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REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:

V1.2

1. 1.2V DC-DC ~~1.5V~~ ~~1.2V~~

2. DLP_ON ~~ON~~ ~~R68~~ ~~R89~~

3. TL7705 ~~TL7712~~

4. ~~R147~~ ~~R149~~ ~~3.3K~~ ~~3K~~ ~~R240~~ ~~220~~ ~~2.2K~~ ~~1/4~~ ~~LED~~ ~~A~~

5. ~~QUA~~ ~~IGND~~ ~~1/4~~ ~~1/4~~ ~~1/4~~ ~~1/4~~ ~~1/4~~ ~~1/4~~ ~~1/4~~ ~~1/4~~

6. ~~00~~ ~~65251~~ ~~RT8284~~

COMPANY:  ANHUA OPTOELECTRONICS TECHNOLOGY CO., LTD

TITLE: DPP6401 Main Board V1.2

DRAWN:	Bavin	DATED:	2014.09.18
CHECKED:	Jason	DATED:	2014.09.18
QUALITY CONTROL:	<QC By>	DATED:	<QC Date>
RELEASED:	Bavin	DATED:	2014.09.18

CODE:	SIZE:	DRAWING NO:	REV:
<CODE>	C	600-0005-02	V1.2
SCALE: <SCALE>			SHEET: 1 OF 11

6

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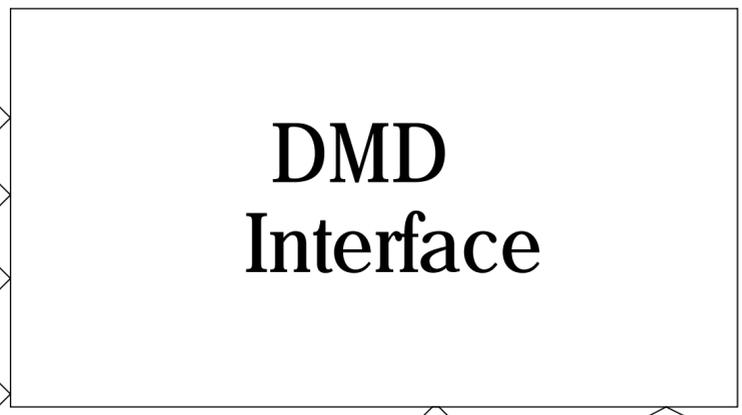
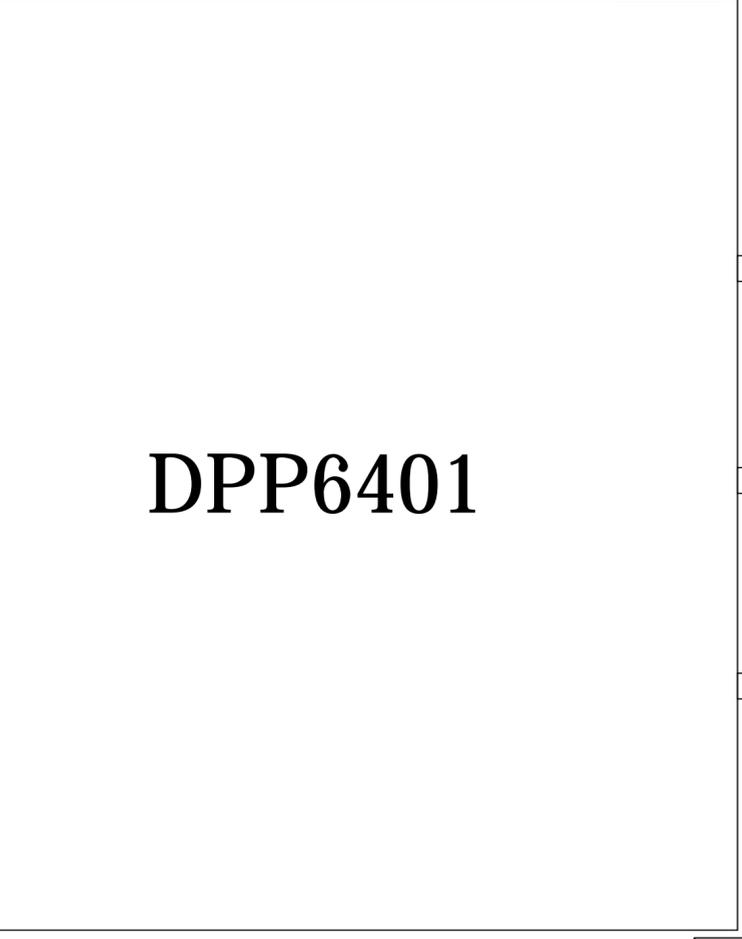
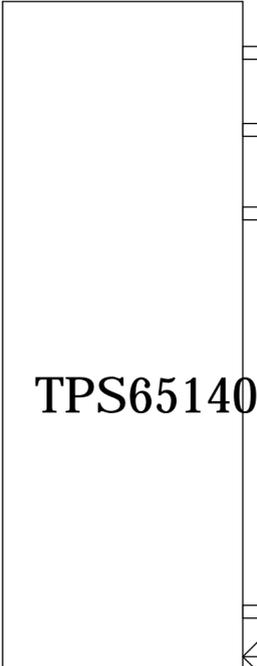
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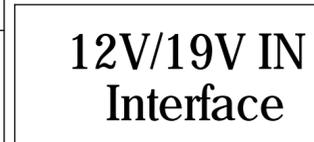
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REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:



DMD SIGNALS



D

D

C

C

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B

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A

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CODE:	SIZE:	DRAWING NO:	REV:
<CODE>	C	600-0005-02	V1.2
SCALE: <SCALE>			SHEET: 2 OF 11

6

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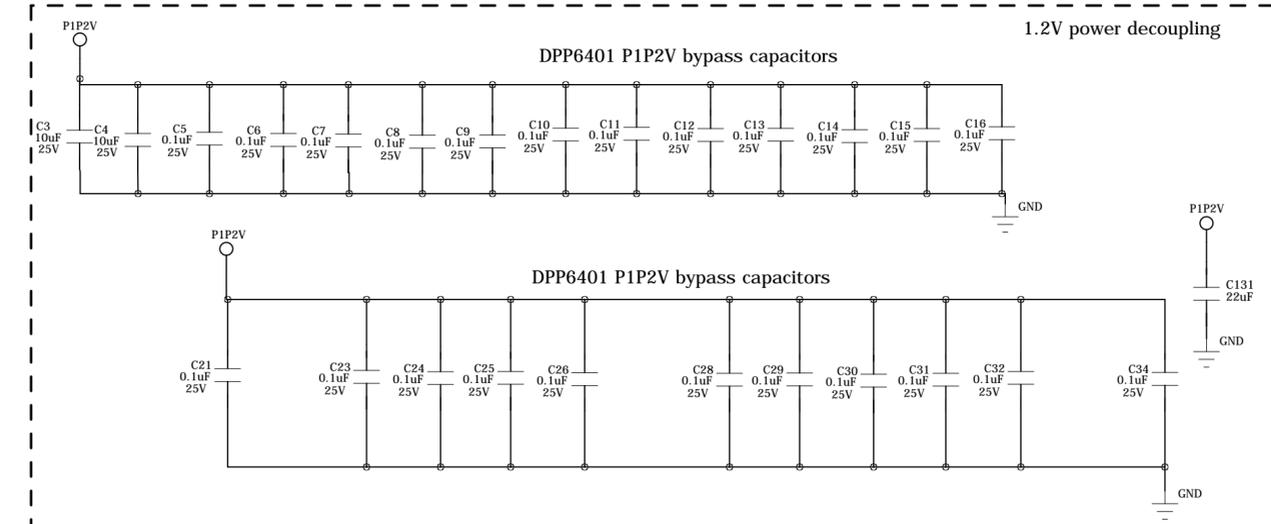
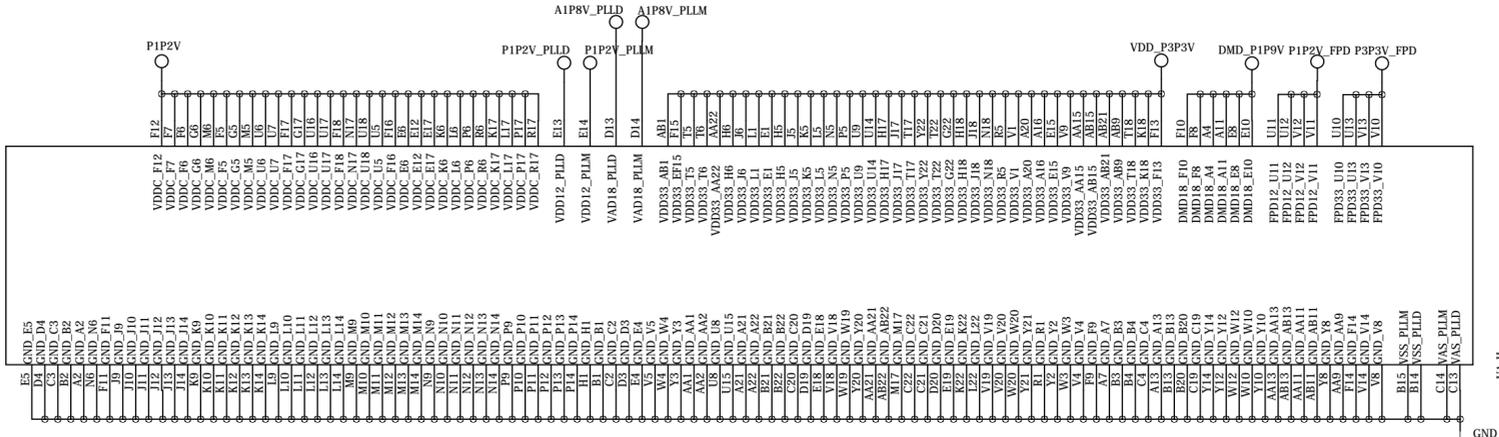
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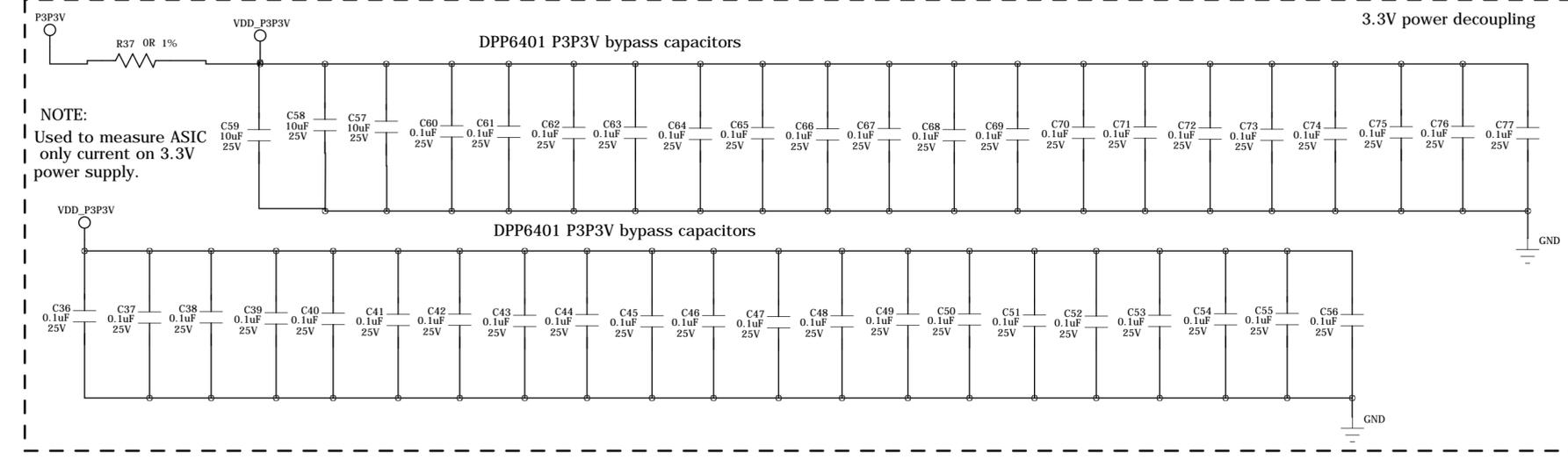
