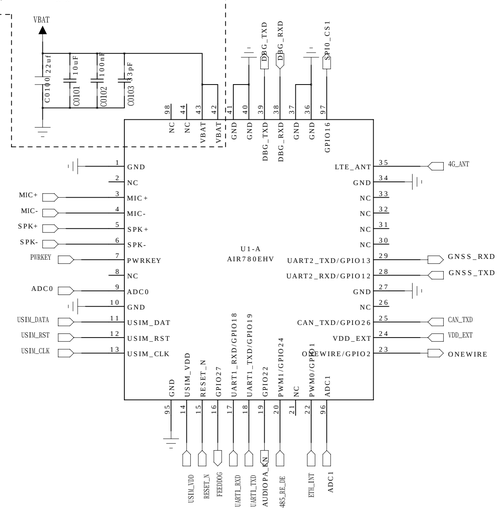
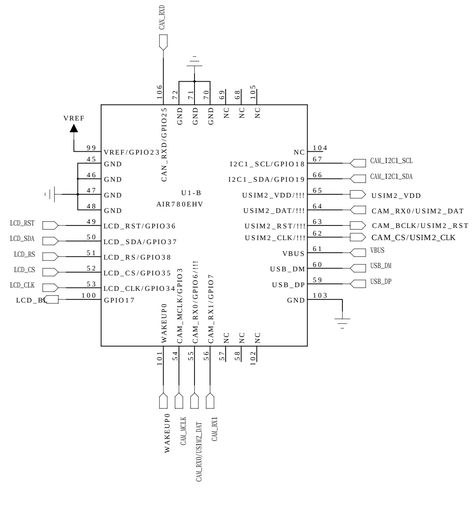
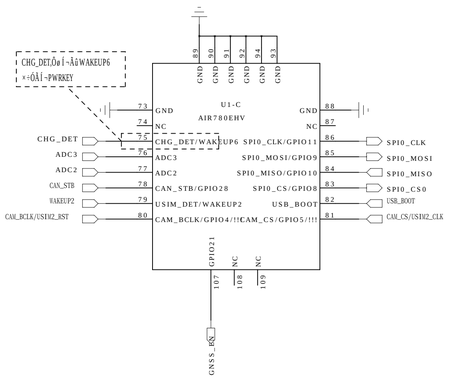
REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

Air780EHV+Air510W 参考设计

1.VBATµçÑ¹Êäè·¶Î§Î ª3.3V~4.3V
2.½¨ÒéVBATµÄPCB×ß Ï ß¾¡Á¿¶ÌÇÒ×ã¹»¿í,£¬¿í¶È²»ÉÙÓÚ1.2mm
3.µçÈÝ°Ú¼þ°´ÕÕÈÝÖµ´óÐ¡µ½½üÄ£×éVBAT¹Ü½ÅÅÅÁÐ



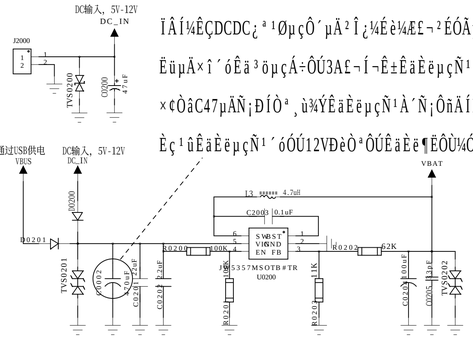




COMPANY:	合宙LuatOS			
TITLE:	Air780EHV+Air510W			
DRAWN: ZhuPingjun	DATED: 2025-5-8	CODE: laolu	SIZE: A1	DRAWING NO: 2025-11-11 / REV: 4
CHECKED: laolu	DATED: 2025-5-8			
QUALITY CONTROL: laolu	DATED: 2025-5-8			
RELEASED: laolu	DATED: 2025-5-8	SCALE: G		SHEET: 1 OF 16

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

DC-DC ·½°¸



ÏÂÍ¼ÊÇDCDC¿ª¹Øµçµ´µÄ²Î¿¼Éè¼Æ£¬²ÉÓÃµÄÊÇ½Ü»ª¸ÌØ¹«Ë¾µÄJW5357¿ª¹Øµçµ´Ð¾Æ¬

Ëüµ¥×î´óÊä³öµçÁ÷ÔÚ3A£¬Í¬Ê±ÊäÈëµçÑ¹·¶Î§4.5V~18V

×¢ÒâC47µÄÑ¡ÐÍÒª¸ù¾ÝÊäÈëµçÑ¹À´Ñ¡ÔñÃÍÑ¹Öµ¡£

Èç¹ûÊäÈëµçÑ¹´óÚ12VÐèÒª³ÔÚÊäÈë¶ËÔÙ¼ÓÒ»¸å470uFµÄµç½âµçÈÝ

VOUT=0.6*(1+R0202/R0203)=4V

Air153D WatchDog

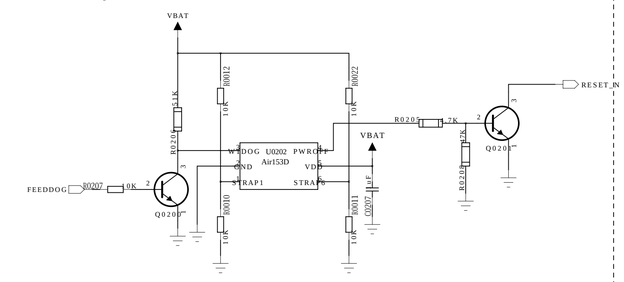
ÏÂÍ¼ÊÇÊ¹ÓÃ°ÏÔæ¿´ÃÅ¹·Ð¾Æ¬Air153DÉè¼ÆµÄ¿´ÃÅ¹·µçÂ·

Éè¼ÆÔ-ÀíÊÇ£º°Î¹¹·²»ÕÝý³£Ê±£¬À-¸ßPIN4:ON/OFF¹Ü½Å500ms£¬

Í¨¹ýNPNÈý¼«¹Ü·´Ïò£¬ØRESETÐÅºÅ£¬ÔØÆôÖ÷¿Ø£»

×¢Òâ£¡Ê¹ÓÃ´Ë¿´ÃÅ¹·µçÂ·Ê±¿ª»ú¼üPWRKEYÐè½ÓµØ£¬ÒÔÊ¹ÄÜ×éÉÏµç×Ô¯¿ª»ú

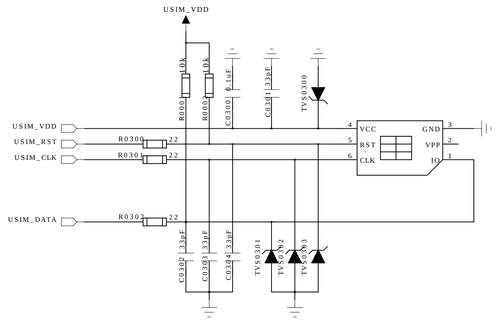
LuatOSÀ©Õ¹¿â£ºexair153x_wdt.lua



DRAWN: ZhuPingjun	DATED: 2025-5-8	COMPANY: ° Ï Ö æLuatOS	
CHECKED: laolu	DATED: 2025-5-8	TITLE: Air780EHV+Air510W	
QUALITY CONTROL: laolu	DATED: 2025-5-8	CODE: laolu / SIZE: A1 / DRAWING NO: 2025-11-11	REV: 4
RELEASED: laolu	DATED: 2025-5-8	SCALE: G	SHEET: 2 OF 16

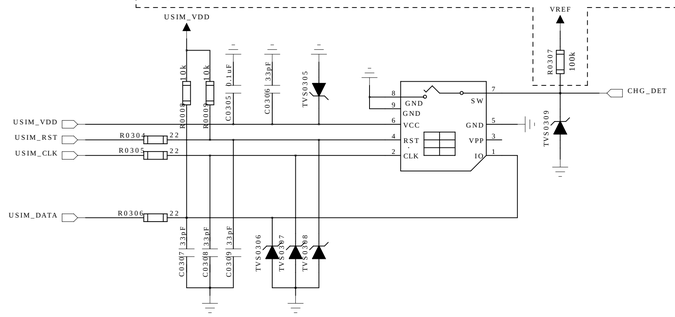
REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

