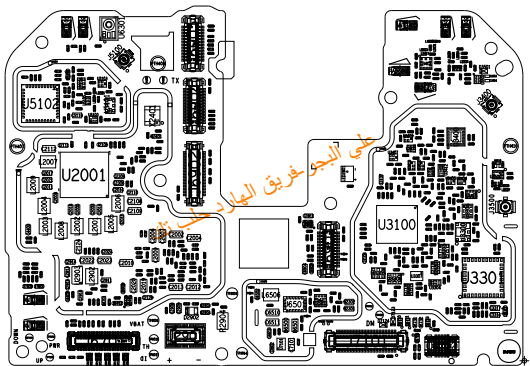
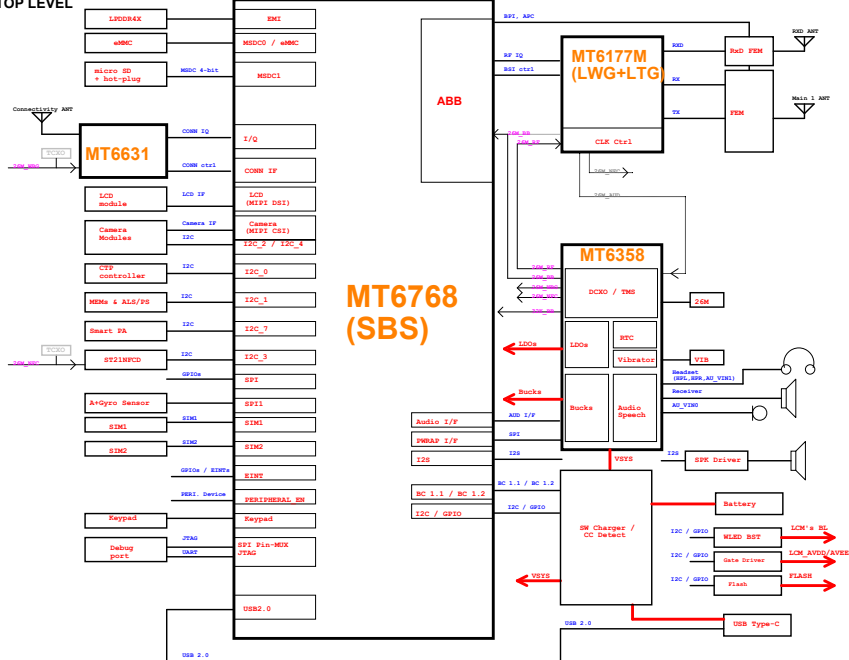






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I2C	Sub SYS	Function	Part Number	I2C Spec.	Budget Timing	I2C Slave Address / Write / Read (7-bit mode)
I2C-0	AP	Cap Touch controller	GT1151	400 Kbps	Yes.	0x5D Write 0xBA / Read 0xBB
		LCM Gate Drive	RT4801HWSC	400 Kbps	Yes.	
		Magnetic Sensor	AK09918C	400 Kbps	Yes.	0x0C Write 0x18 / Read 0x19
I2C-1 (3C)	AP Sensor Hub	Ambient Light Sensor	CM05558	400 Kbps	Yes.	0x51 Write 0xA2 / Read 0xA3
		Proximity Sensor				
		Pressure Sensor	BMP280	400 Kbps	Yes.	0x77 Write 0xEE / Read 0xEF
						0x1A Write 0xA7 / Read 0xB5
I2C-2 (3C)	AP	Rear Camera	EEPROM	400 Kbps		0x59 Write 0xA7 / Read 0xA1
			AF driver	400 Kbps		0x5C Write 0x19 / Read 0x19
						0x29 Write 0xA4 / Read 0xA8
		Dual cam (B+b) - Main1	EEPROM	400 Kbps		0x59 Write 0xA7 / Read 0xA1
			AF driver	400 Kbps		0x5C Write 0x19 / Read 0x19
I2C-3	AP	NFC	ST21NFCD	400 Kbps	Yes.	0x08 Write 0x10 / Read 0x11
		Dual cam (B+b) - Main2	EEPROM	400 Kbps		0x18 Write 0x20 / Read 0x21
			EEPROM			
			AF driver			
I2C-4 (3C)	AP	Front Camera	EEPROM	400 Kbps		0x20 Write 0xA7 / Read 0xB8
			AF driver	400 Kbps		0x2C Write 0xA4 / Read 0xA5
I2C-5	AP	Reserved				
I2C-6	AP SSPM	Reserved				
I2C-7	AP	Audio Smart PA	MT5980	400 Kbps	Yes.	0x34 Write 0xB9 / Read 0xB9
		SW Charger	SW Charger	400 Kbps	Yes.	
		CC Detect	RT1715WSC	400 Kbps	Yes.	
		Flash LED 5V Boost	RT4505	400 Kbps	Yes.	

Note : I2C Spec : Standard mode (100 kbps) and Fast mode (400 kbps), Fast mode Plus (1 Mbps) and High-speed mode (3.4 Mbps)

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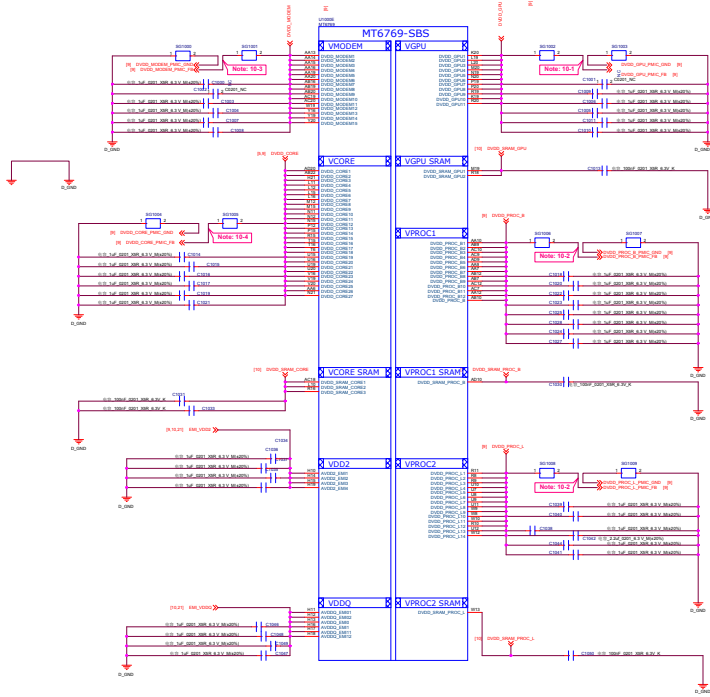
Date	Category	Item
2018.12.14 (V0.1)	Page 04	V0.1 Release
2019.01.11 (V0.2)	Page 12	Add CAM_PDN3(GPIO110) HW pin for Note 12-4: HW pin for DDR type feature in bootstrap Delete R1007 and R1012 ext. pull for LP4X eMCP
	Page 13	Add CAM_PDN3(GPIO110)'s Note : No ext. pull for DDR type feature in bootstrap
	Page 69	Add CAM_PDN3(GPIO110)'s Note : No ext. pull for DDR type feature in bootstrap
	Page 21	Add C2106 for VBIF28 cap
	Page 22	Delete R2202

