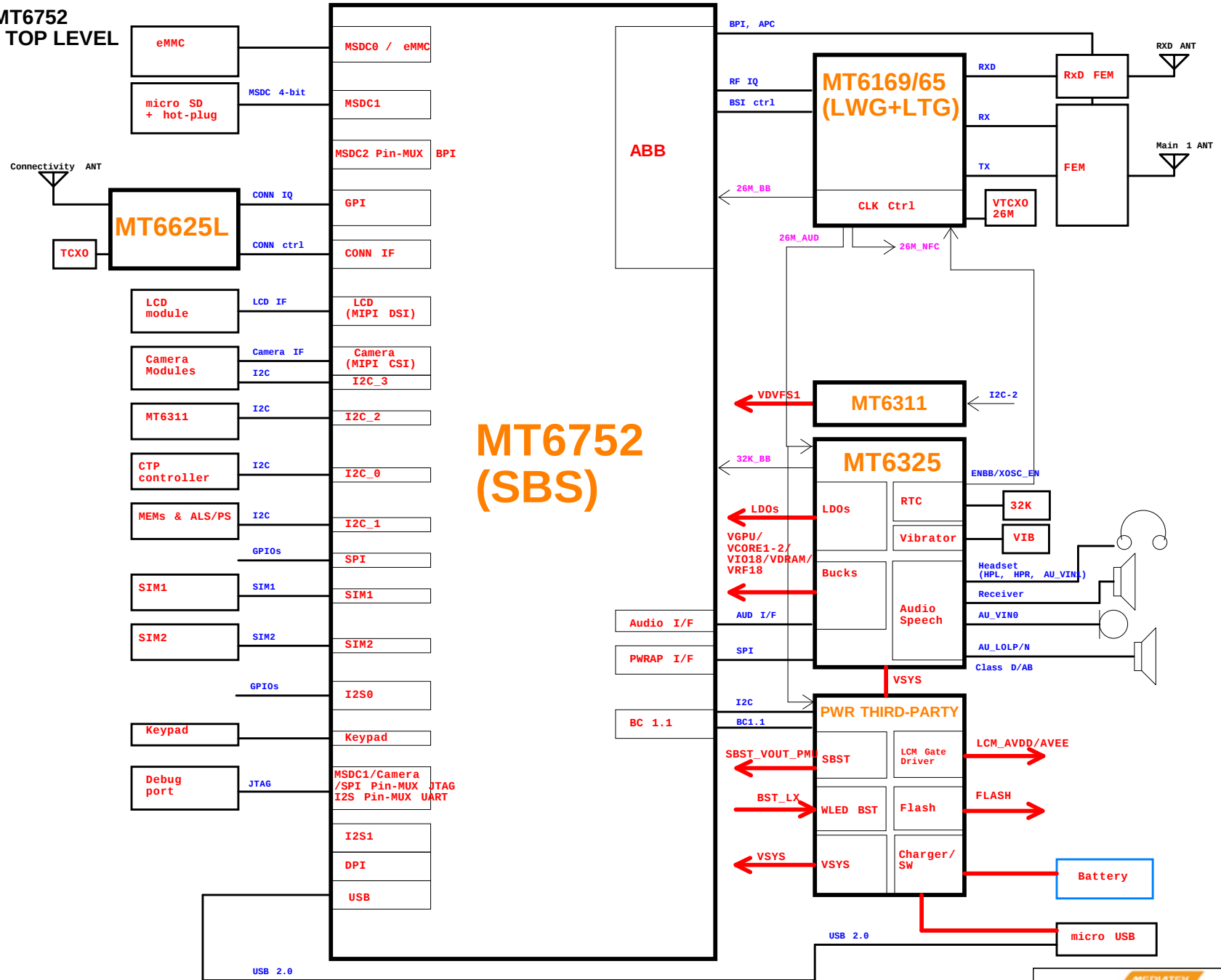


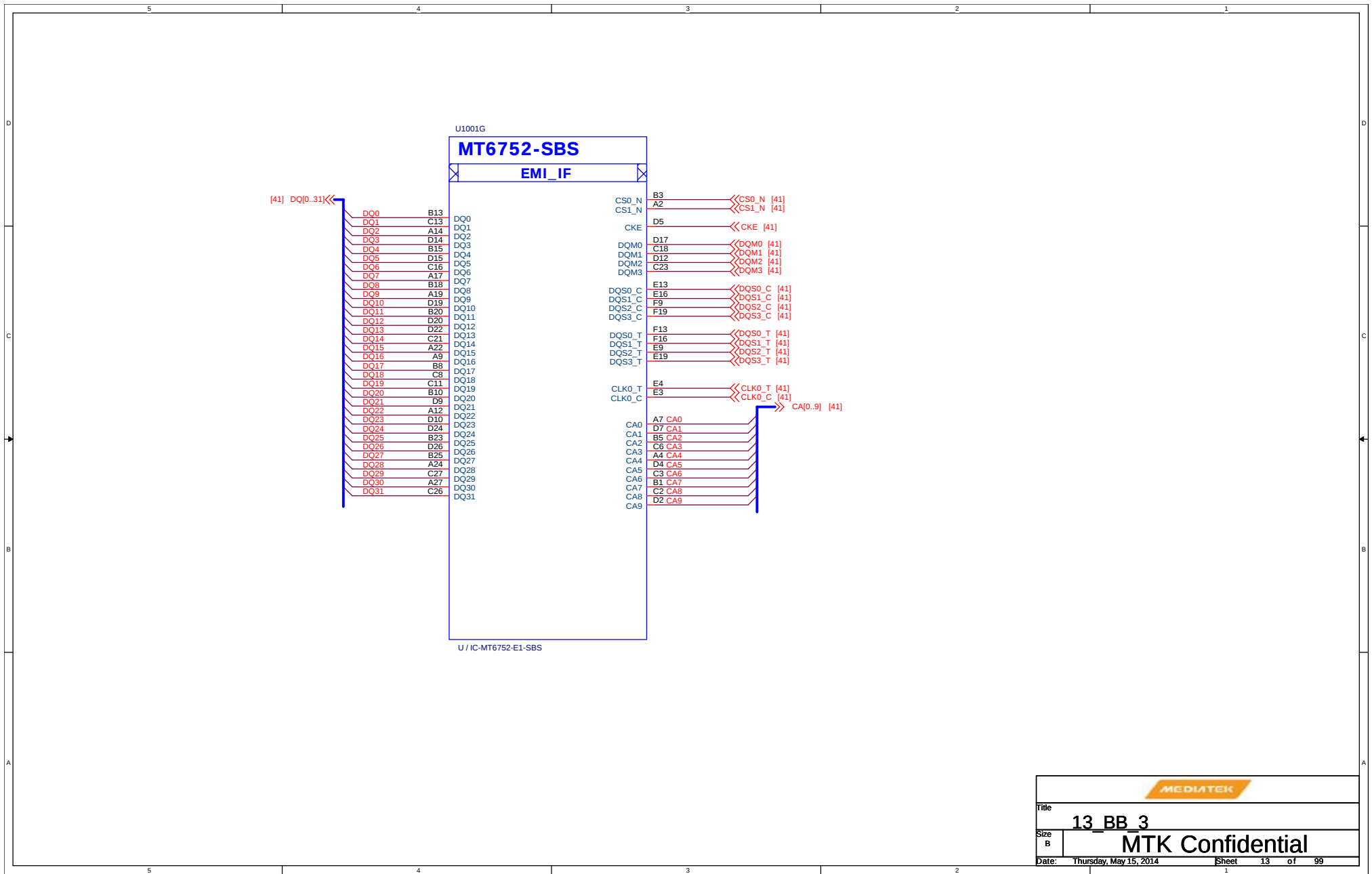
Project : MT6752
REF_SCH TOP LEVEL



I2C	Function	I2C Spec.	Budget Timing	I2C Slave Address (7-bit mode)
I2C-0	CTP	400 Kbps	Yes.	GT917S / CTP I2C address: 0X5D (Write:0xBA, Read:0xBB)
	VBAT Boost	3.4 Mbps		TPS61280A / Boost buck I2C address: 0X75 (Write:0xEA, Read:0xEB)
	LCM Gate Driver	400 Kbps		NT50358 / LCM Gate Driver I2C address: 0X3E (Write:0x7C, Read:0x7D)
	MT6306 IO	3.8 Mbps	TBD	MT6306 / GPIO extender I2C address: 0X64 (Write:0xC8, Read:0xC9)
	SWCHR	400 Kbps		BQ24261/ SWCHR I2C address: 0X6B (Write:0xD6, Read:0xD7)
I2C-1	M Sensor	400 Kbps		AK8963C / M-Sensor I2C Address: 0x0C (Write:0x18, Read:0x19)
	A+Gyro Sensor	400 Kbps	Yes.	MPU-6515 / A+Gyro I2C Address: 0x68 (Write:0xD0, Read:0xD1)
	Baro Sensor	400 Kbps		BMP180 / Baro I2C address: 0X77 (Write:0xEE, Read:0xEF)
	RGB / PS Sensor	400 Kbps		CM36652 / RGB+PS I2C address: 0X60 (Write:0xC0, Read:0xC1)
	NFC	1.2 Mbps	Yes.	NFC I2C address: 0X28 (Write:0x50, Read:0x51)
	MHL	TBD	TBD	CI2CA High : MHL I2C Address = 0x3B/3F/4F. (Write:0x76/7E/9E, Read:0x77/7F/9F) CI2CA Low : MHL I2C Address = 0x39/3D/4D. (Write:0x72/7A/9A, Read:0x73/7B/9B)
	Flash LED	400 Kbps		RT4505 / Flash LED I2C address: 0X63 (Write:0xC6, Read:0xC7)
	Front Camera	400 Kbps	Yes.	Front camera (OV5648) I2C address: 0X36 (Write:0x6C, Read:0x6D) AF driver (AD5820) I2C address: 0X0C (Write:0x18, Read:0x19)