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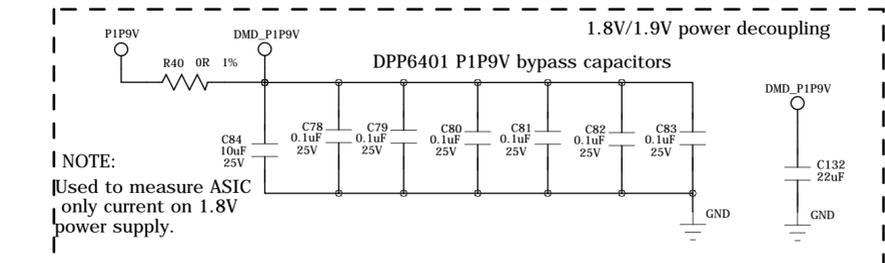
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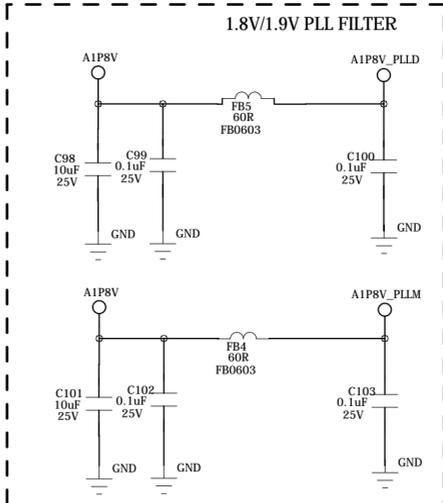
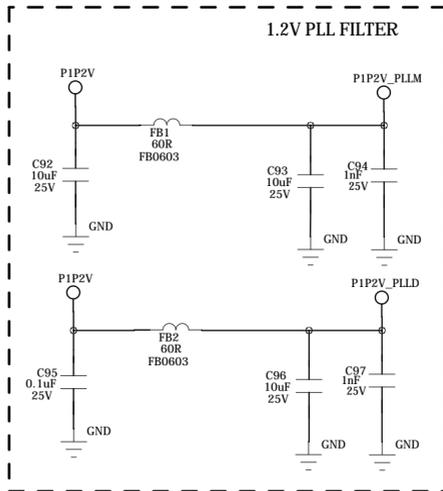
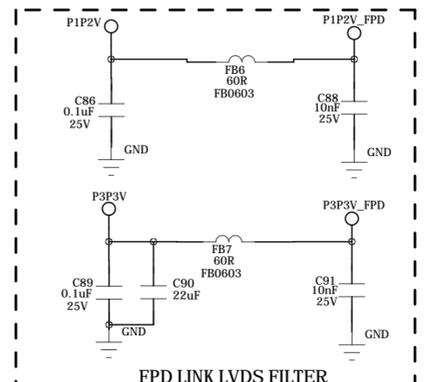
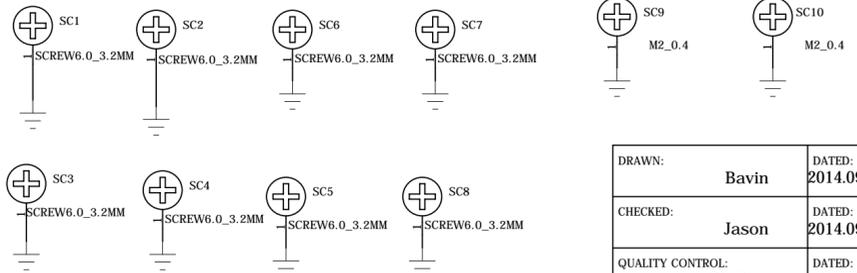
- Mark Points**
- ⊥MK1 MARK-POINT
 - ⊥MK2 MARK-POINT
 - ⊥MK3 MARK-POINT
 - ⊥MK4 MARK-POINT



NOTE:
Used to measure ASIC
only current on 3.3V
power supply.