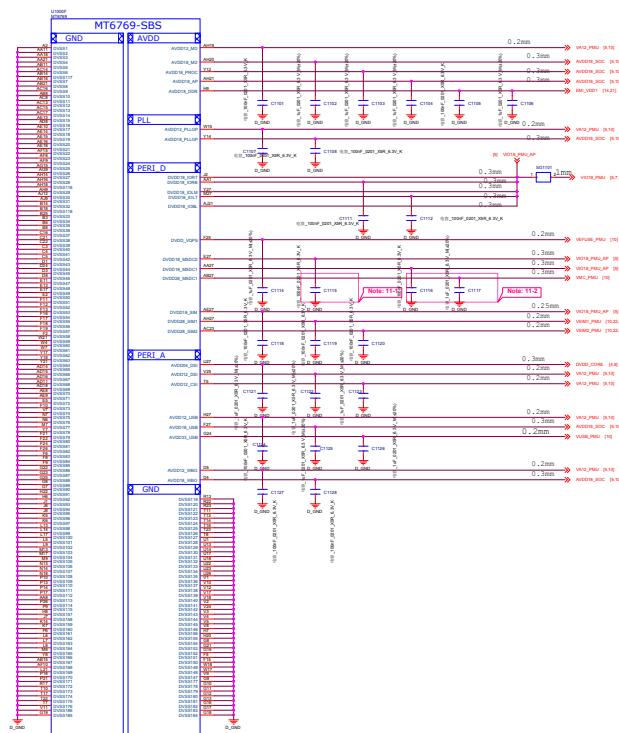
华勤通讯 Huaqin Telecom Technology Com.,Ltd		
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علي البجر
مفتوح الهارد حلب تك

Schematic design notice of "10_BB_POWER_PDN" page:

- Note 10-1: Differential pair of DVDD_GPU remote sense must be close to BB's ball.
Remote sense trace with GND shielding to PMIC (Differential)
- Note 10-2: Differential pair of DVDD_PROC remote sense must be close to BB's ball.
Remote sense trace with GND shielding to PMIC (Differential)
- Note 10-3: Differential pair of DVDD_MODEM remote sense must be close to BB's ball.
Remote sense trace with GND shielding to PMIC (Differential)
- Note 10-4: Differential pair of DVDD_CORE remote sense must be close to BB's ball.
Remote sense trace with GND shielding to PMIC (Differential)





Schematic design notice of "11_BB_POWER_IO" page:

Note 11-1: C1115 closed DVDD18_MSDC0 150mil

Note 11-2: C1116 closed DVDD18_MSDC1 150mil

C1117 closed DVDD18_MSDC1 150mil

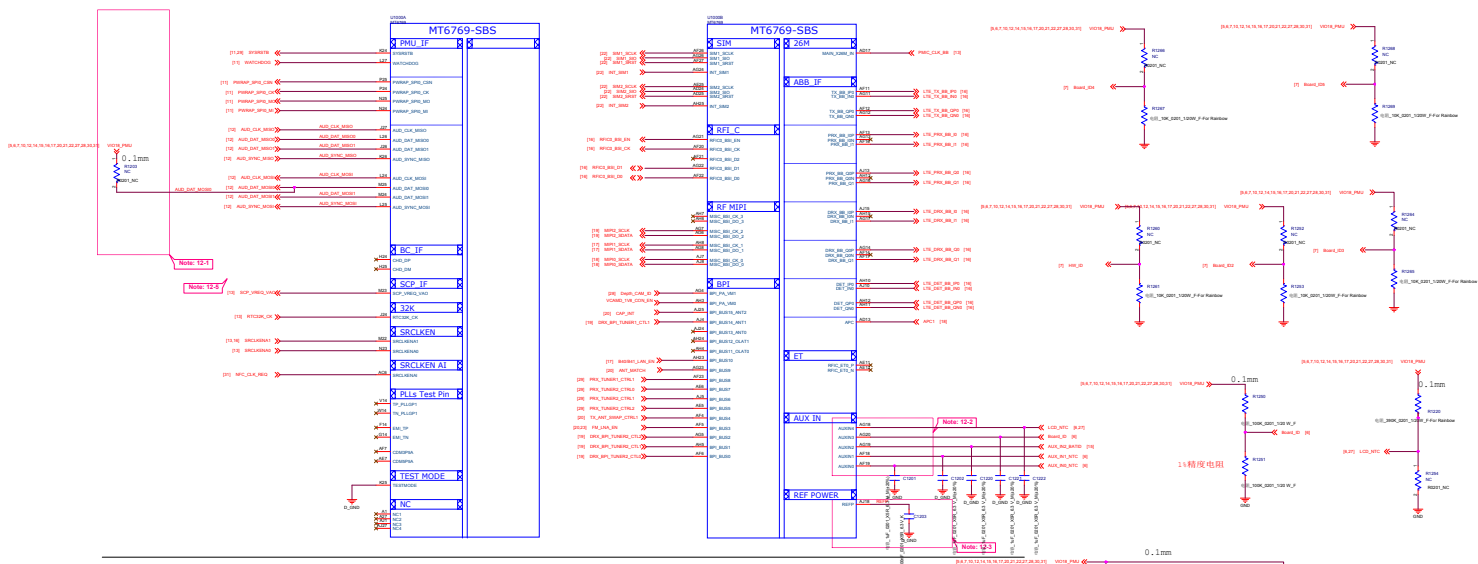
AVDD12: 单个点走4mil, 两路分支各16mil, 总路程20mil

VDD18_PSD1: 总路程40mil

AVDD18_SOC: 总路程20mil

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Schematic design notice of "12_BB_1" page:

Note 12-1: PWRAP_SPI0_CSN and "AUD_DAT_MOSI0" are bootstrap pins to select which interface will be the JTAG pin out

PWRAP_SPI0_CSN	AUD_DAT_MOSI0	AP JTAG	JTAG Function
HI	LO	N/A	MD JTAG
LO	HI	N/A	SPD + EN18
LO	LO	N/A	SPD + EN18
LO	HI	N/A	SPD + EN18

Note 12-2: To shunt a 1uF capacitor in the AUXIN ADC input to prevent noise coupling. It should be placed as close to BB as possible. Connect the unused AUX ADC input to GND.

Note 12-3: The de-coupling cap. for REFP (AJ18 ball) have to be placed as close to BB as possible.

Note 12-4: HW pin for DDR type feature in bootstrap (refer to BB HW design Notice)

AUD_SYNC_MISO	AUD_CLK_MISO	CAM_P0K3	PMIC 6555 voltage
default=PD	default=PD	default=PD	VRAM11/VRAM2
No ext. pull	No ext. pull	No ext. pull	1.25V / 0.5V
No ext. pull	No ext. pull	No ext. pull	0.5V / 1.0V
12K pull to VDD18	No ext. pull	No ext. pull	1.25V / 0.5V
12K pull to VDD18	12K pull to VDD18	No ext. pull	1.25V / 1.0V

Note 12-5: Charger must have D+/D- pin for charger type USB detection. Charger must have at least 500mA USB current for all charger type.