I2C-2	MT6311	TBD	Yes.	MT6311 / 2-Phase Buck I2C address: 0X6B (Write:0x, Read:0x)
I2C-3	Rear Camera - 13M	400 Kbps	Yes.	Rear camera (IMX135) I2C address: 0X10 (Write:0x20, Read:0x21) AF driver (DW9714A) I2C address: 0X18 (Write:0x30, Read:0x31)

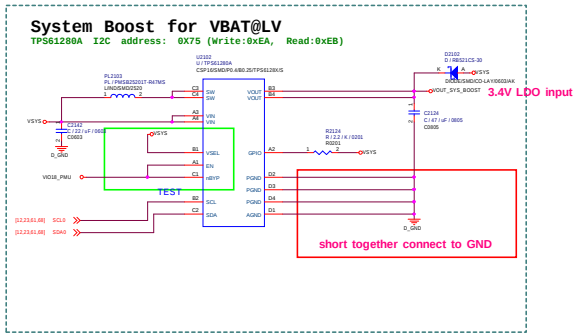
Note : I2C Spec. : Standard mode (100 kbps) and Fast mode (400 kbps), Fast mode Plus (1 Mbps) and High-speed mode (3.4 Mbps)

V0.2 Change Notice (2014.05.14)
1. Change SH2001 to R2001.00hm for 8x/4x co-PCB by SMT eBOM
2. Change eBOM value from 100nF to 1uF (PDN requirement)
 DVDD_DVFS1: C10050~54/58~64,
 VGPU: C10010/11/13/15/17/31
 VCORE_A0: C10018/19/23~27/33~35/37/39
3. Front camera I2C change from I2C3 to I2C1
4. Change R1103/R1104 footprint
5. Change U5003 value to U / EPOCOS_B8313

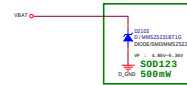
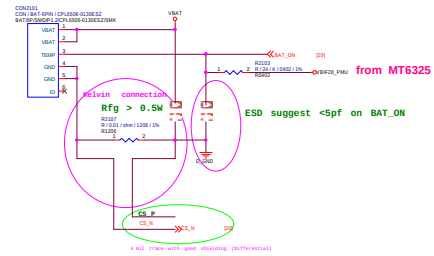


Note 20-1: PAD_PWRAP_SPI0_MI and PAD_PWRAP_SPI0_MO are DRAM feature in bootstrap





BATTERY CONNECTOR



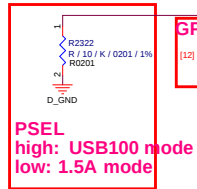
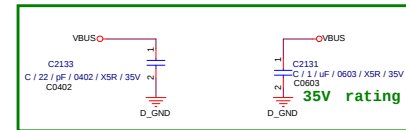
MT6311 / 2-Phase Buck I2C address: 0X6B (Write:0x, Read:0x)



MEDIATEK	
Title	22_POWER_MT6311
Size	MTK Confidential
Date: Thursday, May 15, 2014	Sheet 22 of 99

Switching Charger + Power Path

SW CHG + PP I2C address: 0X6B (Write:0XD6, Read:0XD7)