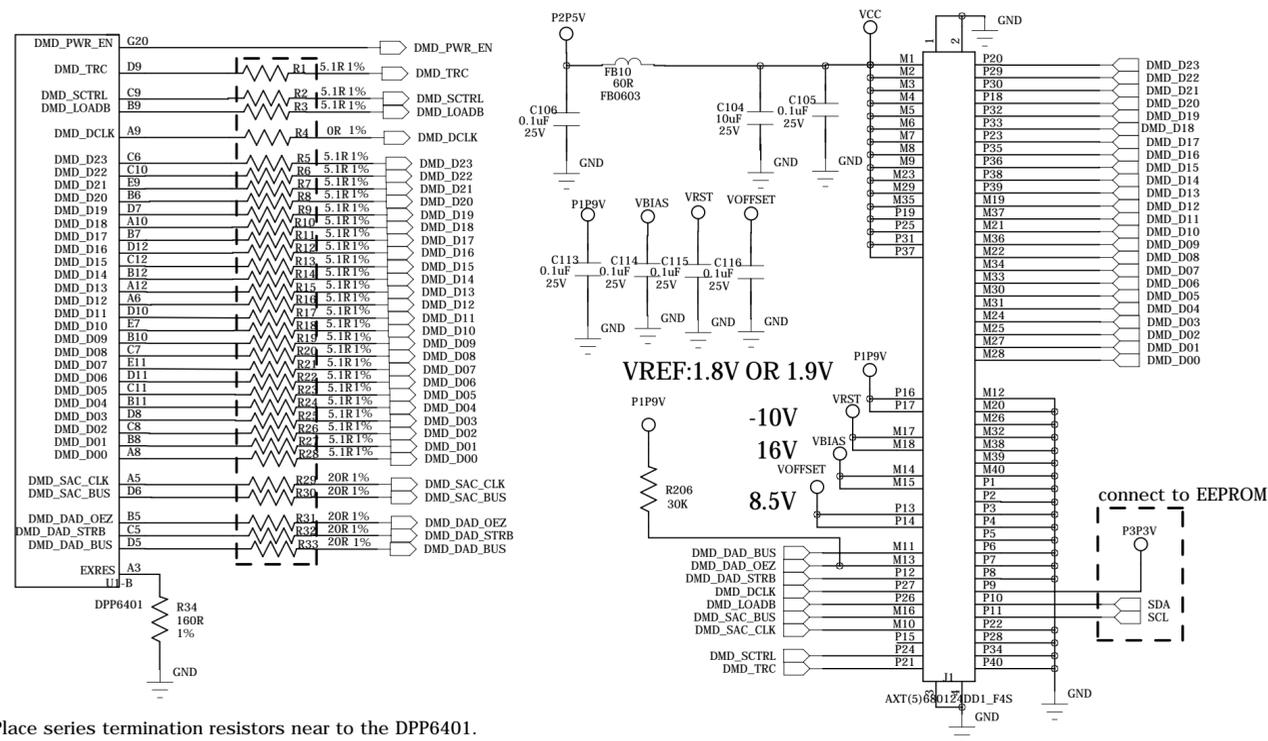


NOTE:
Used to measure ASIC
only current on 1.8V
power supply.



COMPANY: ANHUA OPTOELECTRONICS TECHNOLOGY CO., LTD			
TITLE: DPP6401 Main Board V1.2			
DRAWN: Bavin	DATED: 2014.09.18	CODE: <CODE>	SIZE: C
CHECKED: Jason	DATED: 2014.09.18	DRAWING NO: 600-0005-02	REV: V1.2
QUALITY CONTROL: <QC By>	DATED: <QC Date>	SHEET: 3OF 11	
RELEASED: Bavin	DATED: 2014.09.18	SCALE: <SCALE>	

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LTR	ECO NO.	APPROVED:	DATE:



Place series termination resistors near to the DPP6401.

DMD FLEX BOARD CONNECTOR

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安华光电

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CHECKED:	Jason	DATED:	2014.09.18
QUALITY CONTROL:	<QC By>	DATED:	<QC Date>
RELEASED:	Bavin	DATED:	2014.09.18

CODE:	SIZE:	DRAWING NO:	REV:
<CODE>	C	600-0005-02	V1.2
SCALE: <SCALE>		SHEET:	4 OF 11

6 5 4 3 2 1

REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:

The main schematic shows a power management section centered around the TPS65140PWP (U24) and DMP2160UW-7 (G1) ICs. The TPS65140PWP is configured with various feedback and timing components. Key components include:

- Inductor L2 (22uH, 30%, 2.5A) for the main power path.
- Diode D7 (STPS0540Z) for reverse current protection.
- Diode D8 (BAT54S) for the DRV_D signal path.
- Diode D9 (BAT54S) for the VRST signal path.
- Diode D10 (MAZ8033OHL) for the VOFFSET signal path.
- Various capacitors (C117, C238, C235, C237, C239, C123, C232, C233, C240, C241, C242, C243, C244, C245, C246, C247, C248, C249) for decoupling and timing.
- Resistors (R186, R184, R185, R187, R188, R189, R190, R191, R192, R195, R196, R197, R198, R199, R200, R201, R202, R203, R204, R205) for biasing and signal conditioning.
- Transistors Q10, Q11, Q12, Q13, Q14, Q15 (MMBT2222A) and Q7, Q8 (2N2907A) for signal processing.
- Temperature sensors T11, T15, T26, T27, T45, T46.