6-PIN SIM1½Ó¿Ú² Î ¿¼µçÂ·



´ø¼ì ² âPIN SIM1¿¨×ù ² Î ¿¼µçÂ·

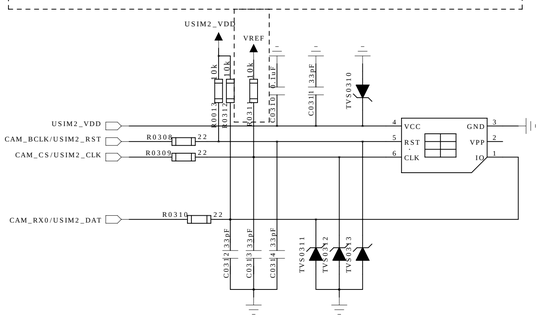
USIM_DETÒ»°ãÄ¬ÈÏÊ¹ÓÃWAKEUP2ÐÅ°Å(PIN79:USIM_DET),
ÔÚWAKEUP2±»ÄÚ²¿Õ¼ÓÃµÄÐÍ°ÅÖÐ,±ÈÈçAir780EGP/EGG,
Ò²¿ÉÒÔÊ¹ÓÃPIN101:WAKEUP0µÈÆäËüWAKEUPÐÍ°Å×öSIM¿¨²åÈë¼ì²âÐÅ°Å.



1.SIM¿¨×ùÓëÄ£¿é¾àÀë°Ú¼þ²»ÄÜÌ«Ô¶£¬Ô½½üÔ½°Ã£¬¾¡Á¿±£Õ¤SIM¿¨ÐÅ°ÅÏß²¼¾ÍßÏß²»³¬¹ý20cm£»
2.SIM¿¨ÐÅ°ÅÏß²¼¾ÍßÔ¶ÀëRFÏß°ÍVBATµçÔ´Ïß£»
3.Î³ÁË·ÀÖ¹¿ÉÄÜ´æÔÚµÄUSIM_CLKÐÅ°Å¶ÔUSIM_DATAÐÅ°ÅµÄ´®ÈÅ£¬Á½ÔõßÏß²¼¾ÍßÏß²»Ò³Ì«¿½ü£¬ÔÚÁ½Ì õ×ßÏßÖ®¼äÔö¼ÓµØÆÁ±Î¡£
ÇÒ¶ÔUSIM_RST_NÐÅ°ÅÒ²ÐèÒ³µØ±£»¤;
4.Î³ÁË±£Ö¤Á¼°ÃµÄESD±£»¤£¬½¨Òé¼ÓTVS¹Ü£¬²¢¿¿½üSIM¿¨×ù°Ú¡£Ñ¡Ôñµ÷ESDÆ÷¼þ¼ÄÉú¡çÈÝ²»´óÓÚ50pF¡£
ÔÚÁ£¿é°ÍSIM¿¨Õ®¼ãÒ²¿ÉÒÔ´®Á³22Ä·Ä·µÄµç×èÓÀÒÔÒÒÖÆÔÓÉ¢EMI£¬ÔöÇ¿ESD·À»¤¡£
SIM¿¨µÄÍâÎ§µçÂ·±ØÐë¾¡Á¿¿½üSIM¿¨×ù¡£

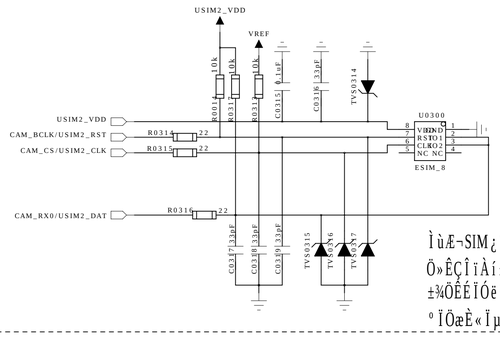
6-PIN SIM2½Ó¿Ú² Î ¿¼µçÂ·

SIM2_CLKÐèÒª²ÉÏÀ-ÖÁVref£¬ÔÔ±£Õ¤SIM2_CLKÔÚStop×´Ì¬ÏÂ±£³Ö¸ßµçÆ½
SIM_CLKÔÚStop×´Ì¬ÏÂ±£³Ö¸ßµçÆ½ÊÇSIM¿¨²æ·¶µÄÒª³Çó



1.Èç¹ûÐèÒª²É¹ÓÃSIM2£¬ÐèÒª³×¢Òâ£¡
SIM2£¬Î ÞÂÛµçÔ´»¹ÊÇÐÅ°Å(CLK/DATA/RST)£¬¾ù²ª¸´ÓÃÄ£×éµÄÆäËü¹Ü½Å£»
µ±Ê¹ÓÃSIM2Í¨µÀÊ±£¬Ä£×éµÄPIN55/PIN80/PIN81Èý¸ö¹Ü½ÅÐèÎñ±ØÐü¿Õ£»
PIN55/PIN80/PIN81µÄÄ¬ÈÏ¹¦ÄÜÊÇSPI Camera£¬ÕâÒâÔâÎ¶×ÅÊ¹ÓÃSIM2±ãÎÞ·¨Ê¹ÓÃCamera£»
2.ÔÚÎÒÃÇµÄÄèëÖÐ£¬ÓÐÊ±°òÊ¹ÓÃSIM0 vs SIM1£¬ÓÐÊ±°òÊ¹ÓÃSIM1 vs SIM2£¬Çë´ó¼ÒÁé»îÀí½â£»
3.²å°Î¿¨°Í Ì ù Æ¬SIM¿¨Ã»ÓÐ±¾ÔÊÇ»ðÊ£¬ÊÇÎ ïÀí½éÔÊ²»Í¬£¬Air780ExxÏµÁÐÐ¶¼¿ÉÒÔÕ§³ÖÕ£»

SIM2Ì ùÆ¬SIM¿¨²Î¿¼µçÂ·

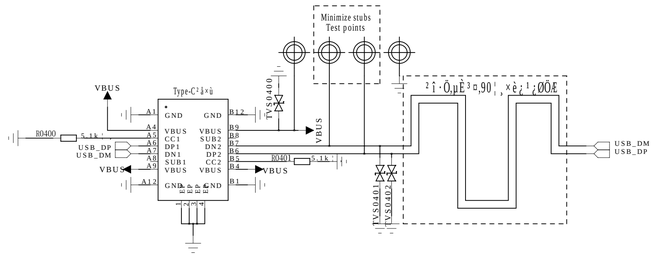


Ì ùÆ¬SIM¿¨£¬Ò²³£±¸³ÆÎªESIM
Õ»ÊÇÎïÀí±íÎÖÐÎÊ½ÉÏÓë²å°Î¿¨²»Í¬±¾ÖÊÉÏÓë²å°Î¿¨Ã»ÓÐÎ°ÎÇø±ð
°ÏÖæÈ«Ïµ4GÄ£×é¶¼Ö§³ÖESIM

DRAWN: ZhuPingjun	DATED: 2025-5-8	COMPANY: °Ï Ö æLuatOS	
CHECKED: laolu	DATED: 2025-5-8	TITLE: Air780EHV+Air510W	
QUALITY CONTROL: laolu	DATED: 2025-5-8	CODE: laolu / SIZE: A1 / DRAWING NO: 2025-11-11 / REV: 4	
RELEASED: laolu	DATED: 2025-5-8	SCALE: G	SHEET: 3 OF 16