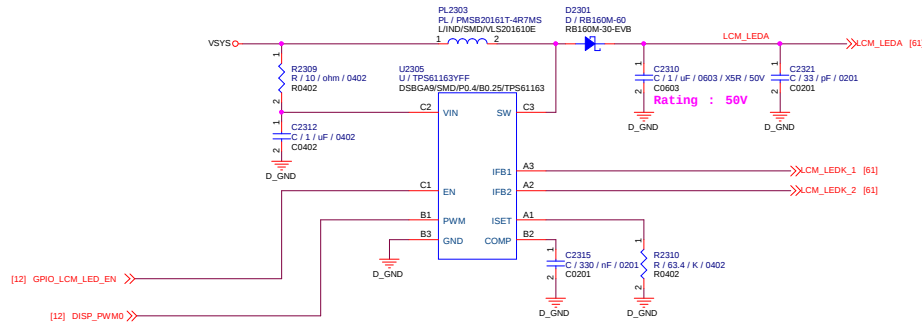
GPIO_default_PD

[12] DRV_VBUS

PGND: Connect to the thermal pad and the ground plane of the circuit

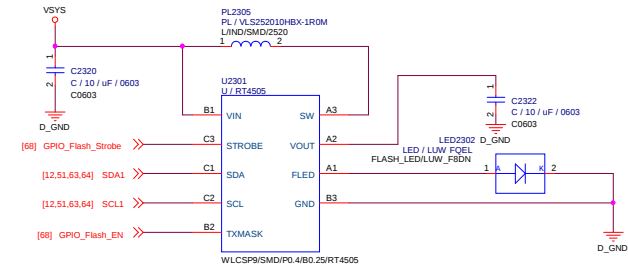
AGND: Connect to the thermal pad and the ground plane of the circuit

LCM Backlight LED Driver



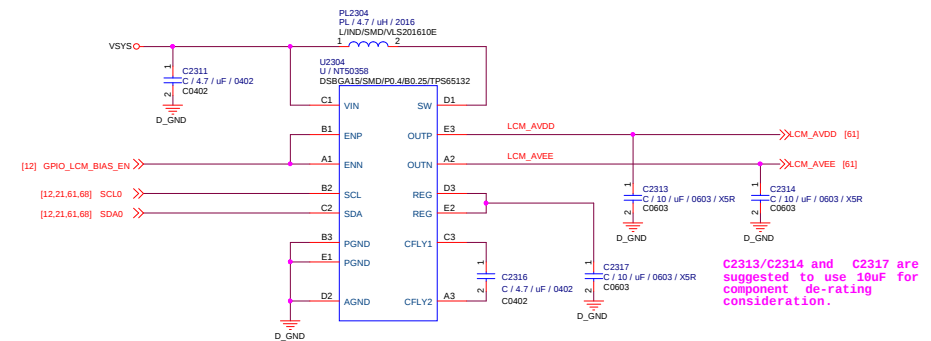
Flash LED 5V Boost

Flash LED I2C address: 0X63 (Write:0XC6, Read:0XC7)

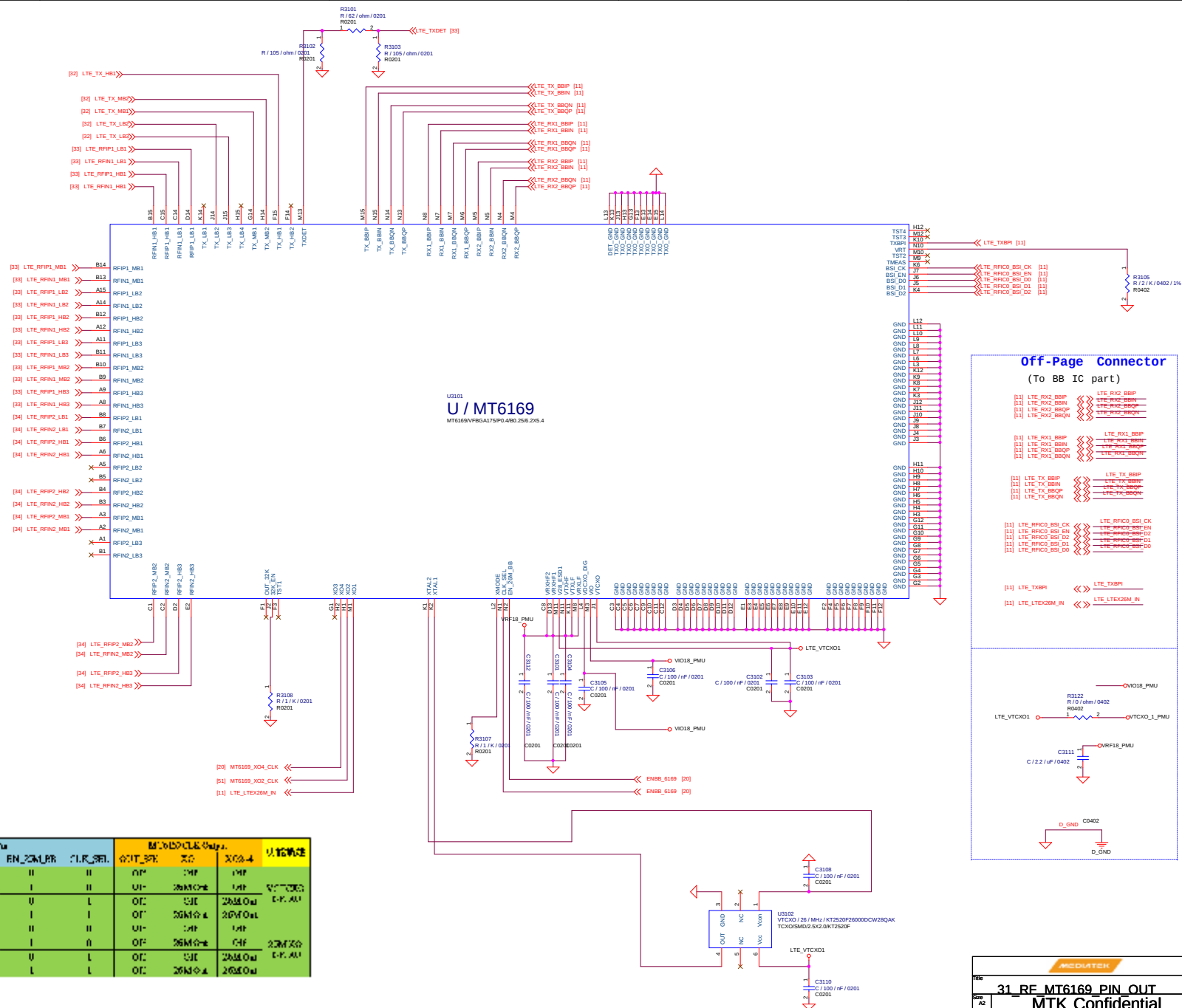
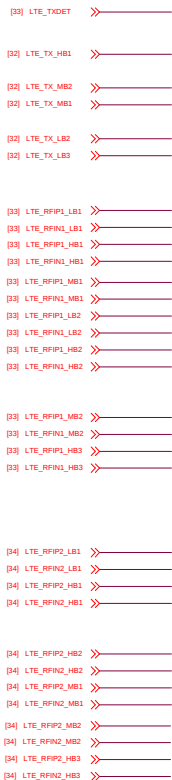