The PWR DOWN CIRCUITRY section contains three sub-circuits:

- Voffset Circuit:** Uses a 2N2907A (Q8) and an MMBT2222A (Q9) to generate a Voffset signal from the DMD_PWR_EN input.
- VRST Circuit:** Uses a 2N2907A (Q10) and an MMBT2222A (Q11) to generate a VRST signal from the DMD_PWR_EN input.
- VBIAS Circuit:** Uses a 2N2907A (Q12) and an MMBT2222A (Q13) to generate a Vbias signal from the DMD_PWR_EN input.

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TITLE: **DPP6401 Main Board V1.2**

CODE:	SIZE:	DRAWING NO:	REV:
<CODE>	C	600-0005-02	V1.2

SCALE: <SCALE> SHEET: 5 OF 11

DRAWN:	Bavin	DATED:	2014.09.18
CHECKED:	Jason	DATED:	2014.09.18
QUALITY CONTROL:	<QC By>	DATED:	<QC Date>
RELEASED:	Bavin	DATED:	2014.09.18

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D C B A

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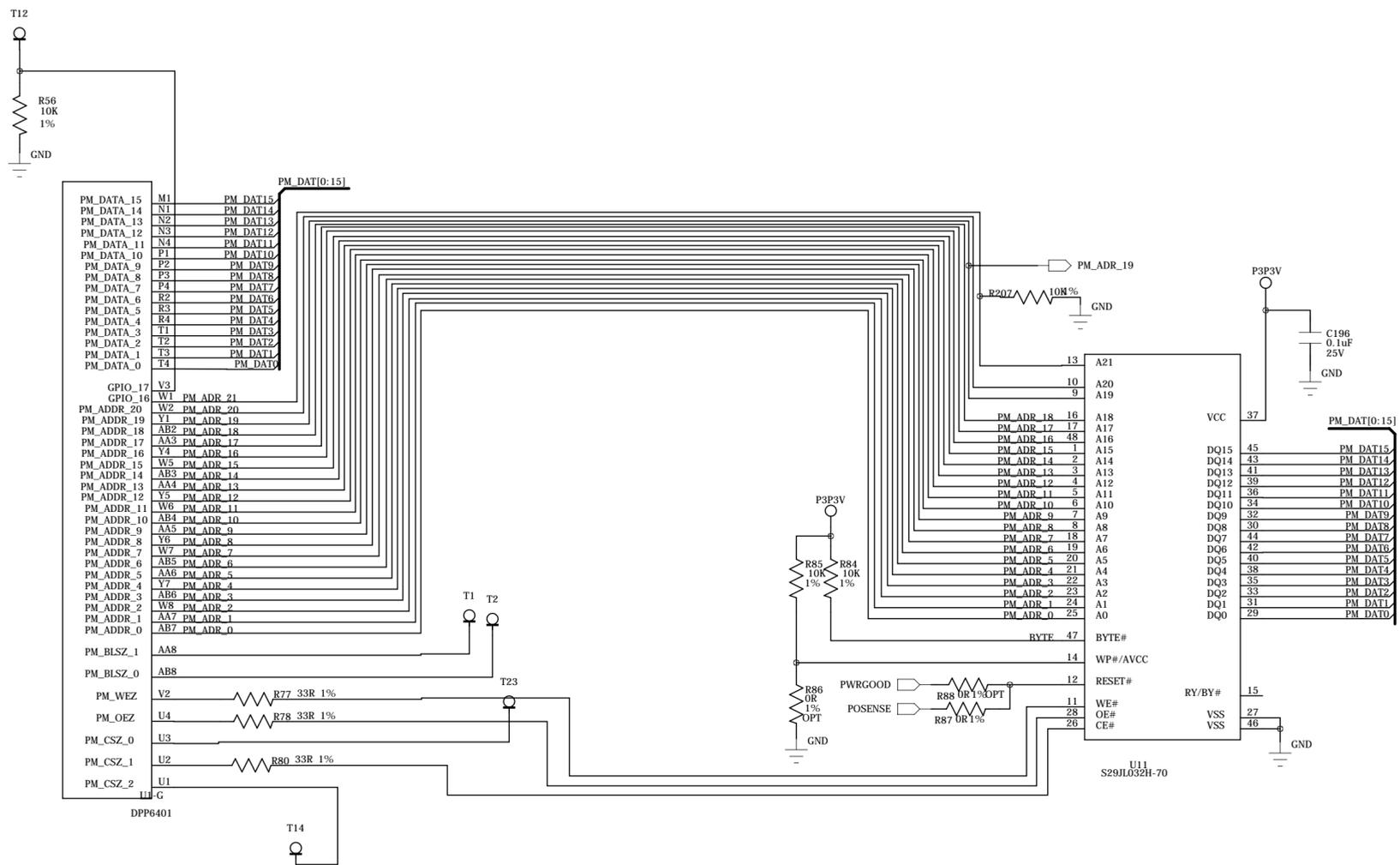
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安华光电

TITLE: DPP6401 Main Board V1.2			
CODE:	SIZE:	DRAWING NO:	REV:
<CODE>	C	600-0005-02	V1.2
SCALE: <SCALE>			SHEET: 6 OF 11

DRAWN:	Bavin	DATED:	2014.09.18
CHECKED:	Jason	DATED:	2014.09.18
QUALITY CONTROL:	<QC By>	DATED:	<QC Date>
RELEASED:	Bavin	DATED:	2014.09.18