Thermistor to sense RF PA temperature

Thermistor to sense AP temperature

1. B1237 must keep a distance about 0.5mm edge from A.P. and far from other heat sources to sense AP temp.
2. This distance is the shortest distance from package edge to edge.

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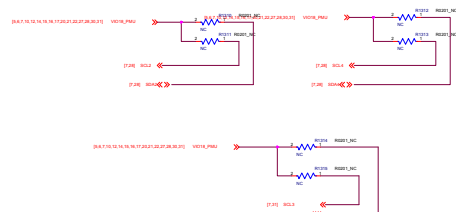
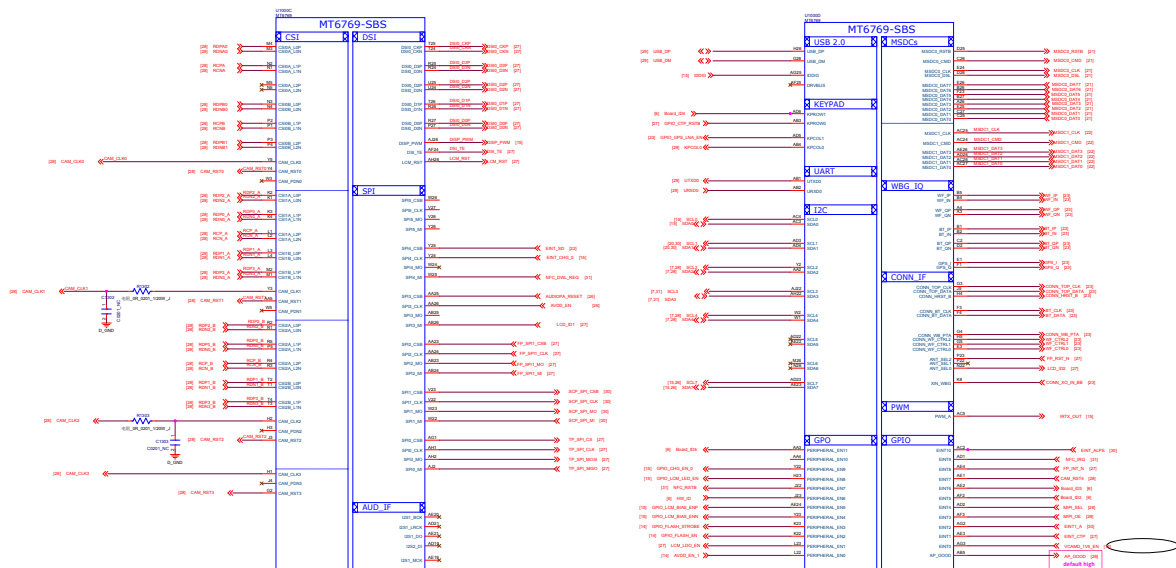
Title 01_Block_Diagram

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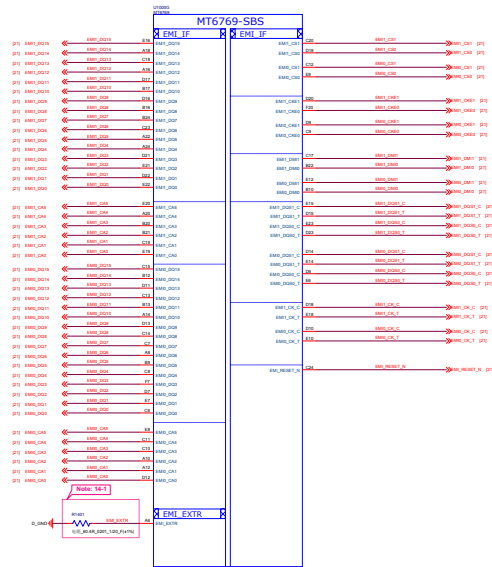
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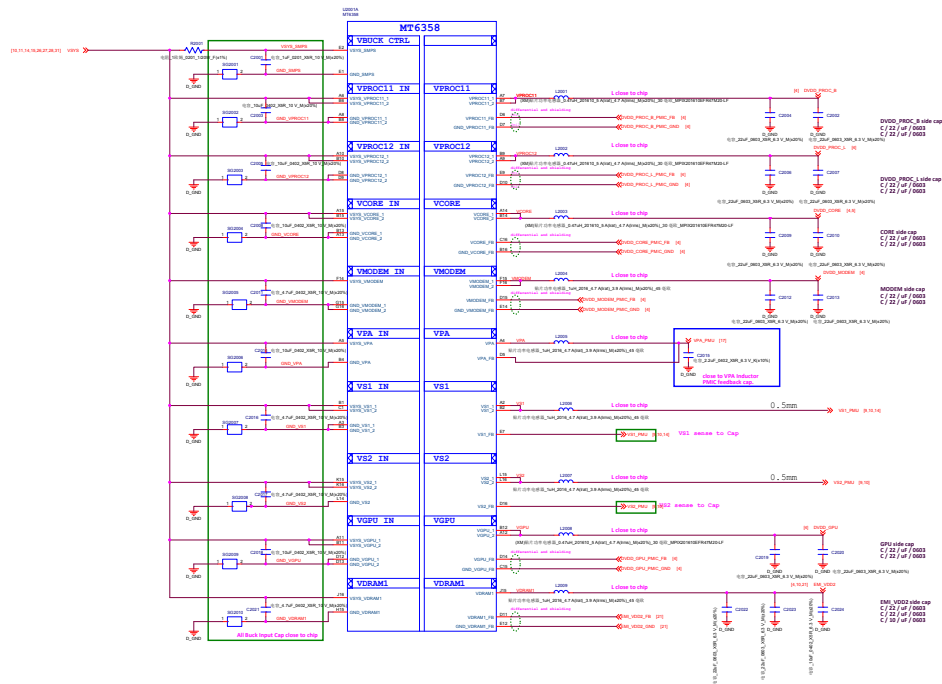


Schematic design notice of "14_BB_3" page.

Note 14-1: R1401 please select 60.4 ohm (1%) resistor

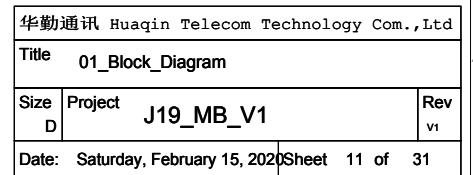
华勤通讯 Huaqin Telecom Technology Com.,Ltd			
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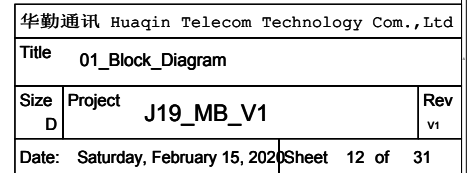


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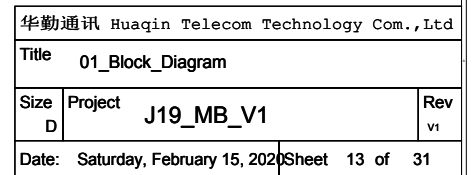
علي البجر فريق الهارد حلب تك