LCM Gate Drive

LCM Gate Driver I2C address: 0X3E (Write:0X7C, Read:0X7D)



(To RF front-end)



MIPS Core 2u			MIPS Core 3u			其他功能
Core	MMIO	PERF	VIC000000	EN200000	CLK000000	
1	h	C	0	0	0	V0000000 V0000000
2	h	C	0	0	0	
3	h	C	0	0	0	
4	h	C	0	0	0	V0000000 V0000000
5	h	C	0	0	0	
6	h	C	0	0	0	
7	V0000000	C	0	0	0	V0000000 V0000000
8	V0000000	C	0	0	0	
9	V0000000	C	0	0	0	

MMMB PA : B1,2,3,5,17, 34,39
26 HB, 26 LB

D

C

B

A

4

3

2

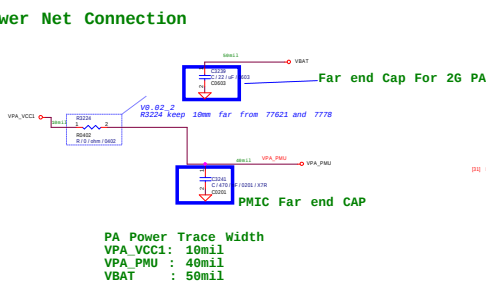
1

26_PA_IN_HB

26_PA_IN_LB

For Wifi co-existence. If
ANT isolation is better than
20dB, the LPF is not
necessary.

Power Net Connection



LTE B7,B38,B40,B41 PA (ET capable, 2x2.5)

B34 & B39 TX

Table 4 B34/B39 TX Pin Table

Pin	V _{CC} pin	V _{CC} pin	V _{CC} pin	V _{CC} pin	Pin
1	1	1	1	1	1
2	2	2	2	2	2
3	3	3	3	3	3
4	4	4	4	4	4
5	5	5	5	5	5
6	6	6	6	6	6
7	7	7	7	7	7
8	8	8	8	8	8
9	9	9	9	9	9
10	10	10	10	10	10
11	11	11	11	11	11
12	12	12	12	12	12
13	13	13	13	13	13
14	14	14	14	14	14
15	15	15	15	15	15
16	16	16	16	16	16
17	17	17	17	17	17
18	18	18	18	18	18
19	19	19	19	19	19
20	20	20	20	20	20
21	21	21	21	21	21
22	22	22	22	22	22
23	23	23	23	23	23
24	24	24	24	24	24
25	25	25	25	25	25
26	26	26	26	26	26
27	27	27	27	27	27
28	28	28	28	28	28
29	29	29	29	29	29
30	30	30	30	30	30
31	31	31	31	31	31
32	32	32	32	32	32
33	33	33	33	33	33
34	34	34	34	34	34
35	35	35	35	35	35
36	36	36	36	36	36
37	37	37	37	37	37
38	38	38	38	38	38
39	39	39	39	39	39
40	40	40	40	40	40
41	41	41	41	41	41
42	42	42	42	42	42
43	43	43	43	43	43
44	44	44	44	44	44
45	45	45	45	45	45
46	46	46	46	46	46
47	47	47	47	47	47
48	48	48	48	48	48
49	49	49	49	49	49
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59	59	59	59	59	59
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61	61	61	61	61	61
62	62	62	62	62	62
63	63	63	63	63	63
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72	72	72	72	72	72
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74	74	74	74	74	74
75	75	75	75	75	75
76	76	76	76	76	76
77	77	77	77	77	77
78	78	78	78	78	78
79	79	79	79	79	79
80	80	80	80	80	80
81	81	81	81	81	81
82	82	82	82	82	82
83	83	83	83	83	83
84	84	84	84	84	84
85	85	85	85	85	85
86	86	86	86	86	86
87	87	87	87	87	87
88	88	88	88	88	88
89	89	89	89	89	89
90	90	90	90	90	90
91	91	91	91	91	91
92	92	92	92	92	92
93	93	93	93	93	93
94	94	94	94	94	94
95	95	95	95	95	95
96	96	96	96	96	96
97	97	97	97	97	97
98	98	98	98	98	98
99	99	99	99	99	99
100	100	100	100	100	100

Off-Page Connector (To RF front-end)

[D1] LTE_TX_M01
[D2] LTE_TX_M02
[D3] LTE_TX_M03
[D4] LTE_TX_M04
[D5] LTE_TX_M05

LTE_TX_OUT2
[D6] LTE_TX_OUT2
[D7] LTE_TX_OUT2
[D8] LTE_TX_OUT2
[D9] LTE_TX_OUT2
[D10] LTE_TX_OUT2
[D11] LTE_TX_OUT2
[D12] LTE_TX_OUT2
[D13] LTE_TX_OUT2
[D14] LTE_TX_OUT2
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[D97] LTE_TX_OUT2
[D98] LTE_TX_OUT2
[D99] LTE_TX_OUT2
[D100] LTE_TX_OUT2