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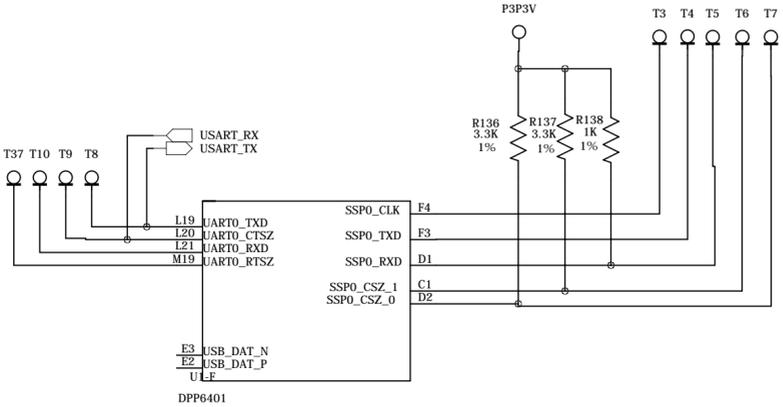
REVISION RECORD			
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É/μUART0 1/0 Ü;

É/μUSB 1/0 Ü;

É/μSSP 1/0 Ü;
ÖÄ²âEQã;

É/μUART1 1/0 Ü;



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DRAWN:	Bavin	DATED:	2014.09.18
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QUALITY CONTROL:	<QC By>	DATED:	<QC Date>
RELEASED:	Bavin	DATED:	2014.09.18

CODE:	SIZE:	DRAWING NO:	REV:
<CODE>	C	600-0005-02	V1.2

SCALE: <SCALE> SHEET: 7 OF 11

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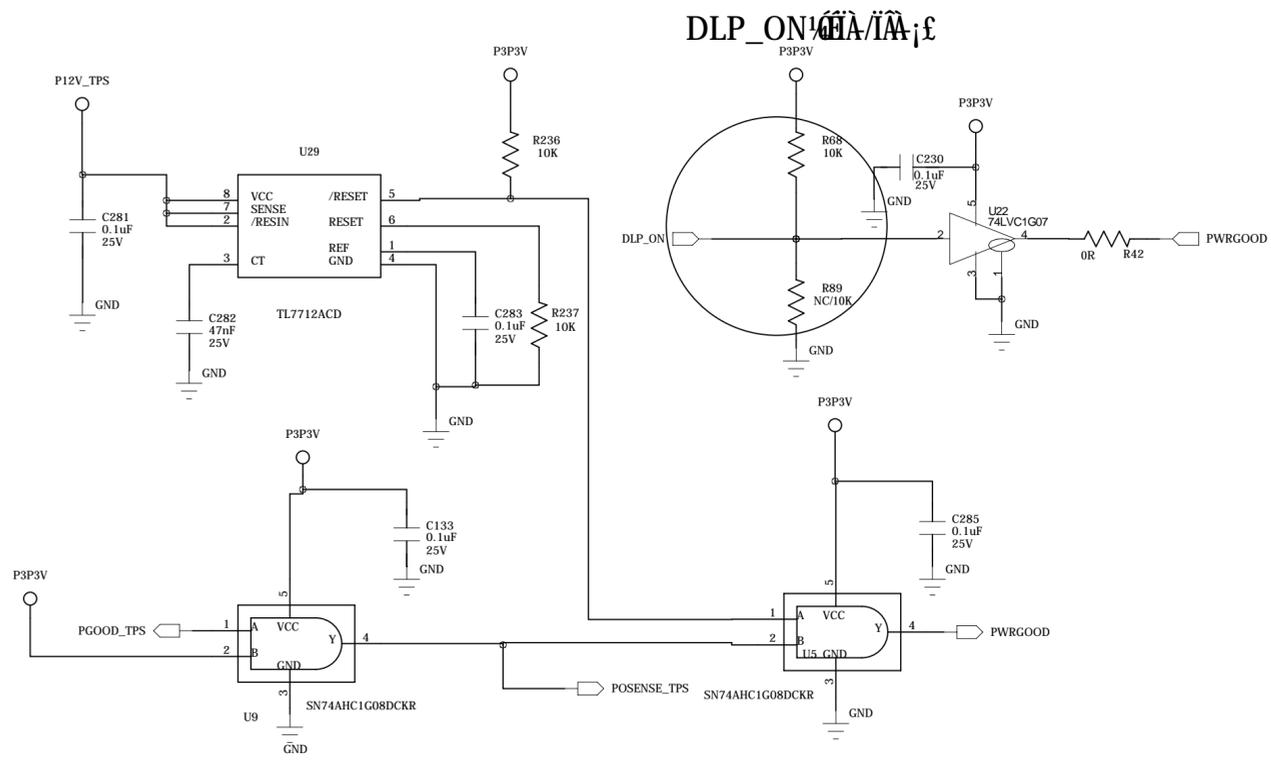
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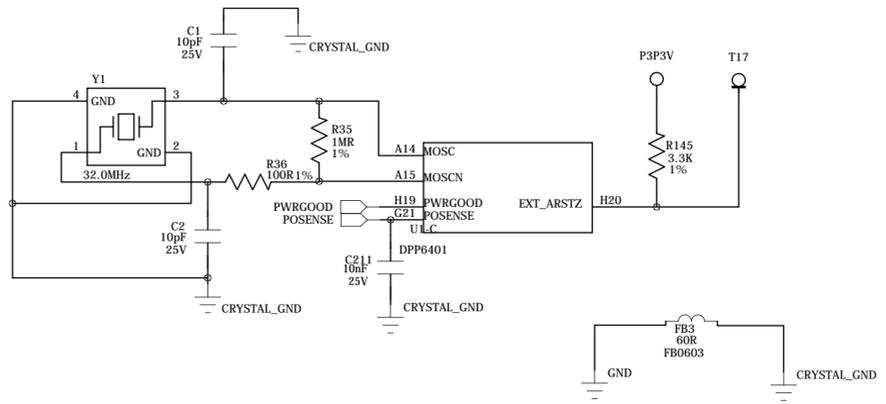
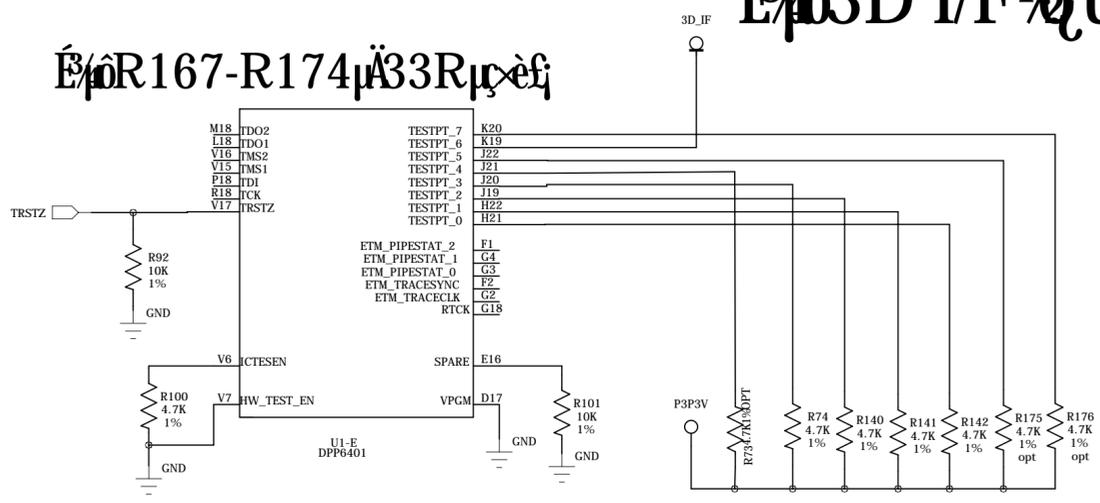
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TITLE: DPP6401 Main Board V1.2			
CODE:	SIZE:	DRAWING NO:	REV:
<CODE>	C	600-0005-02	V1.2
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DRAWN: Bavin	DATED: 2014.09.18
CHECKED: Jason	DATED: 2014.09.18
QUALITY CONTROL: <QC By>	DATED: <QC Date>
RELEASED: Bavin	DATED: 2014.09.18

