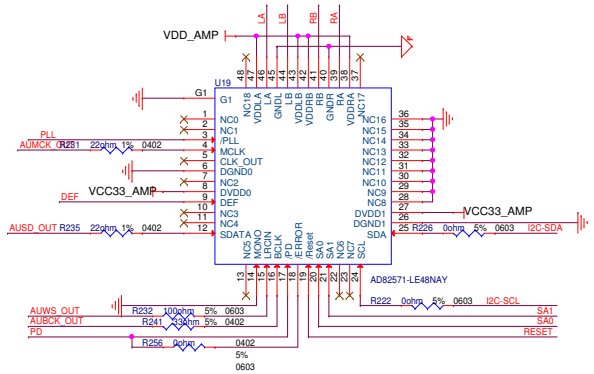
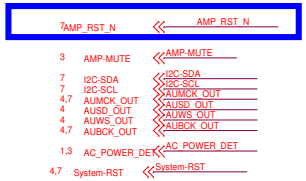
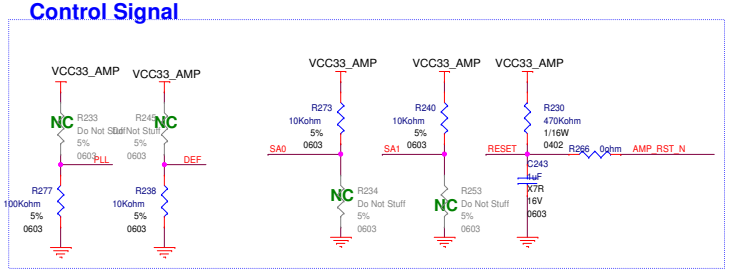
AMP Power