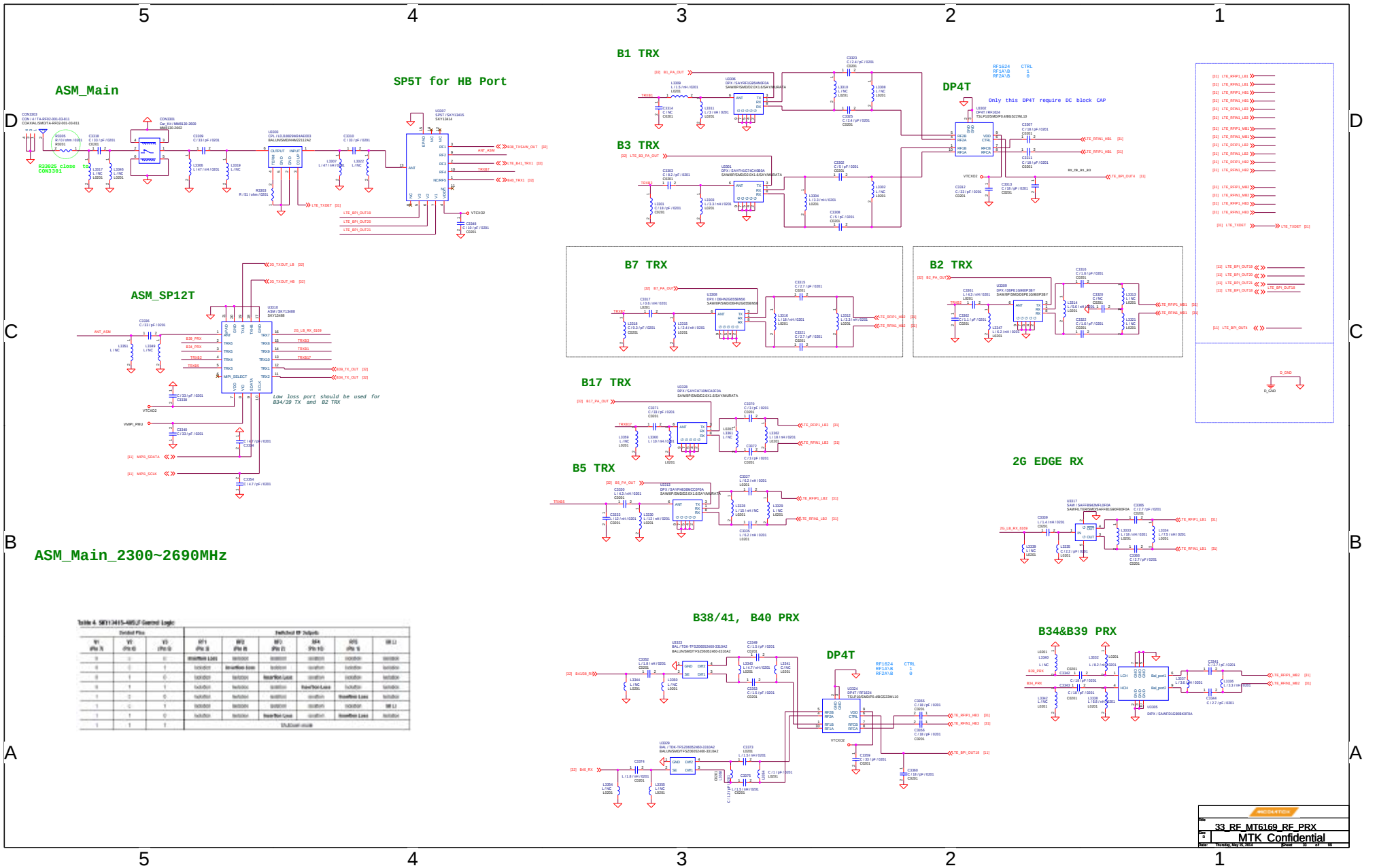
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[D196] LTE_TX_OUT2
[D197] LTE_TX_OUT2
[D198] LTE_TX_OUT2
[D199] LTE_TX_OUT2
[D200] LTE_TX_OUT2

C3281 ~ C3283 are power
capacitors of PMU.

VTX02 is connected to RFFE Vdd
LTE_VTX01 is used for MT6169, to VTX01_1 PMU
2G_VTX02 is used for MT6165, to VTX02_2 PMU

ACPF-7041 port2 is ANT
ACPF-8240 port1 is ANT
885049 port4 is ANT

TDD Bypass path

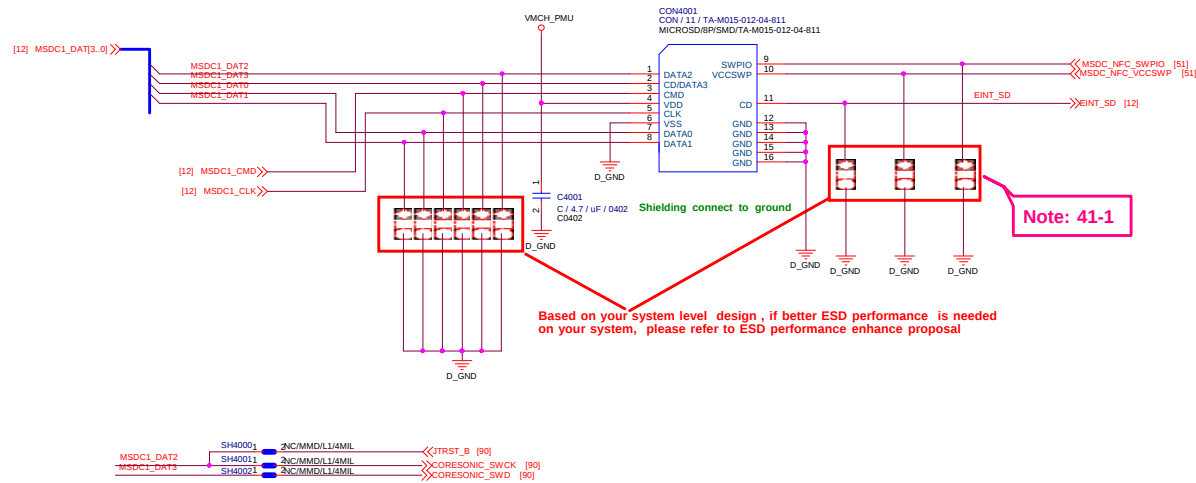


1



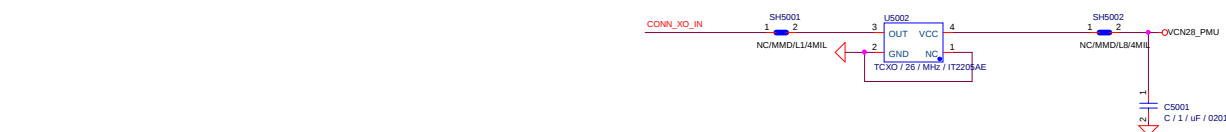
DRX for CMCC LTE
CMCC 5M10B: B3, B7, B39, B40, B41
CMCC 5M12B: B1, B3, B7, B17, B39, B40, B41

SD CARD



Schematic design notice of "41_MEMORY_SD Card" page.

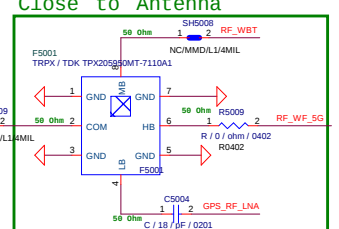
Note 41-1: The equivalent capacitance of ESD protection device must be $\leq 0.5\text{pF}$
-- otherwise it will result in NFC card mode function fail.