علي البحر-فريق الهارد حلب تك

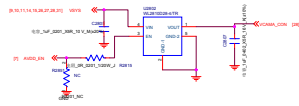


علي البحر - فريق الهارد جلوب توك

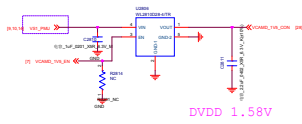


علي البحر-فريق الهارد حلب تك

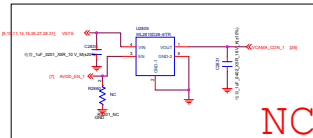
LDO for Dual Camera (VCAMA_EXT) 2.8V



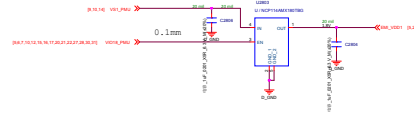
LDO for Depth Camera (VCAMD_EXT1) 1.58V



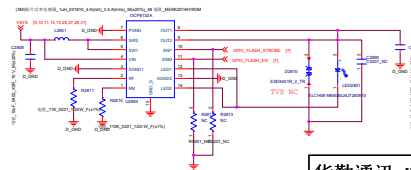
LDO for Dual Camera (VCAMA_EXT2) 2.8V



Ext. EMI_VDD1 for LPDDR4X VDD1

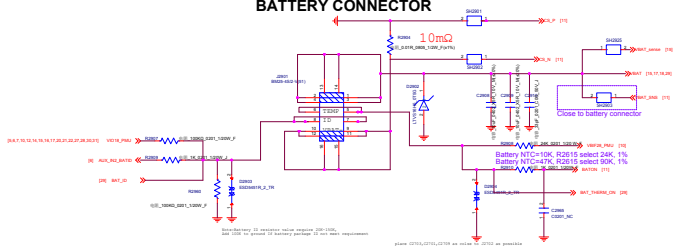


Flash LED 5V Boost

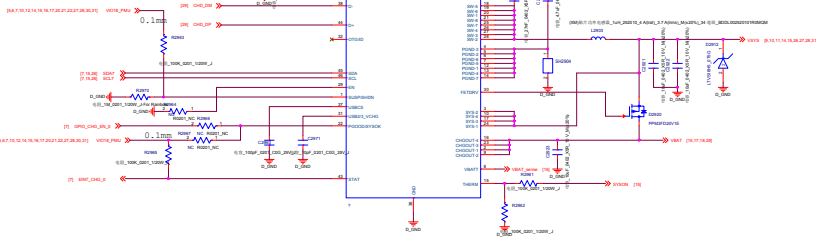


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Note 29-1: For better ESD or surge performance we need choose suitable device for system protection. Please refer to [Surge device selection guide V2.0] provide by MTK.

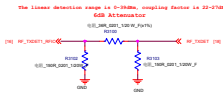
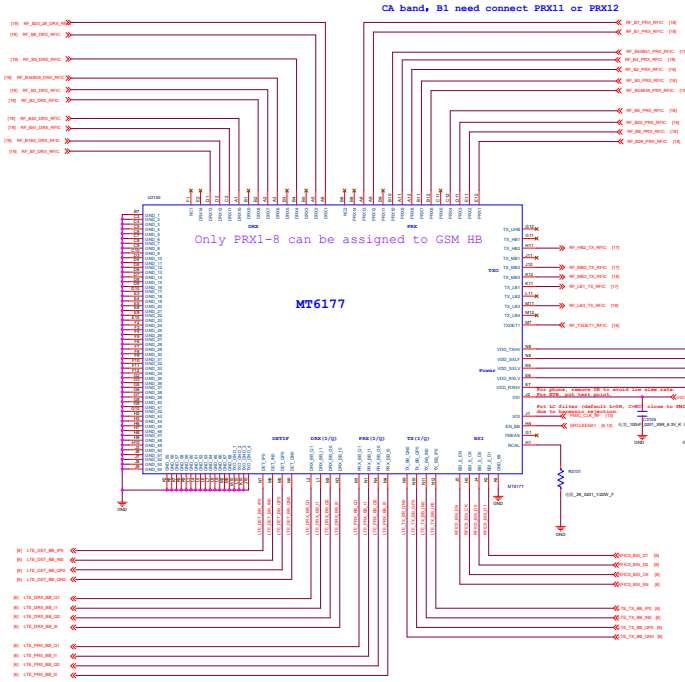


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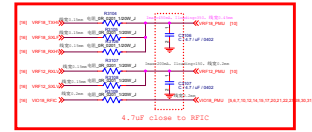
علي البحر-فريق الهارد حليب تك

Attenuator for Detector

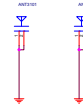
Transceiver



Power For MT6177

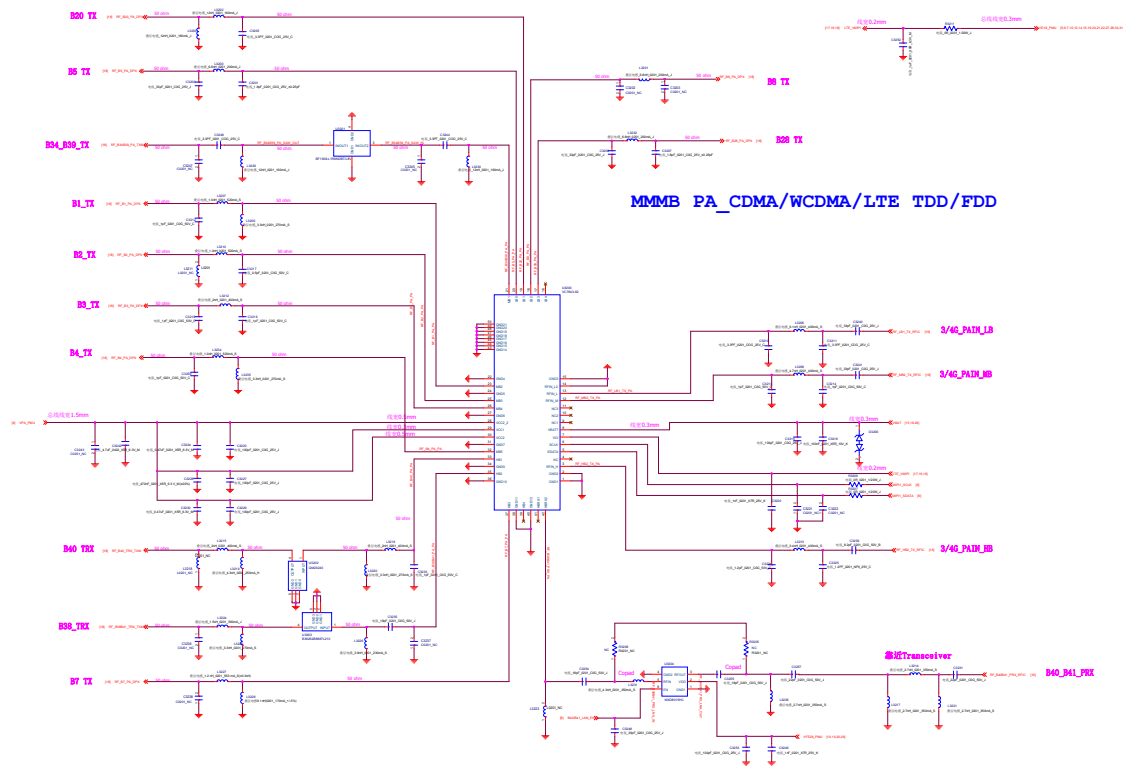


GND



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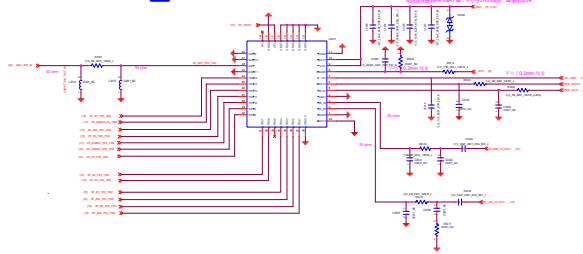
علي البجر فريق الهارد حلب تك