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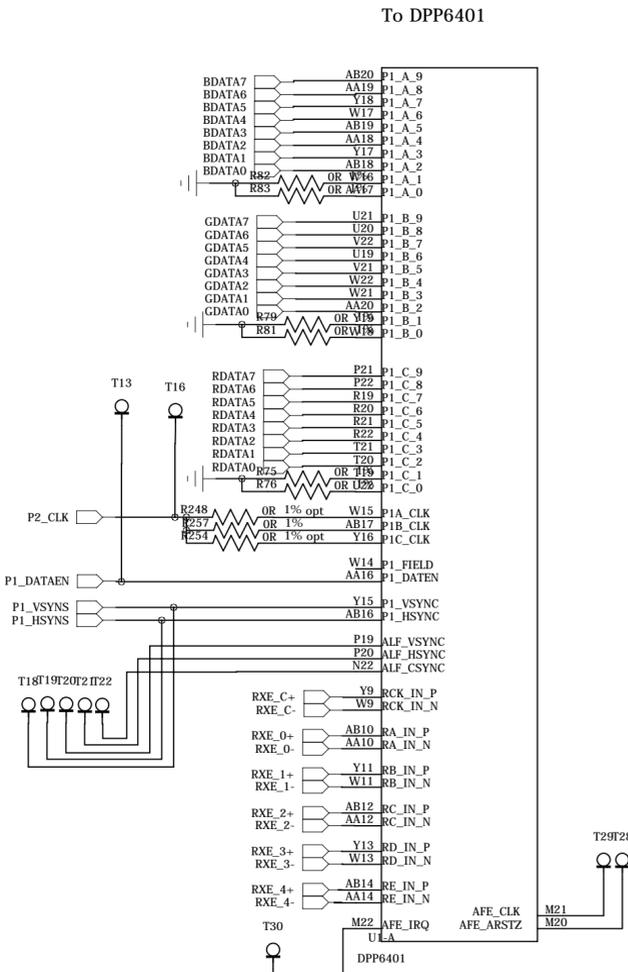
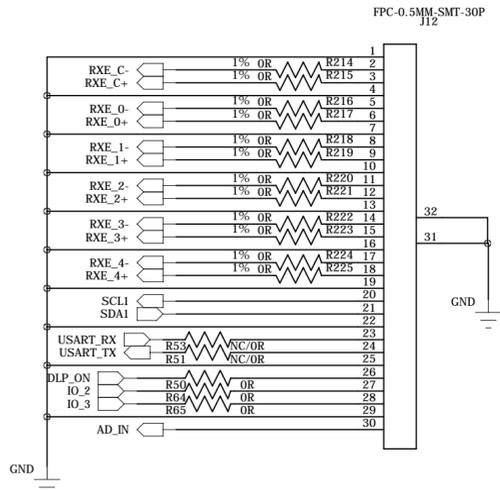
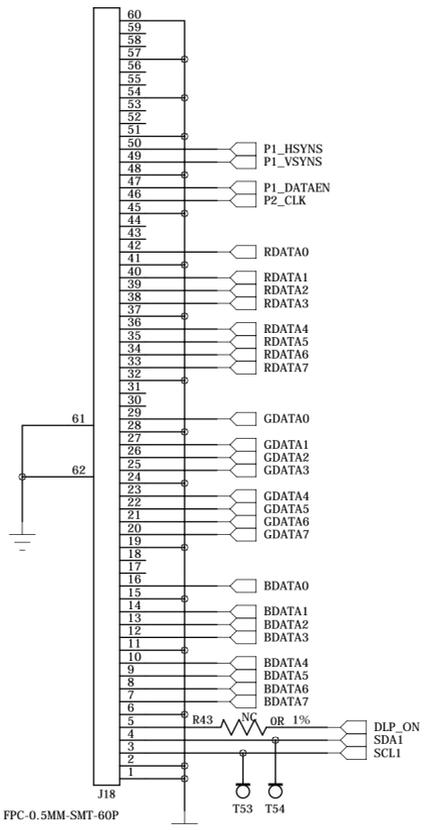
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REVISION RECORD			
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COMPANY: ANHUA OPTOELECTRONICS TECHNOLOGY CO., LTD
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CHECKED: Jason	DATED: 2014.09.18	DRAWING NO: 600-0005-02	REV: V1.2
QUALITY CONTROL: <QC By>	DATED: <QC Date>	SHEET: 9 OF 11	
RELEASED: Bavin	DATED: 2014.09.18	SCALE: <SCALE>	