[12] WB_CTRL0	<<	WB_CTRL0
[12] WB_CTRL1	<<	WB_CTRL1
[12] WB_CTRL2	<<	WB_CTRL2
[12] WB_CTRL3	<<	WB_CTRL3
[12] WB_CTRL4	<<	WB_CTRL4
[12] WB_CTRL5	<<	WB_CTRL5
[12] CONN_SCLK	<<	CONN_SCLK
[12] CONN_SDATA	<<	CONN_SDATA
[12] CONN_SEN	<<	CONN_SEN
[12] CONN_RSTB	<<	CONN_RSTB

[12] GPS_RX_IP	<<	GPS_RX_IP
[12] GPS_RX_IN	<<	GPS_RX_IN
[12] GPS_RX_QP	<<	GPS_RX_QP
[12] GPS_RX_QN	<<	GPS_RX_QN
[12] F2W_CLK	<<	F2W_CLK
[12] F2W_DATA	<<	F2W_DATA
[12] WB_RX_IP	<<	WB_RX_IP
[12] WB_RX_IN	<<	WB_RX_IN
[12] WB_RX_QP	<<	WB_RX_QP
[12] WB_RX_QN	<<	WB_RX_QN
[12] WB_TX_IP	<<	WB_TX_IP
[12] WB_TX_IN	<<	WB_TX_IN
[12] WB_TX_QP	<<	WB_TX_QP
[12] WB_TX_QN	<<	WB_TX_QN
[12] CONN_XO_IN	<<	CONN_XO_IN

Close to Antenna

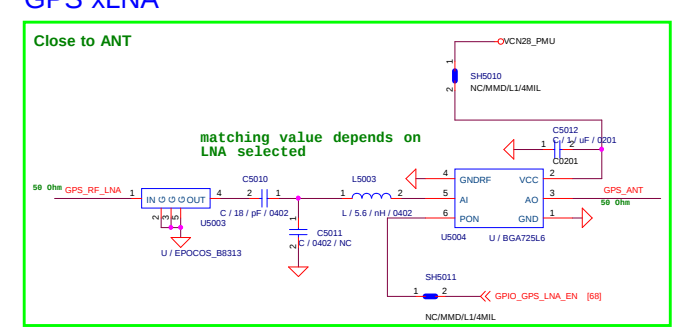


<Critical!!>
5G PCB loss is higher and
Trace must kept short and 50-ohm
No layer transition

Close to MT6625

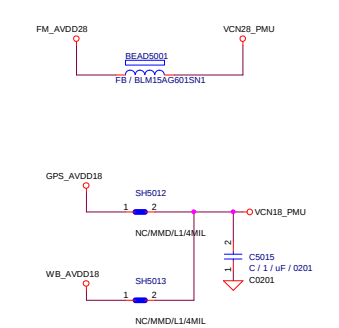
U / MT6625L / QFN40

GPS xLNA



Close to ANT

matching value depends on
LNA selected



L - R - G - M



The diagram shows a complex PCB layout for a sensor module. Key components include:

- U6101 I/O GT9175 QFN68/SMD/PQ-4IGT917S**: The main control IC, connected to numerous pins.
- Sensors**: Multiple GT_SENSx and GT_DRVx sensors are connected to the main IC.
- Passive Components**: Various capacitors (C6102, C6103, C6104, C6106) and resistors (R6103, R6201) are used for signal conditioning and timing.
- Connectors**: The board features connectors for D_GND, INT_CTP, GPIO_CTP_RSTB, and I/O_GND.
- Note**: A pink box highlights "I/O level = 1.8V".
- Board Label**: CON32X2/SMD/PQ-4F/AXE56124W S2307

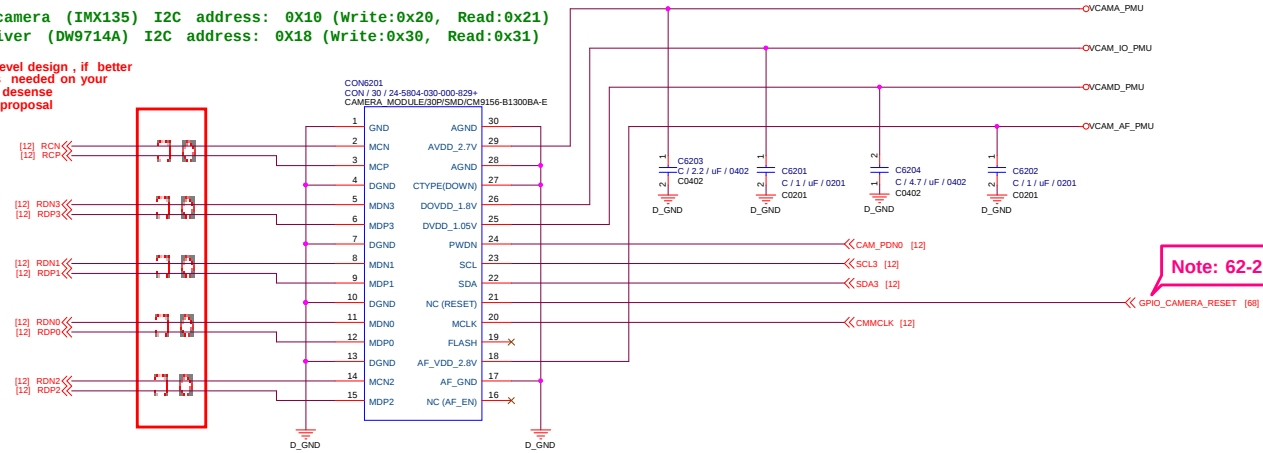
[illegible]

Note 62-3: PNSWAP are used for the polarity swap of MIPI.
PNSWAP=IOVCC => DP=DP, DN=DN;

Rear Camera

Rear camera (IMX135) I2C address: 0X10 (Write:0x20, Read:0x21)
AF driver (DW9714A) I2C address: 0X18 (Write:0x30, Read:0x31)

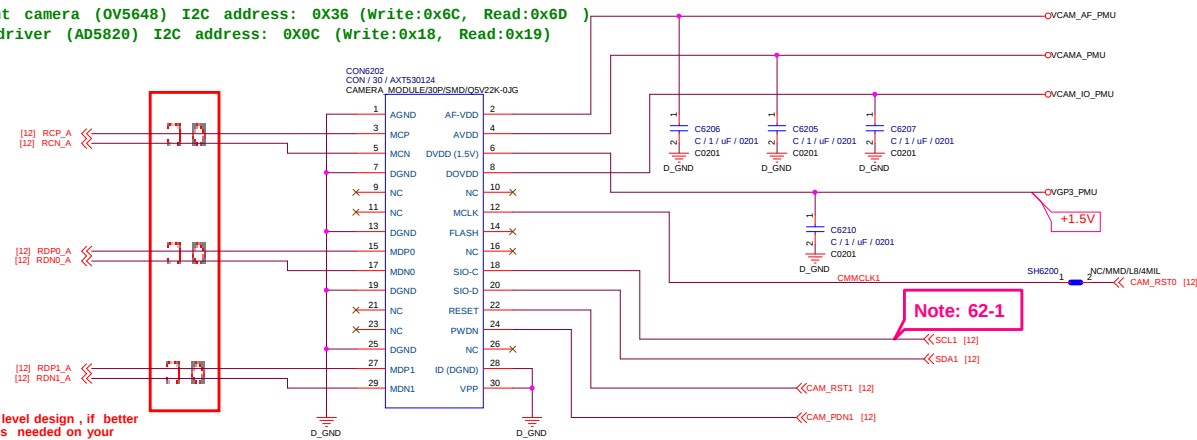
Based on your system level design, if better
desense performance is needed on your
system, please refer to desense
performance enhance proposal