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

USB



1.USB×ß Ï ßÐèÒª ÑÏ ¸ñ° ´ÔÕ² î · ÖÏ ß¿ØÖ£¬×ö µ½Æ½ÐÐº Í µÈ³ ¤»
2.USB×ß Ï ßµÃ×è¿ ¹ÐèÒª ¿ØÖ£µ½² î · Ô90Å · Ä · £»
3.ÐèÒª¾¾¡ ¿ÉÄÜµÃ¼õÊÙUSB×ß Ï ßµÄstubs£¬¼õÊÙÐÅº Å · ´ É ã £»USBÐÅº ÅµÄ² âÊÔµ ã × î º ÃÖ±½Ó · ÅÔÚ×ß Ï ßÉ Ï ÒÔ¼õÊÙstub
4.ÔÚ¿ ¿½üUSBÁ¬½ÓÆ÷»òÔß² âÊÔµ ã µÄµØ · ½Ì í¼ÓTVS±£»¤ ¹Ü£¬ÓÉÓÚUSBµÄËÙÂÊ½Ï ¸ß£¬Ðè±£Ö¤Ñ¡ÓÃµÄTVS±£»¤ ¹ÜµÃ¼ÄÉú µ çÈÝÐ¡ÓÚ1pF
5.VBUS × ÷ Î ª USB² å È ë¼ì ² â £ ¬ ±ØÐë Á¬½ÓUSBµ çÔ´ »òÔß Í â½Ó µ çÔ´ £ ¬ · ñÔòUSB Î Þ · ¨ ± »¼ì ² â µ½£ ¬VBUSµÄ¼ì ² â µ çÑ¹Ò ª ´ óÓÚ3.3V

²âÊÔµã

USB_BOOT
VDD_EXT

USB_BOOT ÔÚ¿ ª » ú ¹ ý ³ ÌÖÐÀ - ¸ ß ¿ ÉÒÔ½øÈ ë USBÏ ÂÔØÄ £ Ê½
½¨ÒéÔ¤Áô ² âÊÔµã

DBG_TXD
DBG_RXD

DGB_UART£¬Ò² ³ £ ± ¸ ³ Æ × ÷ Î ª UART0£¬ÓÃ × ÷ µ × ² âÈÒÖ¾µÄ × ¥È ¡
² ¨ ÌØÂÊ921600bps£¬ ² »¿É × ÷ Î ª Í ¨ ÓÃUARTÊ ¹ ÓÃ

PWRKEY

¿ ª » ú¼ü ² âÊÔµã £ ¬ È è¼Æ Åú Á¿ É ý¼¶¼Ð¾ ß Ê ± » áÓÃµ½

VBAT

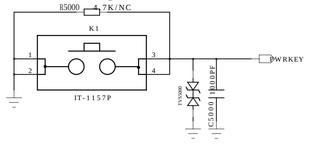
VBAT ¹ © µ ç ² âÊÔµã £ ¬ È è¼Æ Åú Á¿ É ý¼¶¼Ð¾ ß Ê ± » áÓÃµ½

COMPANY:	ª Ï Ö æLuatOS		
TITLE:	Air780EHV+Air510W		
DRAWN: ZhuPingjun	DATED: 2025-5-8		
CHECKED: laolu	DATED: 2025-5-8		
QUALITY CONTROL: laolu	DATED: 2025-5-8		
RELEASED: laolu	DATED: 2025-5-8		
CODE: laolu	SIZE: A1	DRAWING NO: 2025-11-11	REV: 4
SCALE: G		SHEET: 4 OF 16	

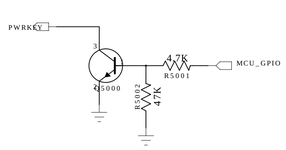
REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

开机PWRKEY/复位RESET/下载BOOT/WAKEUP

ó´¼ü¿ª»ú



µ¥Æ¬»ú¿ØÖÆ¿ª»ú



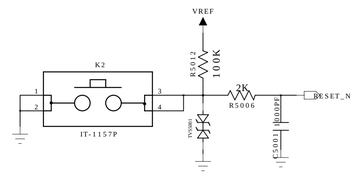
1.°ÑPWRKEY¹Ü½ÅÀÀ-µÍ0.5s°ó¿ª»ú£¬¿ª»ú³É¹¦°óPWRKEY¹Ü½Å¿ÉÒÔÊÍ·Å¡£

2.°´¼ü¸½½üÐè·ÂÖÃÒ»¸öTVS¹ÜÓÃ×÷ESD·À»¤¡£

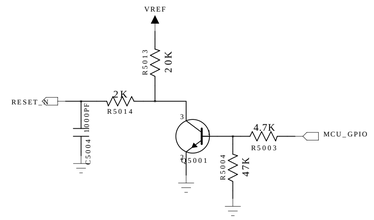
3.PWRKEY µÄµçÑ¹Óò£ÇVBAT£¬È¡¹ûÓÃµ¥Æ¬»ú¿ØÖÆ¿ª»ú¼°ÐèÒª¼ÓÒ»¸öÐèÒª¼«¹Ü¡£

4.¿ÉÒÔÍ¨¹ýÒ»¸öµ²»³¬¹ý10K¦¸µÄµç×èÖ±½Ó½«PWRKEYÀ-µÍ£¬ÏÔÊ¾µç×Ô¶¯¿ª»ú¡£

RESET_N ¸´Î»



µ¥Æ¬»ú¿ØÖÆÖØÆô

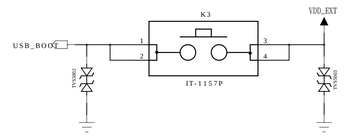


1.À-µÍ RESET_N Òý½Å 0.5S ¿ÉÊ¹Ä£¿é¸´Î»¡£

2.RESET_NÐÅ°Å¶Ô¸ÉÈÅ±È½ÏÀô¸Ð£¬Òò´Ë½¨Òé¿ÉÊ¹ÓÃ×ßÏß¶¥½Á¿µÄ¿Ú°åÉÏµÄ×ü¼ü¸½½ü£¬Àí¡£

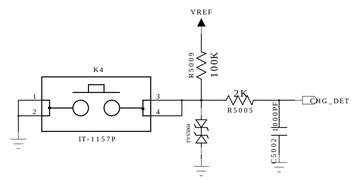
3.RESET_N µÄµçÑ¹Óò£ÇÄ£×éÐ¾Æ¬ÄÚ²¿LDO_1.8V,Êµ²âµçÑ¹ÔÚ1.3VÒÔÉÏ¶¼Î²Ôý³£,È¡¹ûÓÃµ¥Æ¬»ú¿ØÖÆÖØÆôµÄ°ÐèÒª¼ÓÒ»¸öµÍµçÆ½¼«¹Ü¡£

USB下载使能

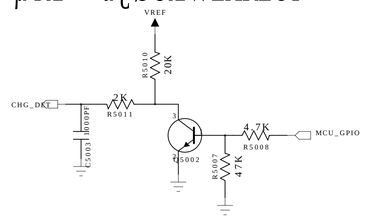


Í¬Ê±°´ÏÂ¿ª»ú¼üºÍBOOT¼ü,È»ºóÔÙÉÏµç,¼´¿ÉÍ¨¹ýUSBÎÂÔØÈí¼þ;

WAKEUPÖÐ¶Ï



µ¥Æ¬»ú¿ØÖÆWEAKEUP



1,CHG_DET×÷ÓÀÍ¬PWRKEY,¿ª»úÇ°¿É×ö¿ª»ú¼ü,¿ª»ú°ó¿É×öWAKEUPÖÐ¶Ï;

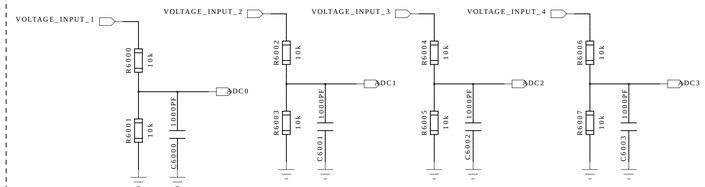
2.CHG_DET×÷Î ª WAKEUPÊ¹ÓÃÊ±,É Ï À-µçÆ½·¶Î§Î ª 1.8V-3.6V;

3.CHG_DETµÄµçÑ¹ÓòÊÇÄ£×éÐ¾Æ¬ÄÚ²¿LDO_1.8V,Êµ²âµçÑ¹ÔÚ1.3VÒÔÉÏ¶¼Î²Ôý³£,È¡¹ûÓÃµ¥Æ¬»ú¿ØÖÆÔØÆôµÄ°ÐèÒª¼ÓÒ»¸öµÍµçÆ½¼«¹Ü¡£