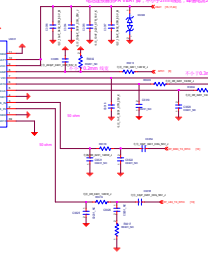
علي البجر فريق الهارد حلب تك

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Title 32_RF_MT6177_RF_TX		
Size E	Project J19_MB_V1	Rev v1
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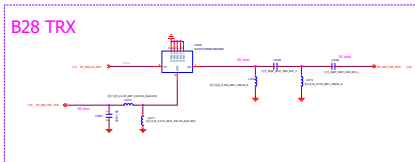
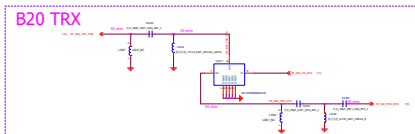
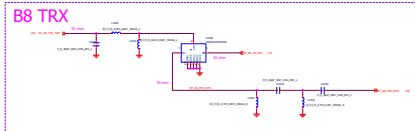
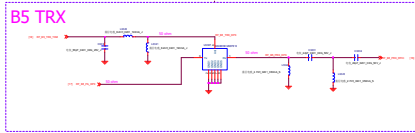
MAIN_ANT



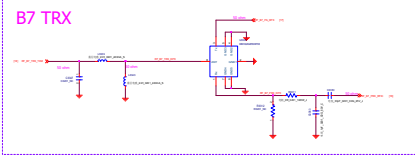
TXM_GSM



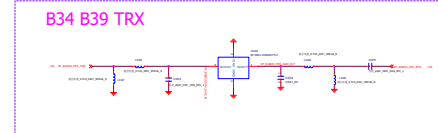
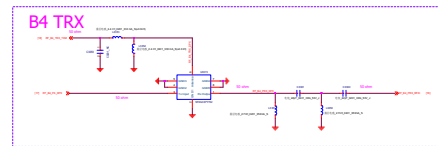
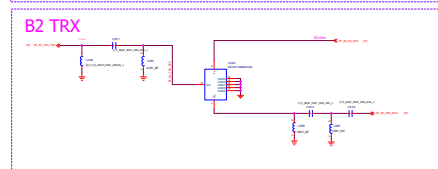
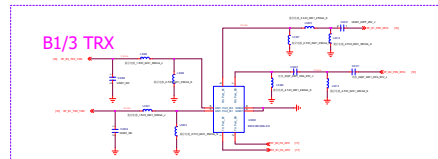
TRX_LB



TRX_HB



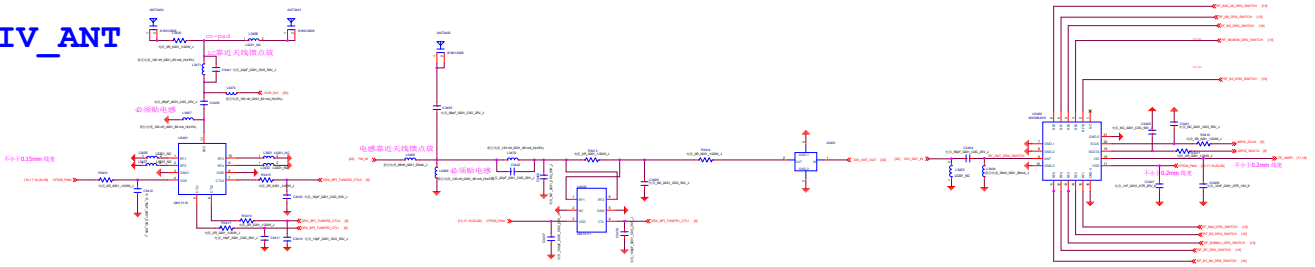
TRX_MB



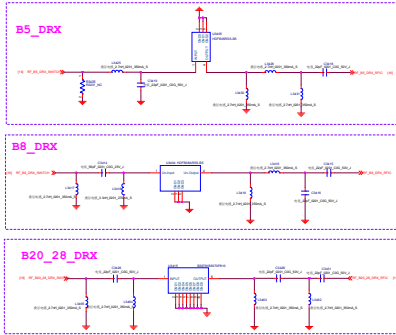
علي البجر فريق الهارد حلب تك

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Title 33_RF_MT6177_RF_PRX		
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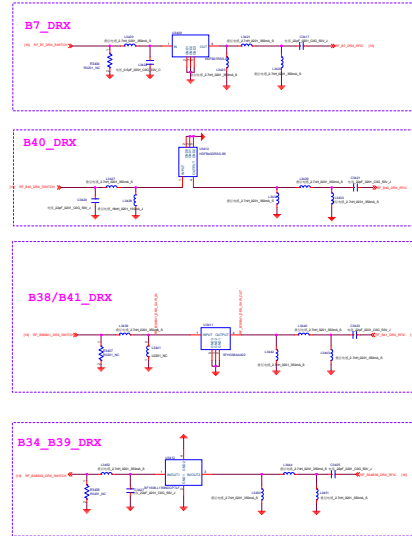
DIV_ANT



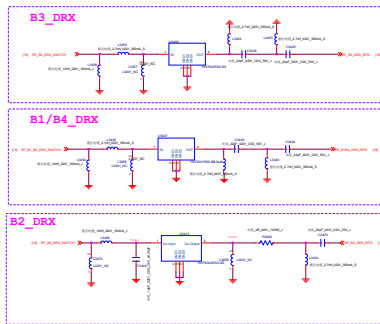
DIV_LB



DIV_HB



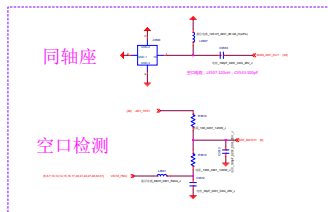
DIV_MB



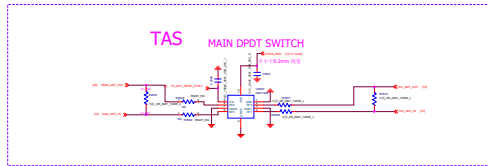
علي البجر فريق الهارد حلب تك

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Title 34_RF_MT6177_RF_DRX		
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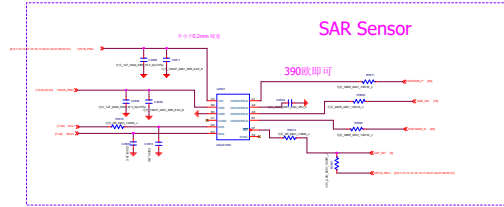
空口检测