6 5 4 3 2 1

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LTR	ECO NO.	APPROVED:	DATE:

The main schematic diagram shows the following components and connections:

- Projector Settings Memory:** AT24C32C-TH-B (U19) with I2C address 0xA8. VCC is connected to P3P3V, and SCL/SDA are connected to GPIO_15 and GPIO_8 respectively.
- Resistors:** R69, R70 (0R 1%), R114, R115 (1K 1%), R116 (0R 1%), R132 (1K 1%), R166, R167, R168, R169, R240 (2.2K 1%), R259, R260, R261 (10K).
- Capacitors:** C220 (0.1uF 25V).
- GPIO Connections:**
 - GPIO_19 (D18) to USB_ENZ
 - GPIO_18 (C18) to USB_ENZ
 - GPIO_7 (B17) to FAN_LOCKD
 - GPIO_6 (A18) to FAN_LOCKD
 - GPIO_5 (D16) to HDMI_DET
 - GPIO_32 (F22) to HDMI_DET
 - GPIO_4 (C16) to FAN_PWM
 - GPIO_3 (B16) to FAN_PWM
 - GPIO_0 (C15) to FAN_PWM
 - GPIO_23 (D21) to FAN_PWM
 - GPIO_13 (L2) to LED_OVER_TEMP
 - GPIO_12 (M4) to LED_OVER_TEMP
 - GPIO_14 (B18) to BRI_SEL[0]
 - GPIO_33 (H2) to CMP_PWM
 - GPIO_34 (H3) to CMP_PWM
 - GPIO_35 (H4) to CMP_PWM
 - GPIO_36 (G1) to CMP_PWM
- Other Components:** T38, T39, T31, T24, T32, T33, T34, T25, T35, T36, T43T42T41T40, U1-D DPP6401, J1, J2, J3, J4, J6 (1.25T_10P_WT).

É/μ0E:0:0:QcÂ £

É/μ0'1/1QÜ
É/μI2CμA0Ü
2ÇEUSB1QÜ

É/μU34-SN74LVC244APWR£

LEDR_EN, LEDC_EN, LEDB_EN, LEDG_EN, LEDB_PWM, LEDG_PWM, LEDR_PWM, LEDC_PWM, LEDB_PWM, LEDG_PWM

PWM TO LED DRIVER(LM3421/RT8452)

RED_LED_PWM, GRN_LED_PWM, BLU_LED_PWM, RED_LED_EN, GRN_LED_EN, BLU_LED_EN

É/μLight Sensor1QÜ

É/μFAN1°IFAN21QÜ

COMPANY: ANHUA OPTOELECTRONICS TECHNOLOGY CO., LTD

TITLE: DPP6401 Main Board V1.2

CODE:	SIZE:	DRAWING NO:	REV:
<CODE>	C	600-0005-02	V1.2

SCALE: <SCALE> SHEET: 10F 11

DRAWN:	Bavin	DATED:	2014.09.18
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QUALITY CONTROL:	<QC By>	DATED:	<QC Date>
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$V_{OUT} = 1.2x(1 + R_{49}/R_{52})$

$V_{OUT} = 1.2x(1 + R_{60}/R_{61})$

POWER SUPPLY CONVERT

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TITLE: DPP6401 Main Board V1.2

CODE:	SIZE:	DRAWING NO:	REV:
<CODE>	C	600-0005-02	V1.2

SCALE: <SCALE> SHEET: 1 OF 11

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QUALITY CONTROL:	<QC By>	DATED:	<QC Date>
RELEASED:	Bavin	DATED:	2014.09.18

D C B A

D C B A