COMPANY:	° Ï Ö æLuatOS		
TITLE:	Air780EHV+Air510W		
DRAWN: ZhuPingjun	DATED: 2025-5-8		
CHECKED: laolu	DATED: 2025-5-8		
QUALITY CONTROL: laolu	DATED: 2025-5-8		
RELEASED: laolu	DATED: 2025-5-8		
CODE: laolu	SIZE: A1	DRAWING NO: 2025-11-11	REV: 4
SCALE: G		SHEET: 5 OF 16	

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

ADC²Î¿¼µçÂ·



1,ËÄÂ·¶ÔÍâADC,·Ö±æÂÊ12bit;

2.·ÕÑ¹µç×èÇëÑ¡ÓÃ1%¾«ÀÜµç×è¡£×èÖµÒª¸ß(10K¼¶ÒÔÉÏ)£¬¼õÐÉÙº¯ÄÁ÷¼°±ÜÃâ¹à µç¡£

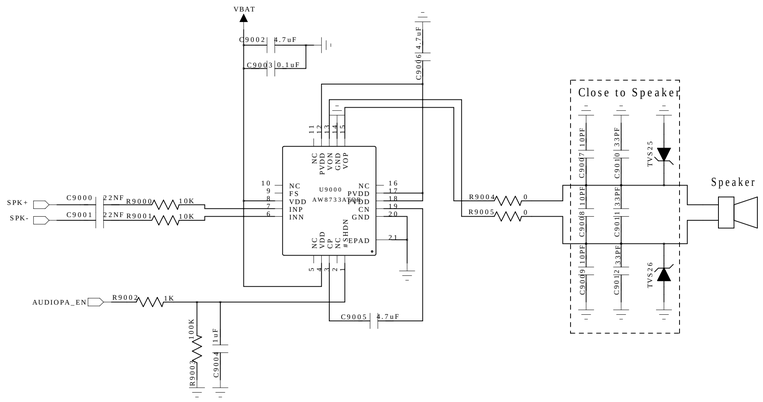
3.Ä£¿é µÄVBAT¹Ü½ÅÄÚ²¿Á¬½ÓµÄ½ÅÊADC£¬¿ÉÓÔ¶ÁÈ¡VBAT¹Ü½ÅµçÑ¹¡£

4.¸ü¶à½éÉÜ https://docs.openluat.com/air780epm/product/air780exxpins/

DRAWN: ZhuPingjun	DATED: 2025-5-8	COMPANY:	° Ï Ö æLuatOS		
CHECKED: laolu	DATED: 2025-5-8	TITLE:	Air780EHV+Air510W		
QUALITY CONTROL: laolu	DATED: 2025-5-8	CODE: laolu	SIZE: A1	DRAWING NO: 2025-11-11	REV: 4
RELEASED: laolu	DATED: 2025-5-8	SCALE: G		SHEET: 6 OF 16	

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

ÒôÆµÊä³ö(À®°È)²Î¿¼µçÂ·

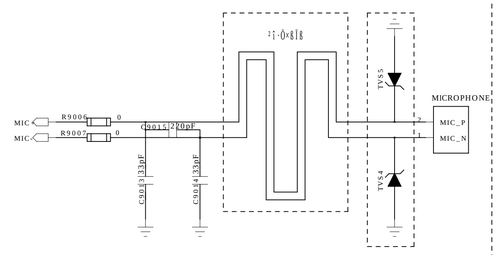


1.Í Æ¼ö²ÉÓÃÖ§³Ö²î·ÖÊäÈëµÄÔôÆµ¹¦·Å¿ÉÒÒÓÀÌý Í²Êä³ö×÷Î³ÒôÆµ¹¦·ÅµÄÊäÈëêÐÅº Å

2.È ç¹ûÔôÆµÊä³ö¶ÔÌì ìÏßÓÐ¸ÉÈÅ£¬¿ÉÒÔº ÑR9004/R9005»»³É´ÅÖé

3.½¨Òé±£Áôí âÎ§µçÂ·Æ÷¼þ£¬ÒÔÂÊ³ýÉäÆµ¸ÉÈÅº ÍÔöÇ¿ESD·À»¤ÐÔÄÜ

驻极体麦克风



1.Air780EHVÒÑÄÚÖÃMicbias£¬Í â²¿»ÔÙÐèÒª Æ«ÖÃµçÑ¹£»

2.Mic+/Mic- ÐèÑÏ¸ñ²î·Ö×ßÏß£»

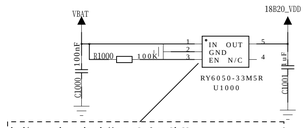
3.½¨Òé±£Áôí âÎ§µçÂ·Æ÷¼þ£¬ÒÔÂÊ³ýÉäÆµ¸ÉÈÅº ÍÔöÇ¿ESD·À»¤ÐÔÄÜ

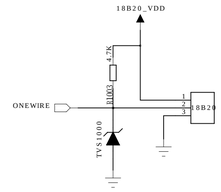
DRAWN: ZhuPingjun	DATED: 2025-5-8	COMPANY: º Ï Ö æLuatOS	
CHECKED: laolu	DATED: 2025-5-8	TITLE: Air780EHV+Air510W	
QUALITY CONTROL: laolu	DATED: 2025-5-8	CODE: laolu / SIZE: A1 / DRAWING NO: 2025-11-11 / REV: 4	
RELEASED: laolu	DATED: 2025-5-8	SCALE: G	SHEET: 7 OF 16

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

ONEWIRE

18B20电源





ÊµÏßÉèÖÃ´íÎó£¬Ê±¼ä¸ñÊ½Ó¦Îª"ÄêÄêÄêÄê-ÔÂÔÂ-ÈÕÈÕ ¹¤×÷ÈÕ ÖÜ¼¸ ÐÇÆÚ¼¸ ÐÝÏ¢ÈÕ ÐÝÏ¢ÈÕ ¼¸µã-¼¸µã-¼¸µã"£¬ÇëÖØÐÂÉèÖÃ£¡

ÐÞ¸ÄÊ±¼ä£ºÔÚÖÜ¼¸ÀïÃæ£¬ÐÞ¸ÄÐÝÏ¢ÈÕµÄ¿ªÊ¼ºÍ½áÊøÈÕÆÚ£¬¸ñʽΪ"ÄêÄêÄêÄê-ÔÂÔÂ-ÈÕÈÕ"£¬ÀýÈç£º2025-01-01

ÐÞ¸ÄÊ±¼ä£ºÔÚÖÜ¼¸ÀïÃæ£¬ÐÞ¸ÄÐÝÏ¢ÈÕµÄ¿ªÊ¼ºÍ½áÊøÈÕÆÚ£¬¸ñʽΪ"ÔÂÔÂ-ÈÕÈÕ"£¬ÀýÈç£º01-01

¸ü¶àÐÅÏ¢ https://docs.openluat.com/air780epm/product/air780exxpins/

COMPANY:	º Ï Ö æLuatOS		
TITLE:	Air780EHV+Air510W		
DRAWN: ZhuPingjun	DATED: 2025-5-8		
CHECKED: laolu	DATED: 2025-5-8		
QUALITY CONTROL: laolu	DATED: 2025-5-8		
RELEASED: laolu	DATED: 2025-5-8		
CODE: laolu	SIZE: A1	DRAWING NO: 2025-11-11	REV: 4
SCALE: G		SHEET: 8 OF 16	

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

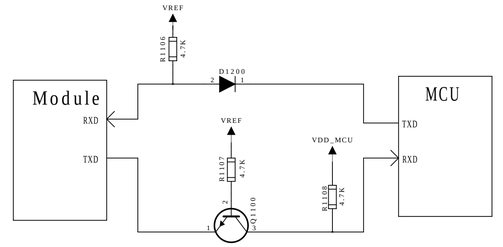
È ý Ï ßÖÆ´®¿Ú² Î ¿¼É è¼Æ



Çë×¢Òâ´®¿ÚµÃµçÆ½¥Åä

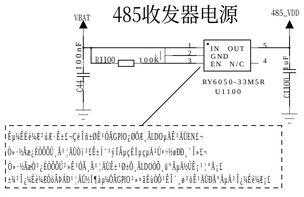
1,DBG_UART(UART0)½ö¿ÉÓÀÓÚµ÷ÊÔ,²»¿ÉÓÃ×÷Í¨ÓÃUART;
2,UART1/2/3¾ù¿É×÷Îª Í¨ÓÃUART;
3,Ï ê Ï ¸ÐÅÏ ¢ https://docs.openluat.com/air780epm/product/air780exxpins/