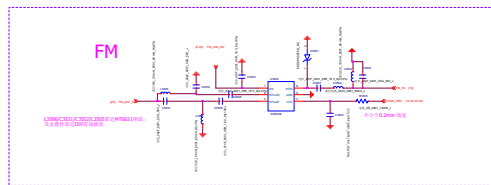
DPDT



SAR Sensor

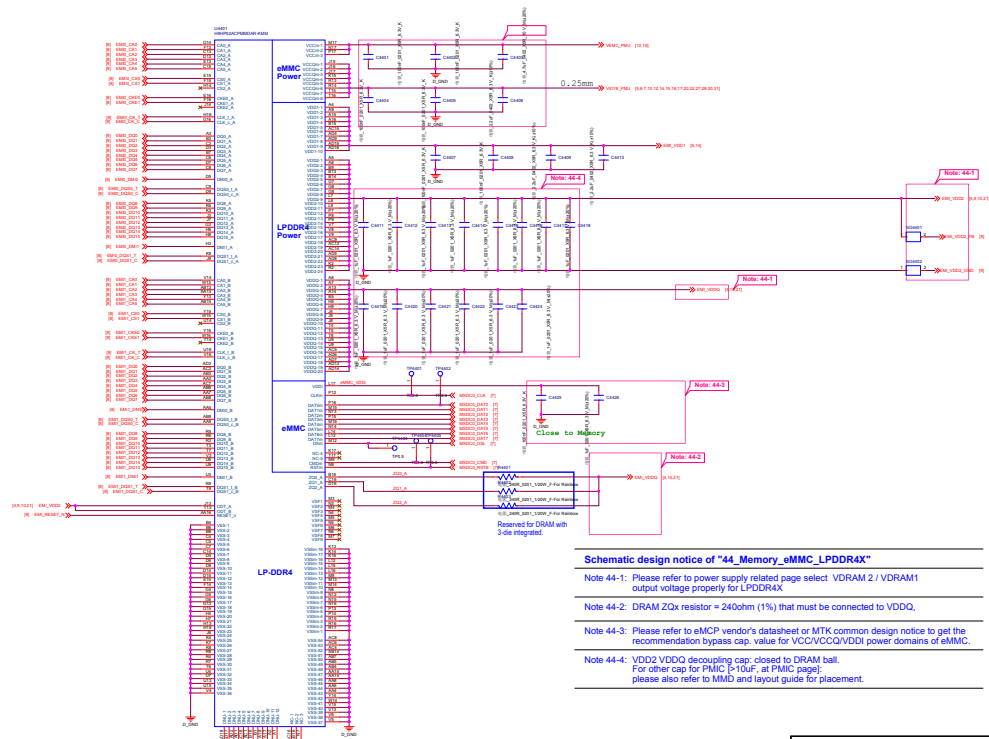


FM



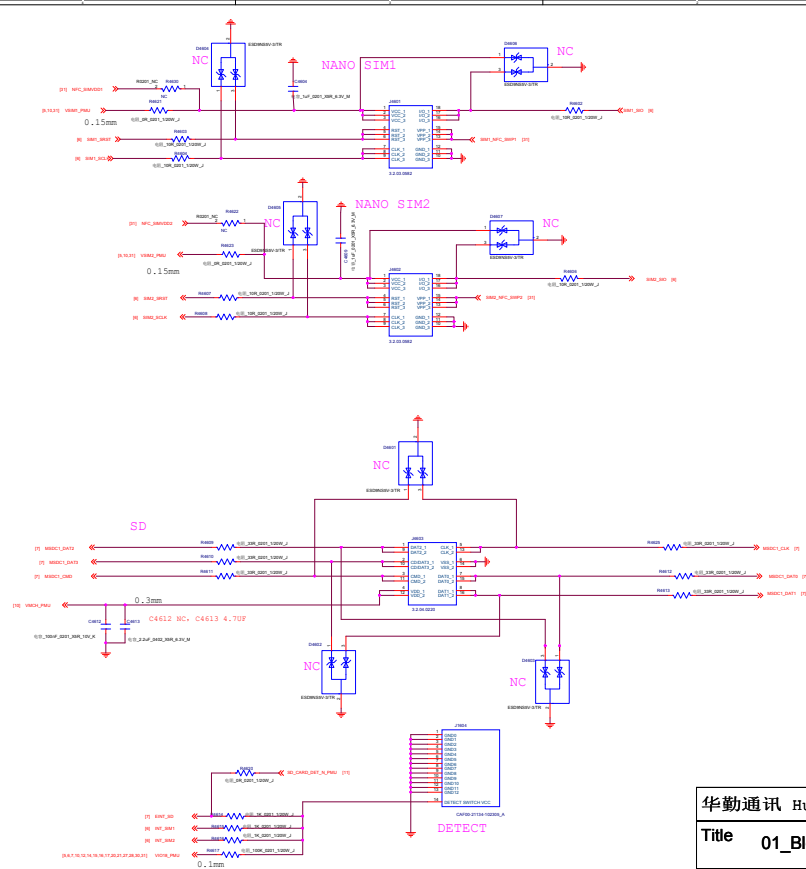
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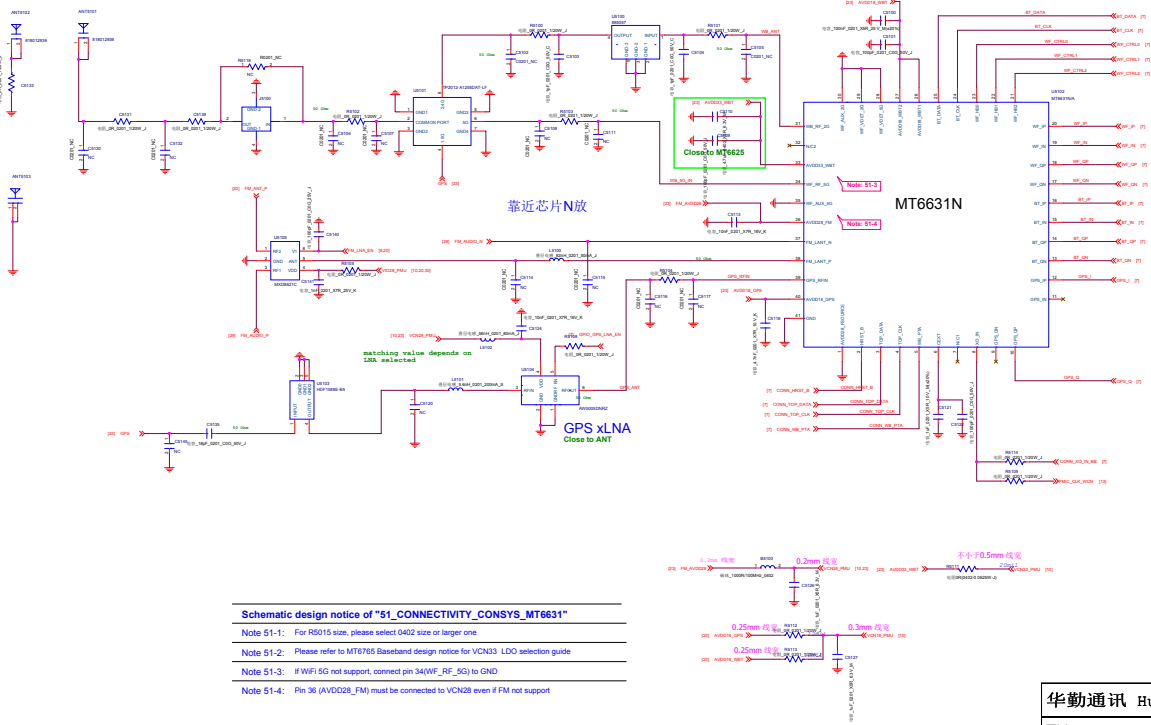
Note 46-1:

[Schematic design notice of "46_MEMORY_SD Card" page.](#)

For better ESD performance, please select suitable components for system protection.