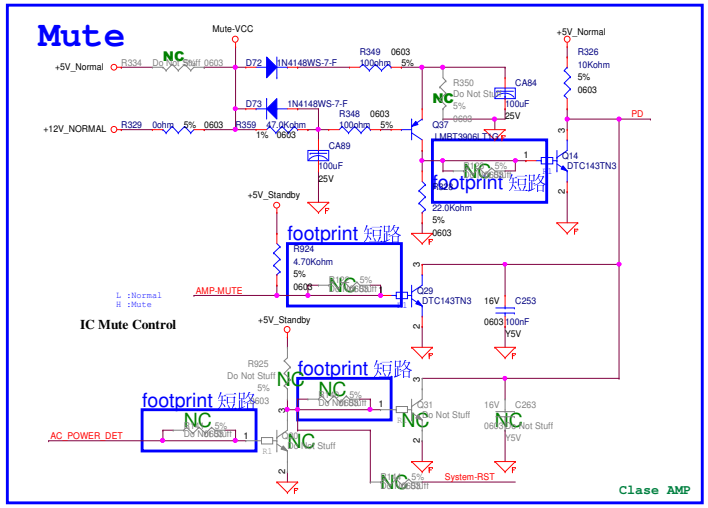




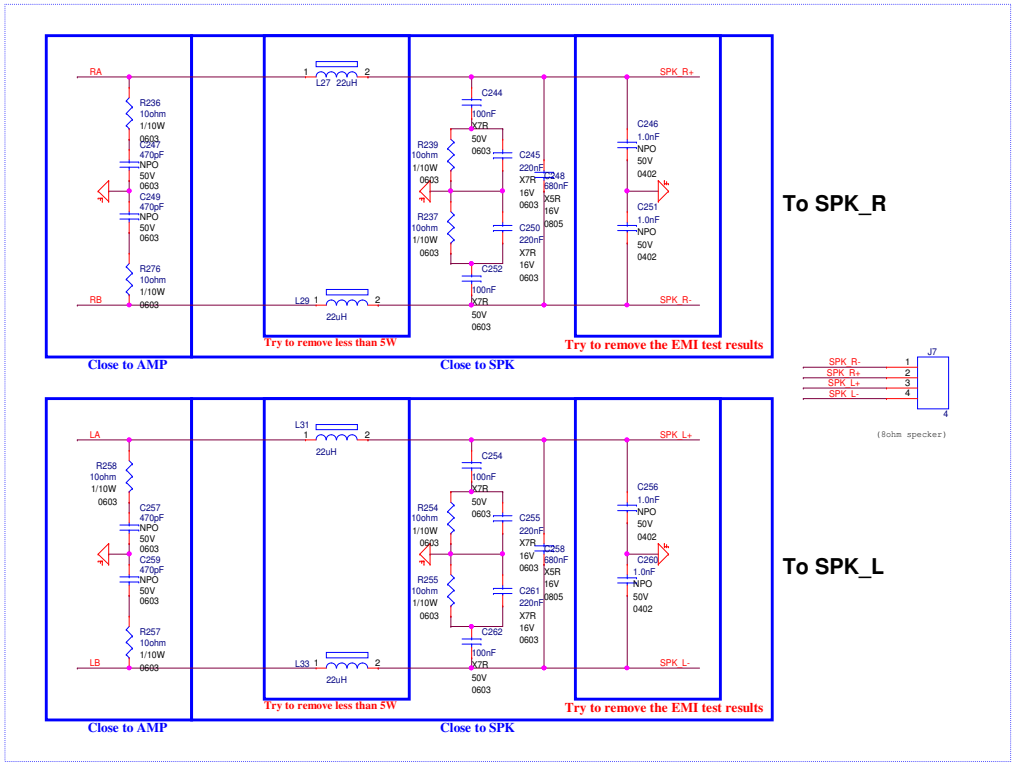
Control Signal



Mute



SPK Filter



Tapout

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Model Name <Model Name>		
Size C	Document Number <Doc>	Rev <RevCode>
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變更部分	變更原因	變更日期
增加c54 c55 變更hp lout連接 變更ybppr audio inr532 連接 EEPROM 與周邊線路 nc Keypad ADC 線路 r285 r270變更1K 1% 41.10000.111 -> 41.10000.00Q Q37 Q100 Q500(原本nc) 41.10000.110 -> 41.10000.00R Q501 Q551 Q550 (全部原本nc) R153 r154 變更20k1% 增加 turner I2c RC濾波預留，r101 r102 c204 c205 (電容nc)	解決hp電感效應產生雜音 連接錯誤 連接錯誤 hdcp改用flash 原本4.7k準確度較低，變更後提摘準確度 採購導2nd 採購導2nd 原本1.2K 變更hp放大倍率 benQ建議	10 01
LVDS 41pin 變更51pin C19 NC	LVDS 線材Cost down Layout 靠近c5	10 02
DDR 變更海力士 新增R351 R346 (NC) Light Sensor int 預留 R270 C155 NC SAR0 R344 LEDB 移除 memc switch 變更uart0(R361 R367) uart2保留(R360 R366) U302 U303 LVDS SW Power 3.3n -> 5S R723 R718 Turner I2C Pull hight NC L3 L4 L11 L12 上件 LVDS CLK 預留rc濾波R352 R353 R354 R355 C179 C180 C181 C182	南亞高溫有疑慮， 預留light sensor int pin 與sar0 共用 led_B 預留0 ohm移除 sw在uart2 無法down low memc turner Board I2c有pull hight EMI 驗證結果建議增加 EMI 建議增加	10 03
HDMI ARC 改到 CON701 r133 r128 ->20k R135 R126 -> 6.8K	BenQ 要求 Line out 放大倍率調整	10 05
SPDIF R516 NC R515 100ohm	SPDIF 光纖建議線路變更	10 08
MSD30921 -> MSD309-SJ (01.00030.199) CEC 預留Pull hight keyPad 預留Varistor LVDS SW預留反向線路 ldo 2.5v 變更成adj ddr 變更e die HP 放大倍率變更3.5倍		11 09