´®¿ÚµçÑ¹×ª»»²Î¿¼É è¼Æ



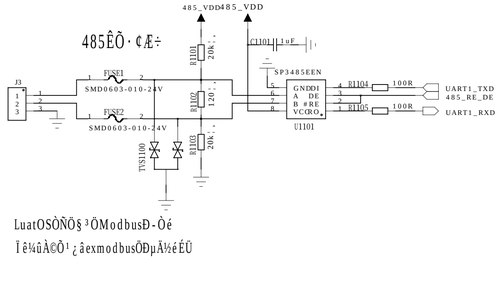
VrefÊÇÄ£¿éÊä³öµÄI/OµçÆ½µçÑ¹£¬VDD_MCUÊÇ¿Í»§¶ËµÄI/OµçÆ½µçÑ¹¡£
D1200 Ñ¡µÍµ¼Í¨Ñ¹½µµÄÐ¤ÌØ»ù¶þ¼«¹Ü¡£
×¢Òâ£¡Ê¹ÓÃVref£¬²»¿ÉÊ¹ÓÃVDD_EXT£¡
VDD_EXTÐÝÃß×´Ì¬ÏÂµÄ¼àÐ²ÐÔÊä³ö»á¼ÄÜÃ£×é»½ÐÑ¶øÆµ·±ÍË³öµÍ¹¦ÄÃ£ÊÜ»
Õâ¸ö×³»»µçÂ·×î¶àÖ§³Ö460800bpsµÄ²¨ÌØÂÊ
³¬¹ý460800bpsµÄ²¨ÌØÂÊÐèÒ²Í¨¼ÓµçÆ½×³»»Ð¾¬À´ÊµÏÖµçÑ¹×³»»¡£

UART TO 485



Ê¡ÓÃÊÊÓ¦µÄ´Ë·Ê±ç¨ÇëÎñ±ðÊ¹ÓÃGPIO¿ØÖÆ¸ÃLDOµÄÊ¹ÄÜÒý½Å¡£
¡Ô»·¾³ÏÂ£ÊÔÒÔ¸Ã¹¦ÄÜ¡£Å³ÄÜ¡±£Ê¡¯¹¦ÄÜ¡£Ê¡µçÄ£Ê½ÏÂ¸ÃLDOÓ¦¹Ø±Õ¡£
¡Ô»·¾³ÏÂ¡£ÊÔÒÔ¹»Ê¹ÓÃ¸ÃLDO¹©µçÎÈ¶¨¡£Ê¹ÓÃ¸ÃLDOÓ¦¹Ø±Õ¡£
¡±¾²Ì¿¼ÊÊÓ¦ÐÔÃÐ¡¯ÄÜ¡¶¼µçÔÃGPIO¹»»ÊÊÔÒÌÊ¯¸ö¹ÝÊ¡ÄÜÃ¡ÐµÄ¹Ì¿¼ÊÊÓ¦¡£

LuatOSÒÑÖ§³ÖModbusÐ-Òé
Ï ê¼üÅ©Ô¹¿âexmodbusÖÐµÄÃ½éÊÜ



DRAWN: ZhuPingjun	DATED: 2025-5-8	COMPANY: ° Ï Ö æLuatOS	
CHECKED: laolu	DATED: 2025-5-8	TITLE: Air780EHV+Air510W	
QUALITY CONTROL: laolu	DATED: 2025-5-8	CODE: laolu	SIZE: A1
RELEASED: laolu	DATED: 2025-5-8	DRAWING NO: 2025-11-11	REV: 4
		SCALE: G	SHEET: 9 OF 16

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

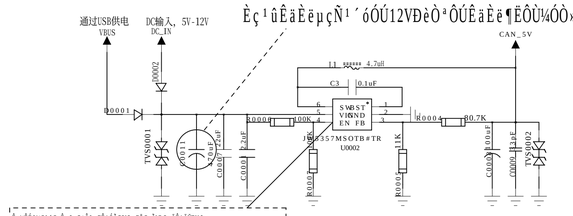
CAN ÊÕ·¢Æ÷ 5V µçÔ´

ÏÂÍ¼½µÑ¹DCDC·½°¸£¬Óëï µÍ³¹©µçÒ»ÑùÊ¹ÓÀµÄÊÇ½Ü»ª ÌØJW5357

CANÊÕ·¢Æ÷¹©µçÑ¹·¶Î§4.5V-5.5V£¬µäÐÍÖµ5V

×¢ÒâC47µÄÑ¡ÐÍÒª¸ù¾ÝÊäÈëµçÑ¹À´Ñ¡ÔñÄÍÑ¹Õµ

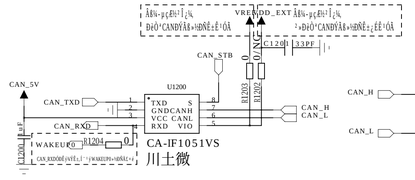
Èç¹ûÊäÈëµçÑ¹´óÓÚ12VÐèÒª ÔÚÊäÈë¶ÊÔÙ¼ÓÒ»¿Å470uFµÄµç½âµçÈÝ



VOUT=0.6*(1+R0202/R0203)=5V

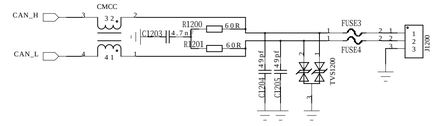
DC_IN»òVBUSÊäÈë·¶Î§ÔÚ4.5V-5.5VÖ®¼äÊ±£¬Ò²¿É¹©¸øCANÊÕ·¢Æ÷¹©µç

CAN½Ó¿Ú



×¢ÒâCANÊÕ·¢Æ÷ÐÍºÅÊÇCA-IF1051VS

²»ÊÇCA-IF1051S,ÇÐÎðÅª»ì



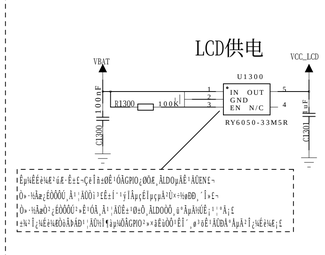
1,CMCC,¹²Ã£¶óÁ÷È¦,Æ¼öÐÍºÅ¹²Ã£¶óÁ÷ÎßÈ¦ACT45B-101-2P;

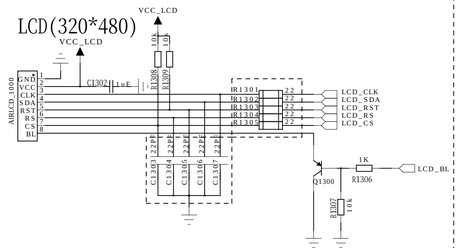
2,TVSS1200,Æ¼öÐÍºÅPESD1CAN£»

DRAWN: ZhuPingjun	DATED: 2025-5-8	COMPANY: º Ï Ö æLuatOS	
CHECKED: laolu	DATED: 2025-5-8	TITLE: Air780EHV+Air510W	
QUALITY CONTROL: laolu	DATED: 2025-5-8	CODE: laolu / SIZE: A1 / DRAWING NO: 2025-11-11 / REV: 4	
RELEASED: laolu	DATED: 2025-5-8	SCALE: G	SHEET: 10F 16

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

LCD





1.Ô¤Áôµç×è¡¢ç¡¢ÈÝ£¬¶ÔÉãÆµ¸ÉÈÅÓÐÒÒ»¶¨µÄÖÖÆÐ§¹û£»

2.LCD_BLÎª¿ØÖÆLCD±³¹âµÄÄ¿Ü½Å£¬µÍµçÆ½Ãð£¬ßµçÆ½ÁÁ£»