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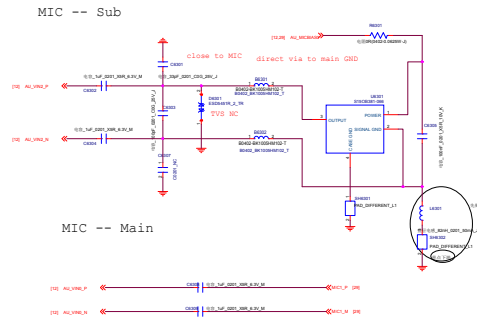
Note 62-1: Part # of BEAD6202, BEAD6203, BEAD6204 and BEAD6205 needs changed to "BLM18BD102SN1" for high THD performance (-90dB) but this BOM change will results in FM RSSI 10dB degraded .

Note 62-2: Reserved Cap for CS/RS test, please double check multi-key function when used

	Karylene JACK	Karylene JACK
	9 Main board	9 Sub board
	2 cam	100cr

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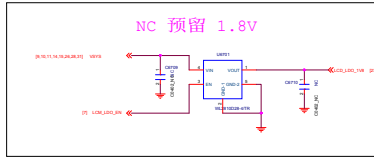
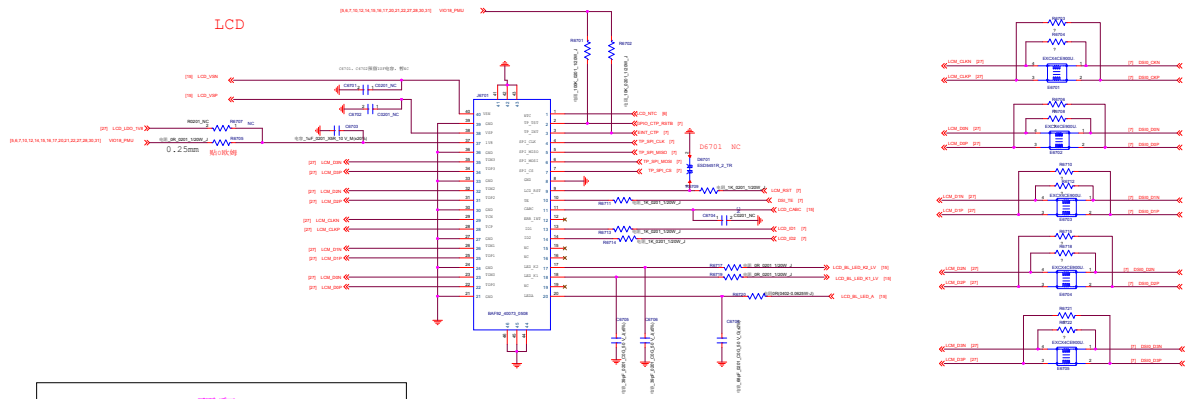
علي البحر - فريق الهارد حلب توك



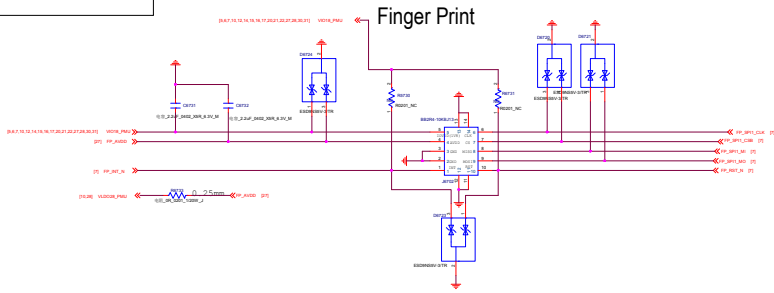
Schematic design notice of "63_PERI_AUDIO_IO" page.
Note 63-1: 1 uF for ACC mode

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CAP tolerance above 50V!!!

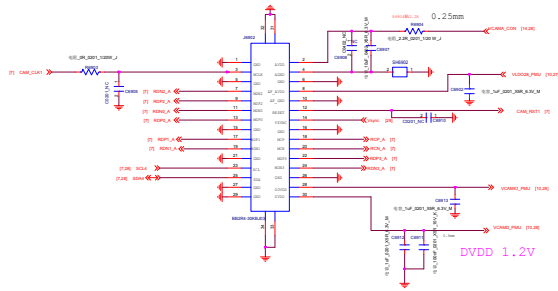


LCD-BACKLIGHT

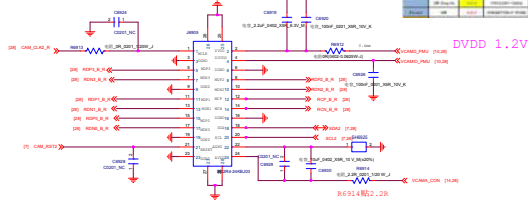
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Main MONO Camera 13M