01.00030.199

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Model Name MSD309B

Size	Document Number	Rev
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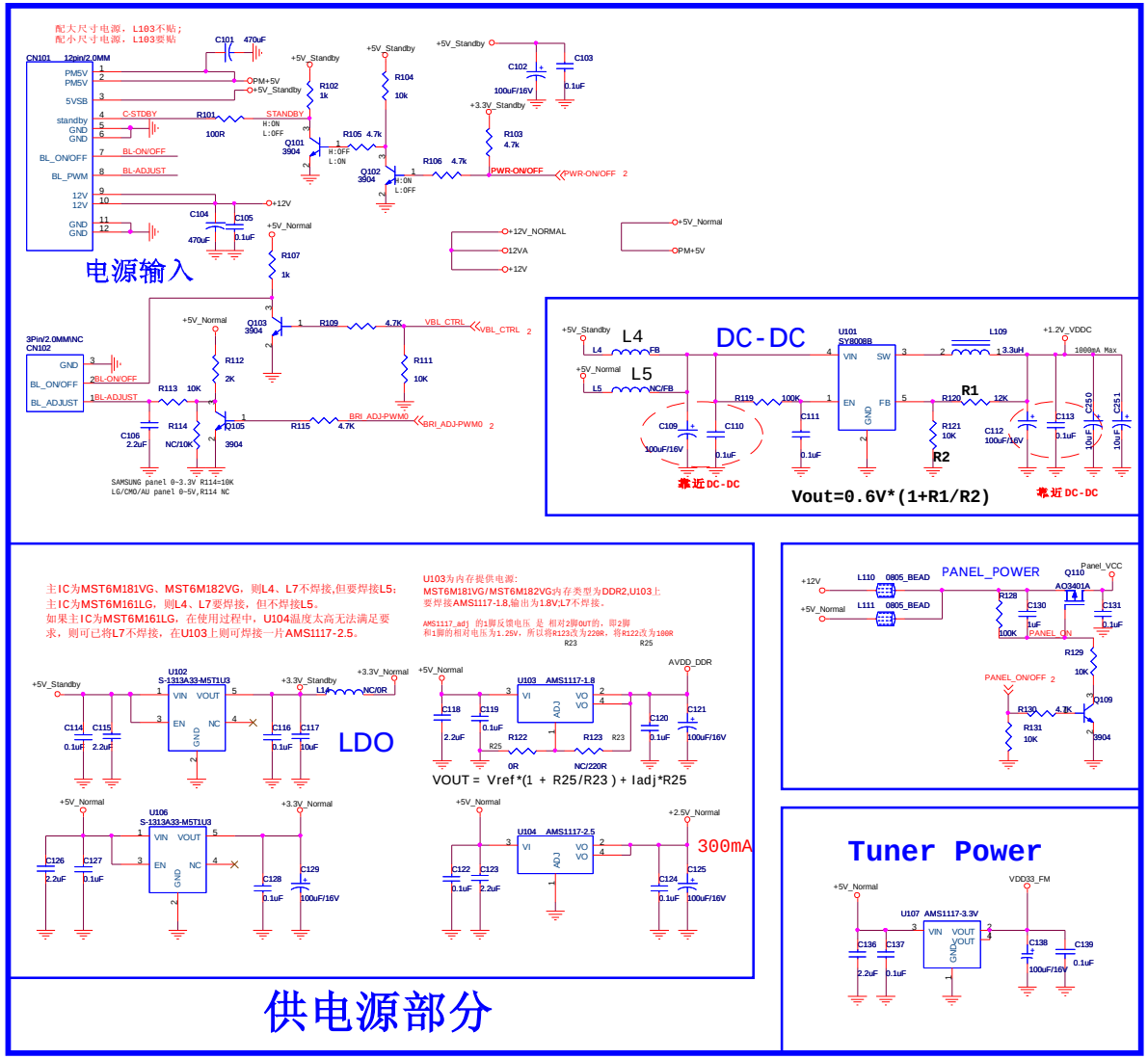