Front Camera

Front camera (OV5648) I2C address: 0X36 (Write:0x6C, Read:0x6D)
AF driver (AD5820) I2C address: 0X0C (Write:0x18, Read:0x19)

Based on your system level design, if better
desense performance is needed on your
system, please refer to desense
performance enhance proposal



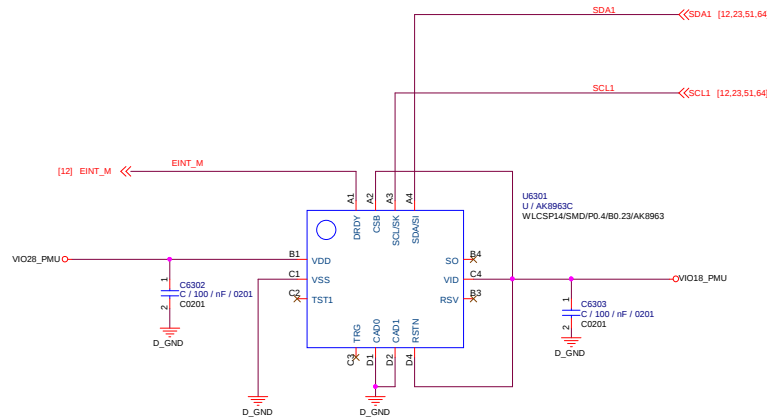
Schematic design notice of "63_PERI_CAMERA_KEYPAD" page.

Note 62-1: The VCC of I2C_3 is pulled to "VIO18_PMU".

Note 62-2: 16M Camera sensor will pull this PIN to GND, (13M is NC)

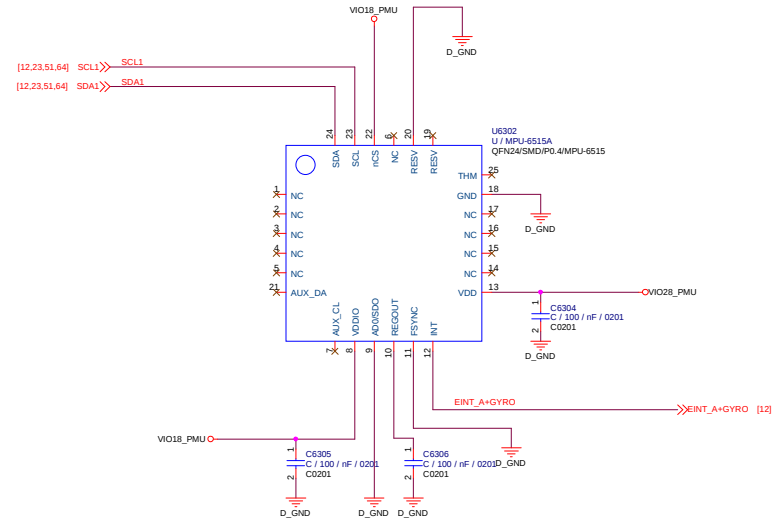
M-Sensor

M-Sensor I2C Address: 0x0C (Write:0x18, Read:0x19)



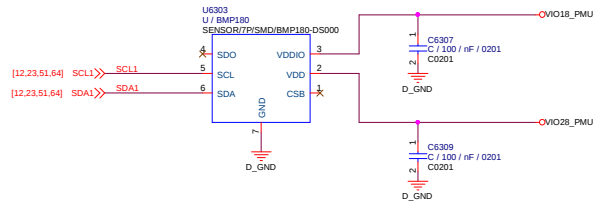
Accerometer + Gyro Sensor

A+Gyro I2C Address: 0x68 (Write:0xD0, Read:0xD1)



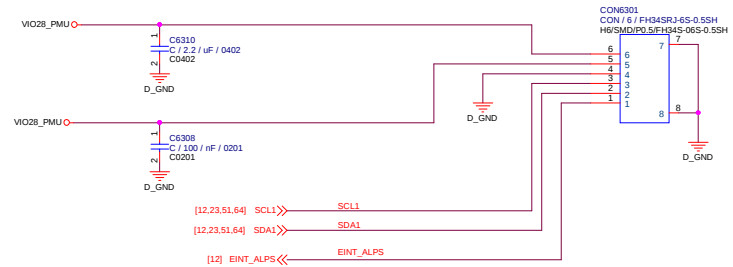
Pressure Sensor

Baro I2C address: 0X77 (Write:0xEE, Read:0xEF)