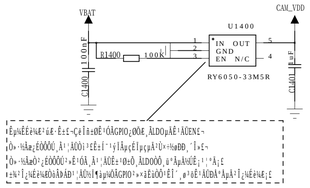
3,±¾²Î¿¼Éè¼ÆÊ¹ÓÃµÄÇ°ÏÖæÅä¼þAirLCD_1000,Çý¶¯ICÊÇST7796;

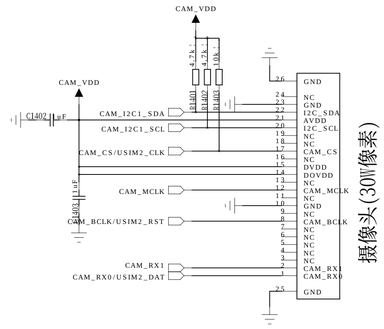
COMPANY: ° Ï Ö æLuatOS					
TITLE: Air780EHV+Air510W					
DRAWN: ZhuPingjun	DATED: 2025-5-8	CODE: laolu	SIZE: A1	DRAWING NO: 2025-11-11	REV: 4
CHECKED: laolu	DATED: 2025-5-8				
QUALITY CONTROL: laolu	DATED: 2025-5-8				
RELEASED: laolu	DATED: 2025-5-8	SCALE: G		SHEET: 1Ð 16	

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

Camera 30W像素

摄像头电源





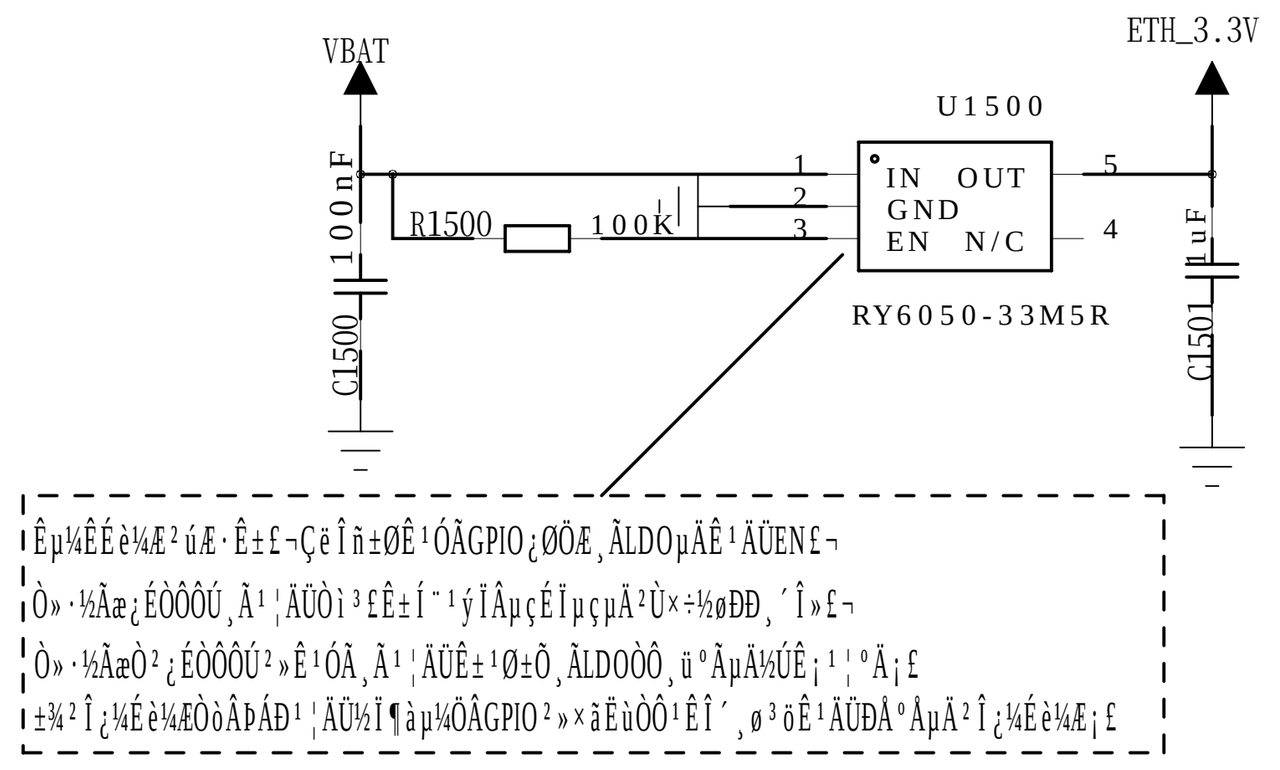
1,±¾² Î¿¼Éè¼ÆÊÊÓÃÓÚº ÏÖæÅä¼þAirCAMERA_1040/AirCAMERA_1050,¹Ù·½ÌÔ±¦µê Luat.taobao.com ÓÐÊÛ;

2,CAM_CS/CAM_BCLK/CAM_RX0ÓëUSIM2±¾ÕÊÊÇÕ÷Ð¾Æ¬µÄÍ¬Ò»¸öIOÒý½ÁË²»Í¬µÄÅä½´¦Ö¸Ïò;

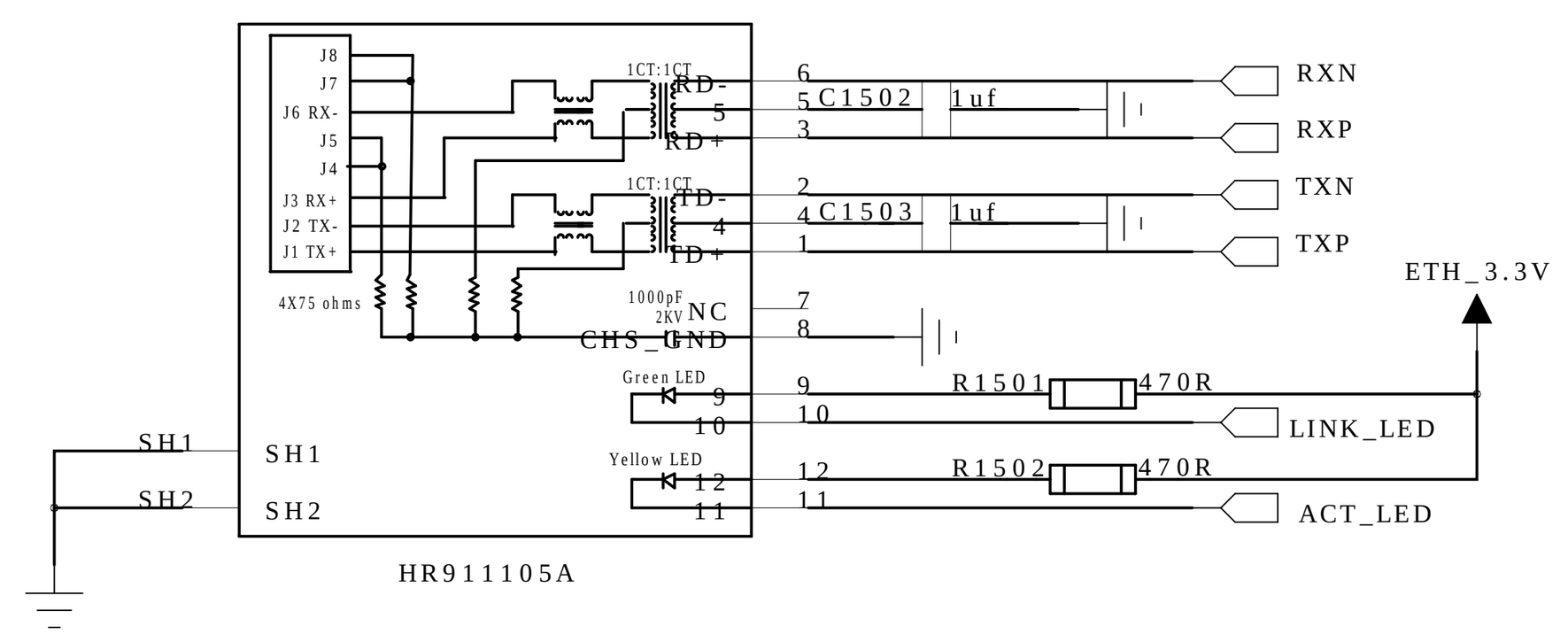
3,AirCAMERA_1040µÄÇý¶¯ICÎª GC032A,AirCAMERA_1050µÄÇý¶¯ICÊÇGC0310,µ÷ÊÔÊ±Çë×¢Òâ;