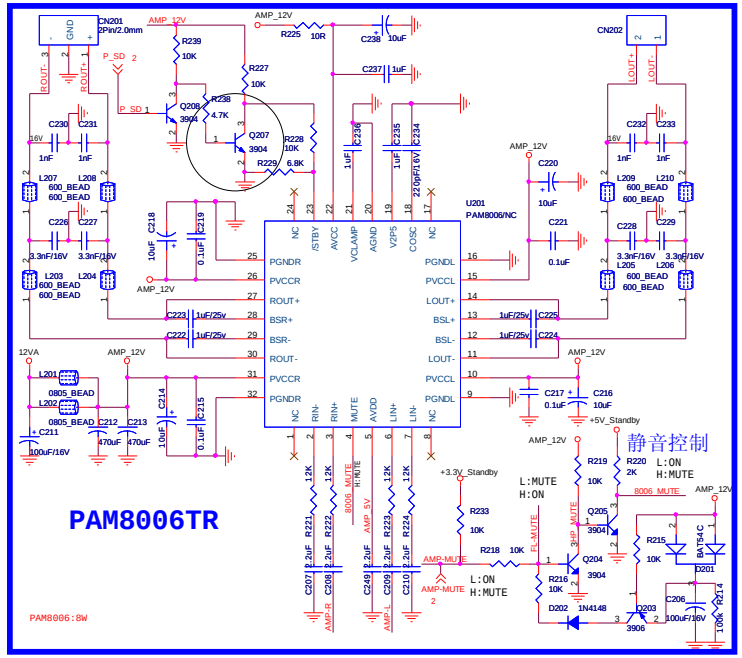
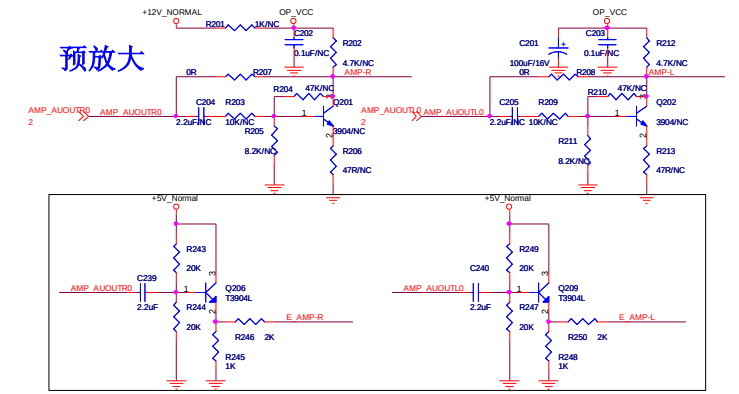
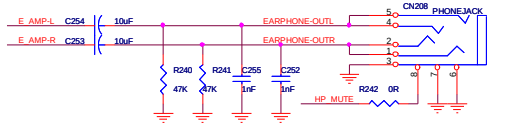
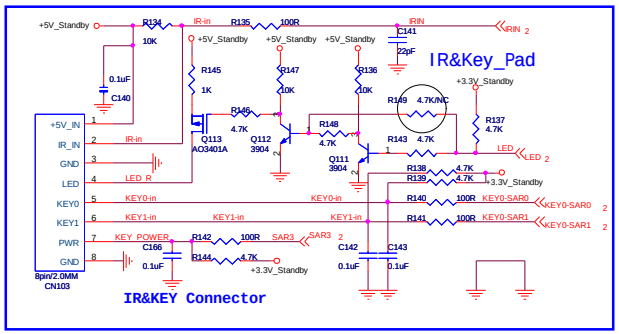
Date: Friday, November 09, 2012 Sheet 11 of 11