Front Camera - 8M

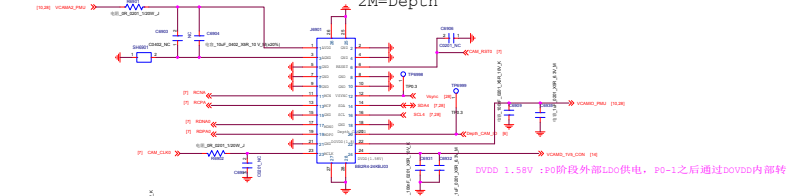


貼R6967、R6968，其他器件NC

Symbol	Value	Unit	Comment
R6967	10K	Ω	10KΩ
R6968	10K	Ω	10KΩ

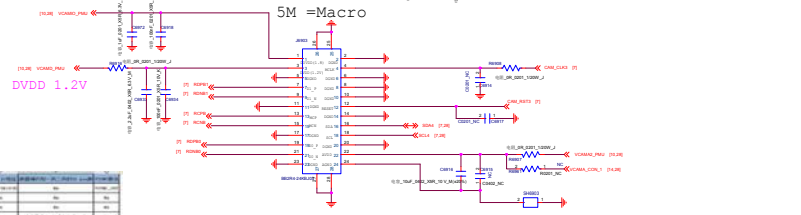
Table 1: Pin Function Table	Pin	Function
1	1	VCC
2	2	GND
3	3	VCC
4	4	GND
5	5	VCC
6	6	GND
7	7	VCC
8	8	GND
9	9	VCC
10	10	GND
11	11	VCC
12	12	GND
13	13	VCC
14	14	GND
15	15	VCC
16	16	GND
17	17	VCC
18	18	GND
19	19	VCC
20	20	GND
21	21	VCC
22	22	GND
23	23	VCC
24	24	GND
25	25	VCC
26	26	GND
27	27	VCC
28	28	GND
29	29	VCC
30	30	GND
31	31	VCC
32	32	GND
33	33	VCC
34	34	GND
35	35	VCC
36	36	GND
37	37	VCC
38	38	GND
39	39	VCC
40	40	GND
41	41	VCC
42	42	GND
43	43	VCC
44	44	GND
45	45	VCC
46	46	GND
47	47	VCC
48	48	GND
49	49	VCC
50	50	GND
51	51	VCC
52	52	GND
53	53	VCC
54	54	GND
55	55	VCC
56	56	GND
57	57	VCC
58	58	GND
59	59	VCC
60	60	GND
61	61	VCC
62	62	GND
63	63	VCC
64	64	GND
65	65	VCC
66	66	GND
67	67	VCC
68	68	GND
69	69	VCC
70	70	GND
71	71	VCC
72	72	GND
73	73	VCC
74	74	GND
75	75	VCC
76	76	GND
77	77	VCC
78	78	GND
79	79	VCC
80	80	GND
81	81	VCC
82	82	GND
83	83	VCC
84	84	GND
85	85	VCC
86	86	GND
87	87	VCC
88	88	GND
89	89	VCC
90	90	GND
91	91	VCC
92	92	GND
93	93	VCC
94	94	GND
95	95	VCC
96	96	GND
97	97	VCC
98	98	GND
99	99	VCC
100	100	GND

2M=Depth

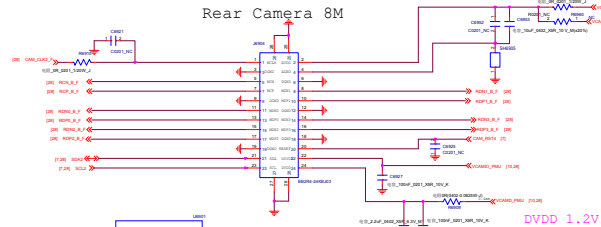


DVDD 1.5V : P0阶段外部LDO供电，P0-1之后通过DVDD内部转

5M=Macro

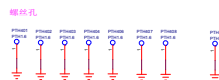
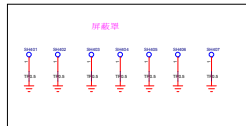
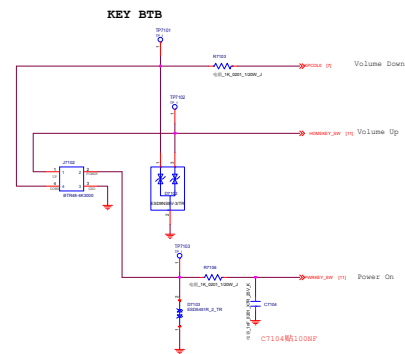
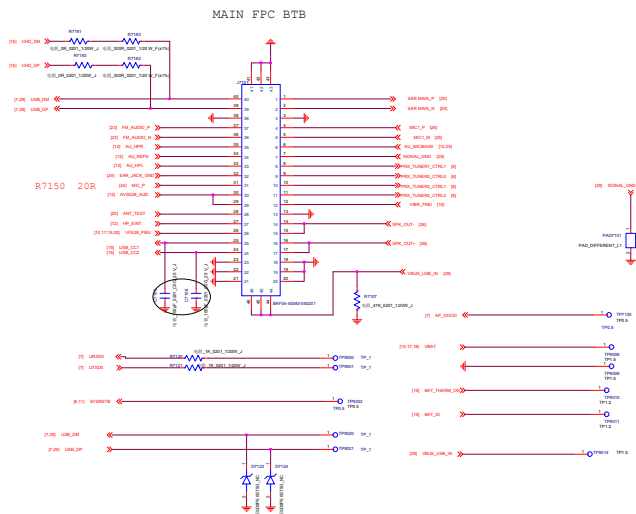
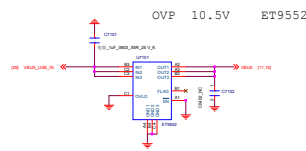


Rear Camera 8M



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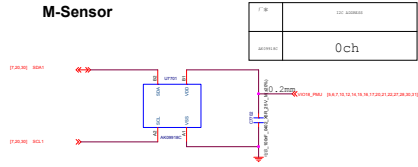


USB

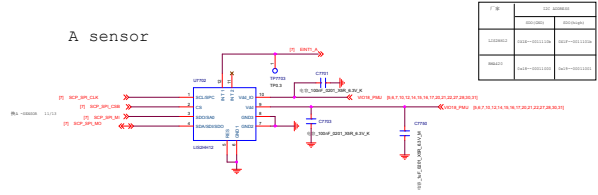
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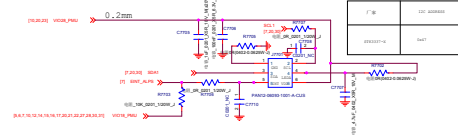
M-Sensor



A sensor

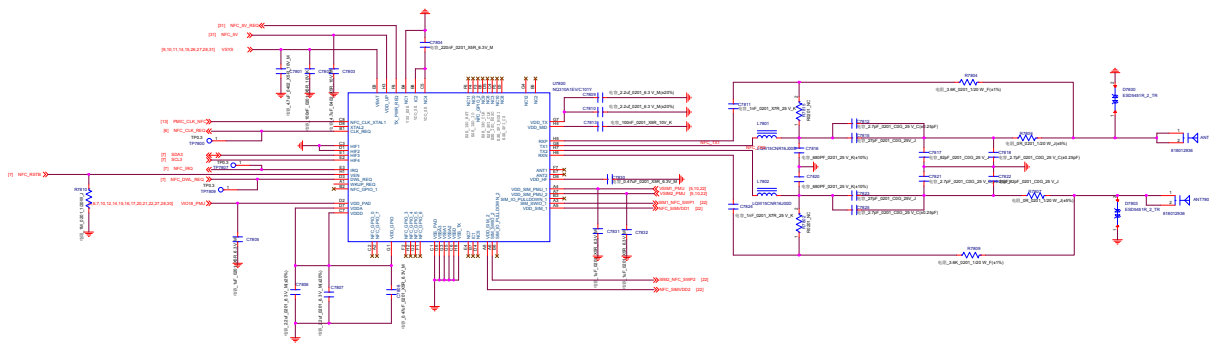


ALS PS STK3337-X



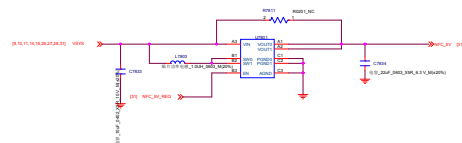
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NFC DCDC

DCDC no part number



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