		COMPANY:	º ÏÖæLuatOS		
		TITLE:	Air780EHV+Air510W		
DRAWN: ZhuPingjun	DATED: 2025-5-8				
CHECKED: laolu	DATED: 2025-5-8	CODE: laolu	SIZE: A1	DRAWING NO: 2025-11-11	REV: 4
QUALITY CONTROL: laolu	DATED: 2025-5-8				
RELEASED: laolu	DATED: 2025-5-8	SCALE: G		SHEET: 12OF 16	

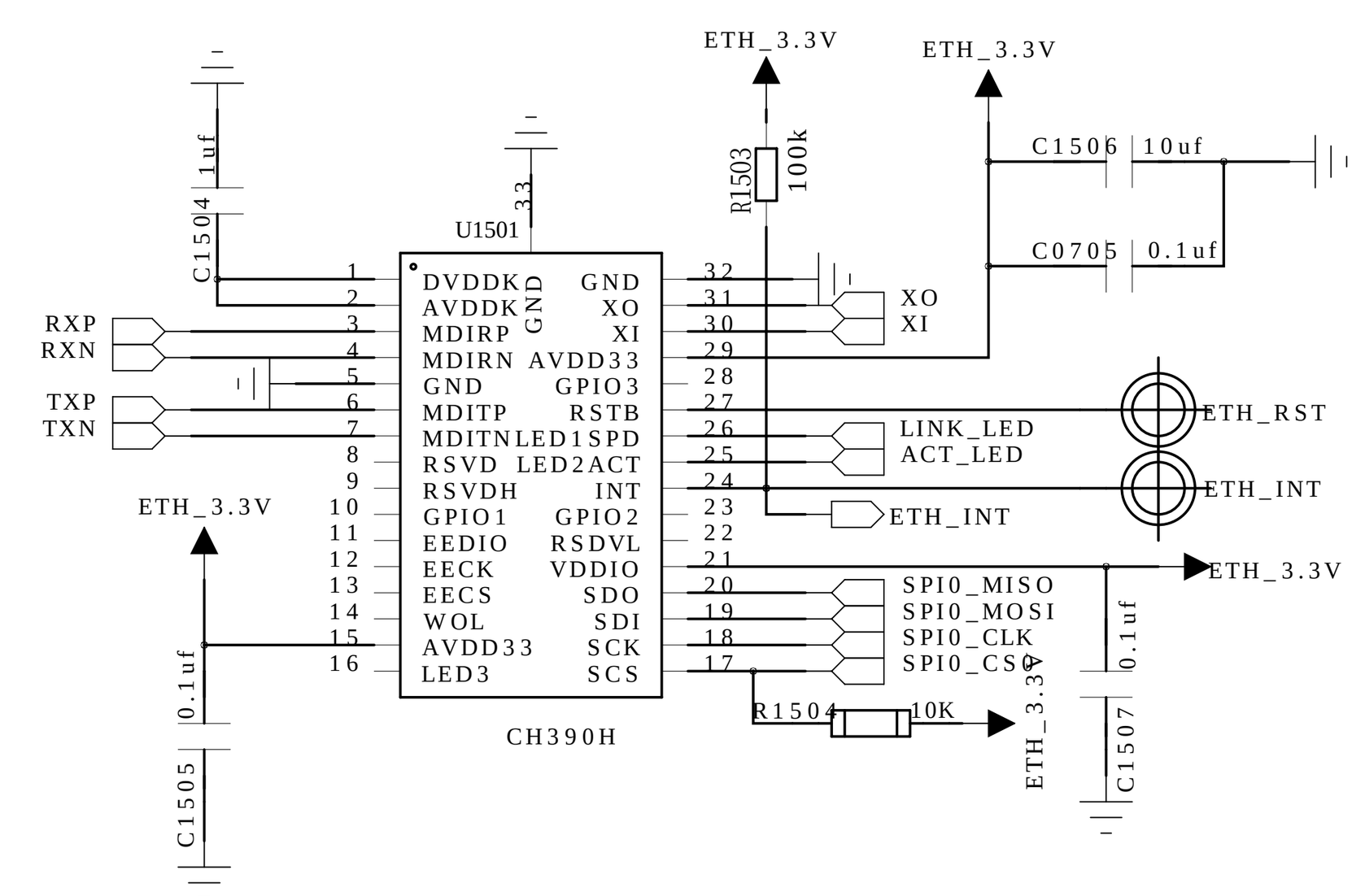
以太网控制器电源



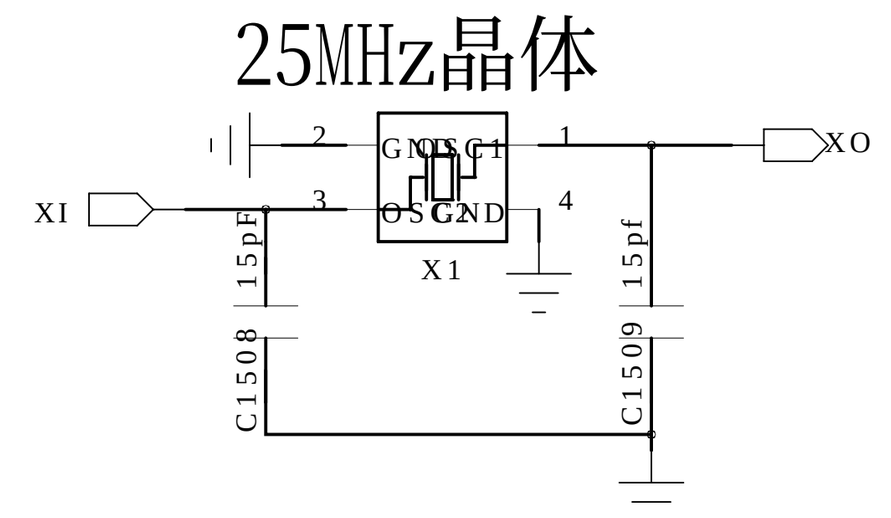
ÒÔÌ«ÍøRJ45Íø¿Ú



RJ45接口



25MHz晶体



1,仅推荐使用沁恒CH390H,LuatOS未适配过其它以太网控制器芯片；

2,相关LuatOS驱动请阅读核心库 netdrv 和扩展库 exnetif

3,https://docs.openluat.com/osapi/core/netdrv/

4,https://docs.openluat.com/osapi/ext/exnetif/

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

		COMPANY: º Ï Ö æLuatOS			
		TITLE: Air780EHV+Air510W			
DRAWN: ZhuPingjun	DATED: 2025-5-8	CODE: laolu	SIZE: A1	DRAWING NO: 2025-11-11	REV: 4
CHECKED: laolu	DATED: 2025-5-8				
QUALITY CONTROL: laolu	DATED: 2025-5-8				
RELEASED: laolu	DATED: 2025-5-8	SCALE: G		SHEET: 13 OF 16	

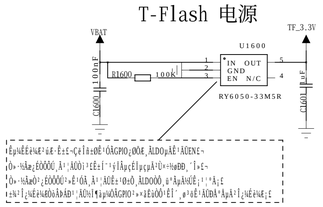
REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

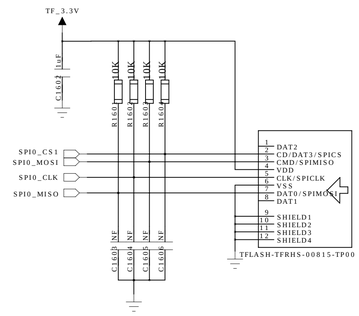
±¾²Î¿¼µçÂ·ÖÐT-Flash º ÍNor Flash¶¼ÊÇÊ¹ÓÃµÄSPI0_CS1£¬½ö Î ª ² Î ¿¼Ê¾Àý