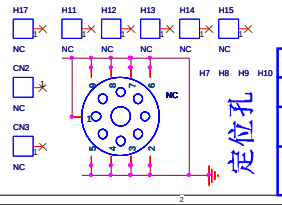




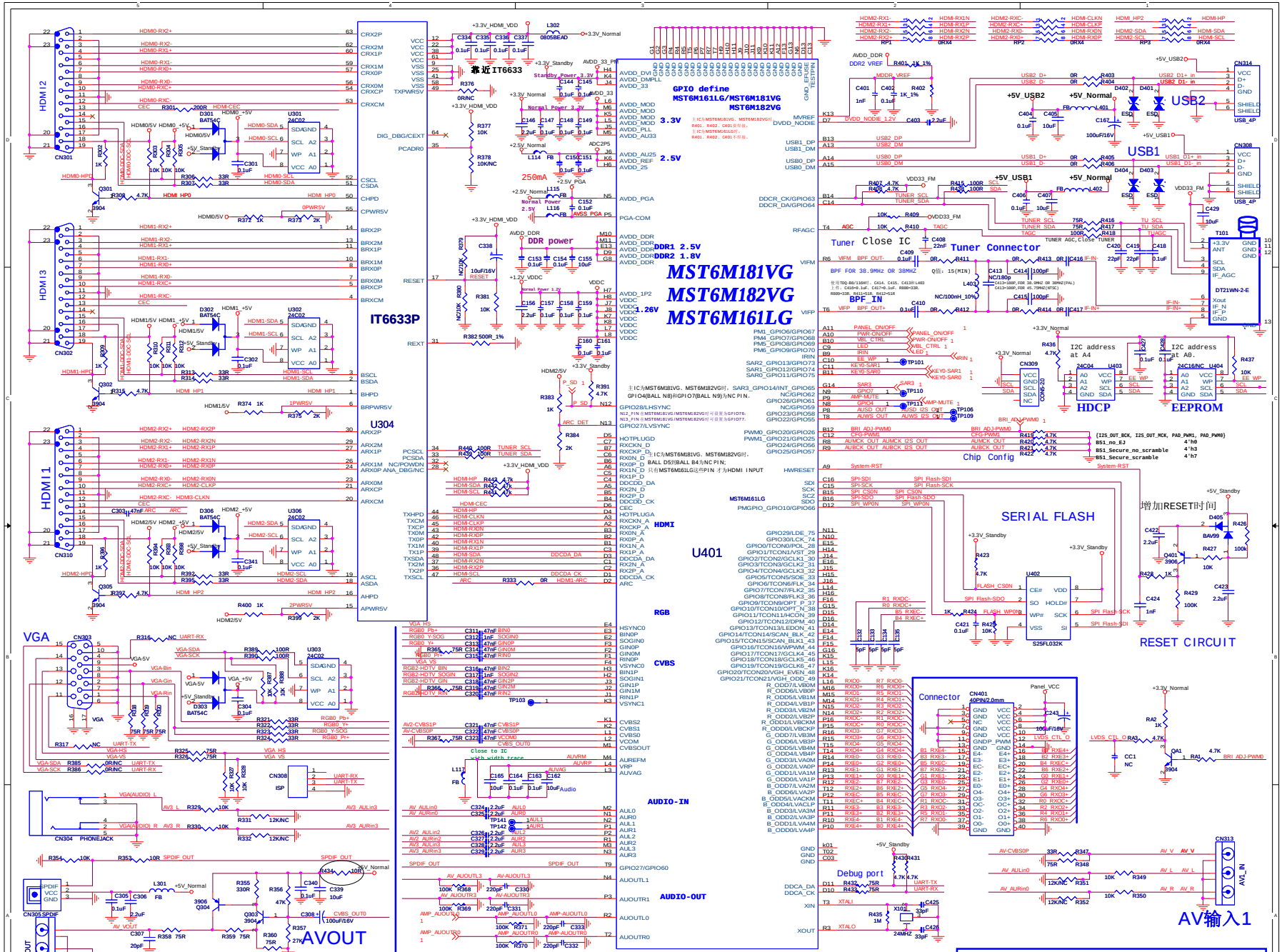








文件名称： MST6M161LG/181VG/182VG方案机型原理图				
文件编号： T4168	版号： 3.0	页数： 2/2		
设计	刘谨志	审核	批准	
发行部门：电气部	生效日期： 年 月 日			



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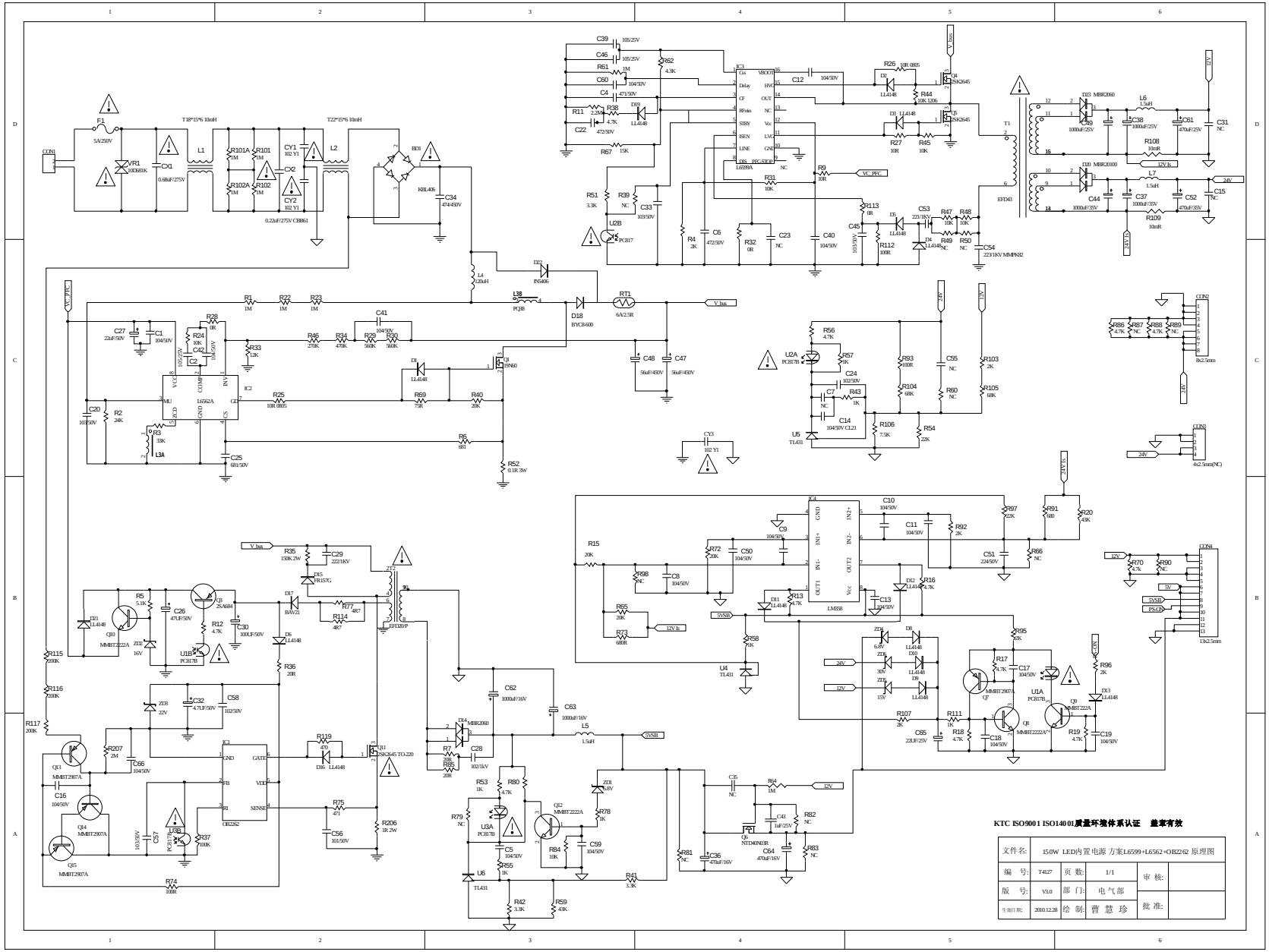
KTC ISO9001 ISO14001质量环境体系认证 盖章有效
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编 号: T4427
页 数: 1/1
审 核:
版 号: V3.0
部 门: 电气部
生效日期: 2010.12.28
绘 制: 曹 慧 珍
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