Êµ¼ÊÊ¹ÓÃT-Flash£¬ÒªÇóNor Flash£¬²»ÒªÍ¬Ê±Ê¹ÓÃSPI0_CS1

TF½Ó¿Ú²Î¿¼µçÂ·

T-Flash 电源





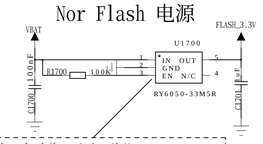
1.Í åÉè½Ó¿ÚÐè×ö º ÃESD·À»¤£»

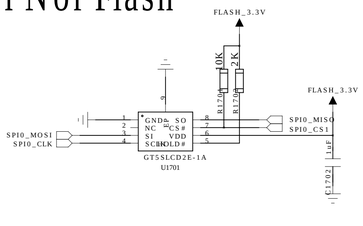
2.SPI0_CLK½¨Òé¥¶ÀÁ¢Ì å º üµØ£¬Æã Ëûð Å ÏßÕû×éÒ»Æð Í ¬ ² ã º üµØ£»

3.TF_3.3Vµ çÔ´×ß Î ß¿ í ¶È0.25mmÔÔÉÏ ¡£

SPI Nor Flash

Nor Flash 电源





1,±¾É è¼ÆÊ¹ÓÃµÄÊÇ¸ß Í ¨Ê¸Á¿×Õ¿âGT5SLCD2E-1A×÷Î ª SPI Nor Flashµ Ä² Î ¿¼£¬¸ß Í ¨Ê¸Á¿×Õ¿âGT5SLCD2E-1A±¾ÕÊÉ ÏÊÇSPI Nor FlashÄÚÖÀÁÊÊ¸Á¿×Õ¿â;

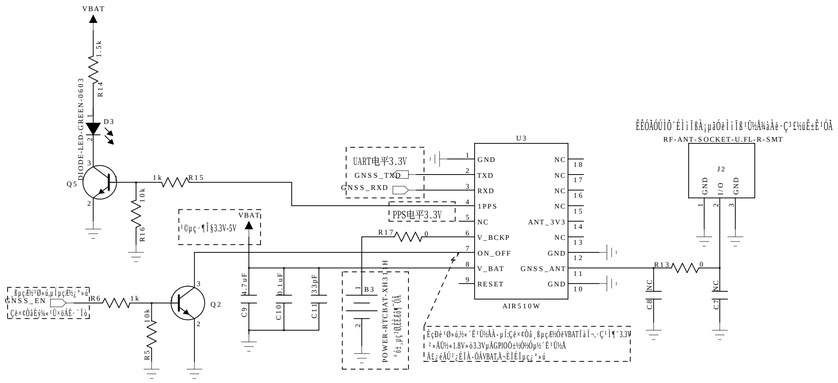
2,SPI NAND FlashÔÚÓ²¼þµ çÂ·É ÏÓë SPI Nor FlashÒ»ÖÂ£»

3,Ò»°ã µÄÓ¦ÓÃ×é º ÏÊÇ:Ò»Â·SPI,²»Í¬µÄÁ½¸ö Æ¬Ñ¡CS,Êµ ÏÕ"ÔÔÌ«Íø+TF¿¨"»ò"ÒÔÌ«Íø»òNAND"µÄ×é º Ï;

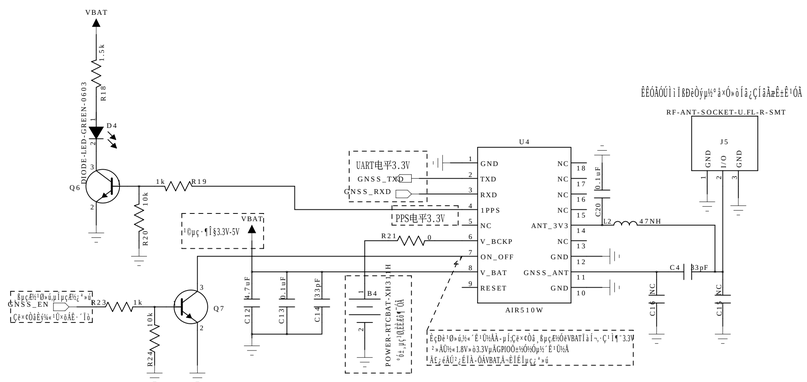
DRAWN: ZhuPingjun	DATED: 2025-5-8	COMPANY: º Ï Ö æLuatOS			
		TITLE: Air780EHV+Air510W			
CHECKED: laolu	DATED: 2025-5-8	CODE: laolu	SIZE: A1	DRAWING NO: 2025-11-11	REV: 4
QUALITY CONTROL: laolu	DATED: 2025-5-8				
RELEASED: laolu	DATED: 2025-5-8	SCALE: G		SHEET: 14 OF 16	

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

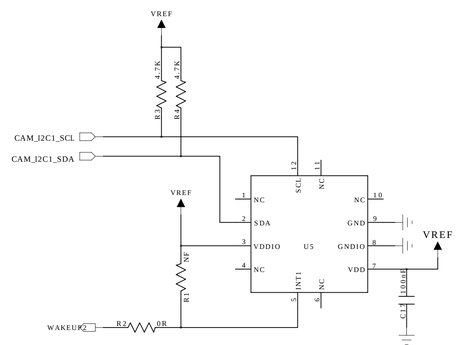
Air510W无源天线参考设计



Air510W有源天线参考设计



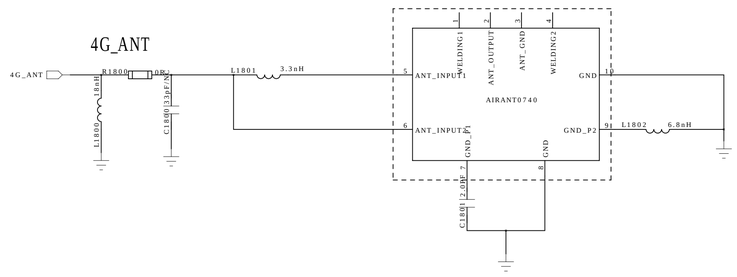
加速度传感器G-Sensor DA221



DRAWN: ZhuPingjun	DATED: 2025-5-8	COMPANY: ºÏÖæLuatOS	
CHECKED: laolu	DATED: 2025-5-8	TITLE: Air780EHV+Air510W	
QUALITY CONTROL: laolu	DATED: 2025-5-8	CODE: laolu / SIZE: A1 / DRAWING NO: 2025-11-11 / REV: 4	
RELEASED: laolu	DATED: 2025-5-8	SCALE: G	SHEET: 15 OF 16

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

4GÌ ì Ïß



1,±¾² Î ¿¼É è¼ÆÊ¹ÓÃµÄÂÇº ÏÖæÌ ùÆ¬Ê½PCBÌ ì Ïß:AirANT4073,³ ß ´ ç40*7*3mm;

2,º ÏÖæ»¹ÓÐ¶à ¿ î ³ ß ´ ç ²»Í ¬ ¡ ¢ · â × ° ¸ ÷Ò ì µÄÌ ùÆ¬Ê½PCBÌ ì Ïß¿É¹©Ñ¡Ôñ;

3,Æ¥Åä µ ç Â · ÒÑµ ÷ÊÔº Ã,PCB · â × °(º ¬Æ¥Åä µ ç Â ·)ÒÑ× ö ³ É ± ê × ¼ · â × °,»¶Ó - × ÉÑ¯;

DRAWN: ZhuPingjun	DATED: 2025-5-8	COMPANY: º Ï Ö æ LuatOS			
		TITLE: Air780EHV+Air510W			
CHECKED: laolu	DATED: 2025-5-8	CODE: laolu	SIZE: A1	DRAWING NO: 2025-11-11	REV: 4
QUALITY CONTROL: laolu	DATED: 2025-5-8				
RELEASED: laolu	DATED: 2025-5-8	SCALE: G		SHEET: 16 OF 16	