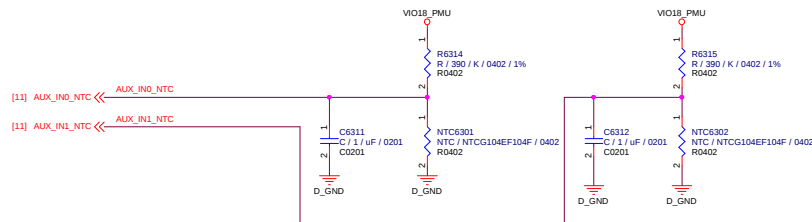


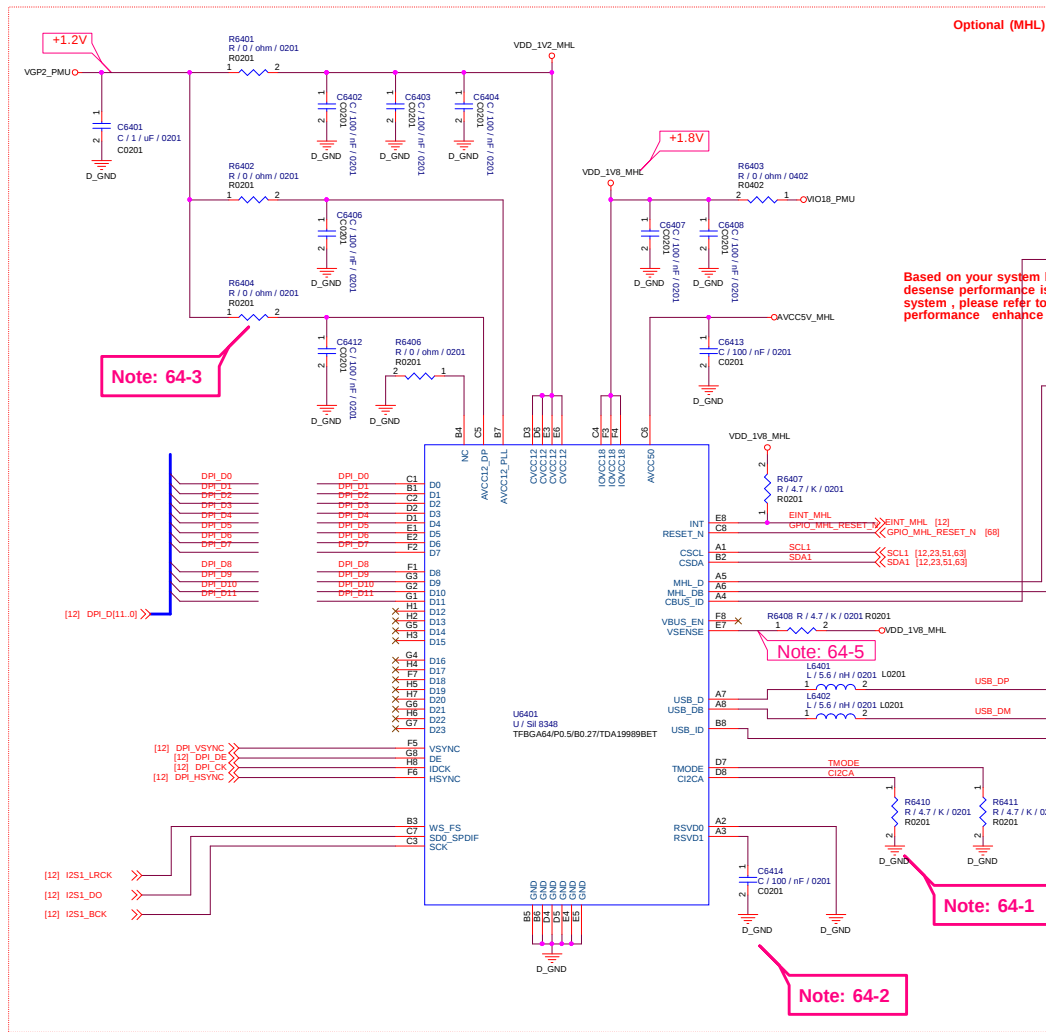
RGB & PS Sensor

CM36652 / RGB + PS I2C address: 0X60 (Write:0xC0, Read:0xC1)



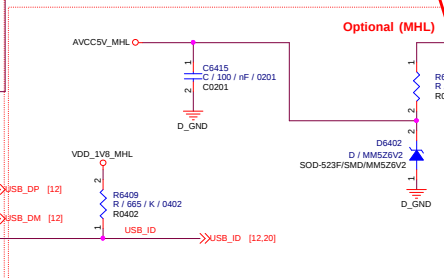
Thermistor / To sense board level temperature





Based on your system level design , if better desense performance is needed on your system , please refer to desense performance enhance proposal

Based on your system level design , if better ESD performance is needed on your system , please refer to ESD performance enhance proposal



Schematic design notice of "64_PERI_USB_MHL" page.

Note 64-1: CI2CA High : MHL I2C Address = 0x3B/3F/4F. (Write:0x76/7E/9E, Read:0x77/7F/9F)
CI2CA Low : MHL I2C Address = 0x39/3D/4D. (Write:0x76/7A/9A, Read:0x73/7B/9B)

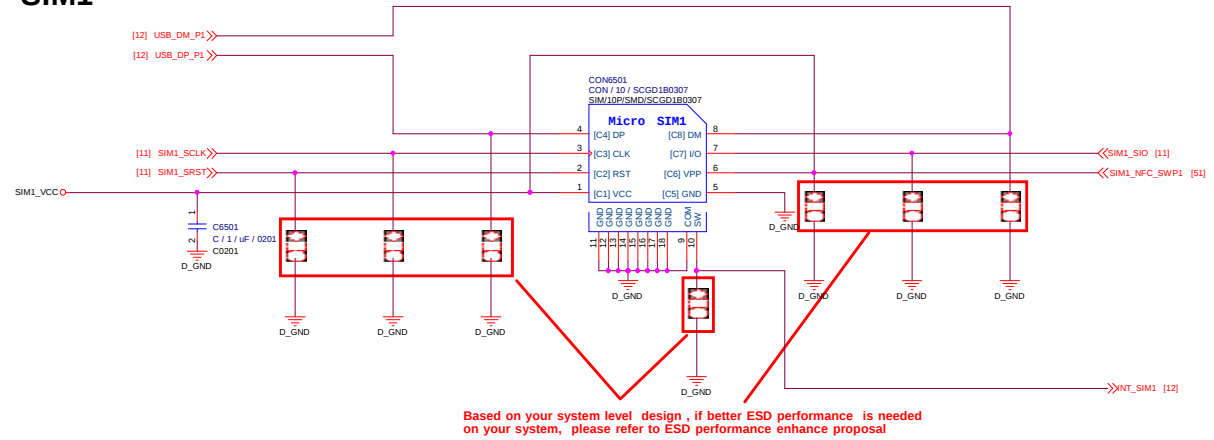
Note 64-2: 1.To reserve one 0.1uF cap to GND in serial connection for ball A3.

Note 64-3: 1. Please do not share the power input among CVCC12, AVCC12_PLL and AVCC12_DP.
Add bead for both two analog power pin.
2. Please add 10Kohm resistor to GND for NC ball B4.

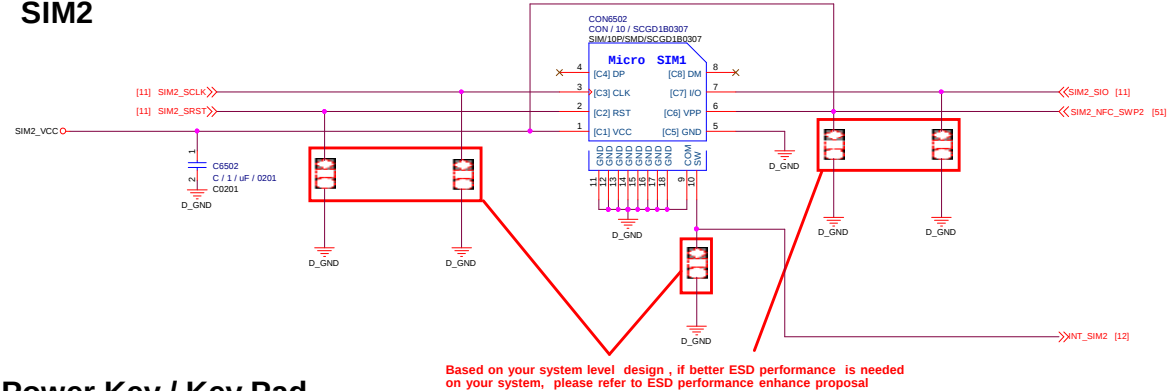
Note 64-4: Please add one CMC on MHL diff pair which could help filter the noise and increase the clock/data rise/fall time.

Note 64-5: Please connect 1V8 for ball E7

SIM1

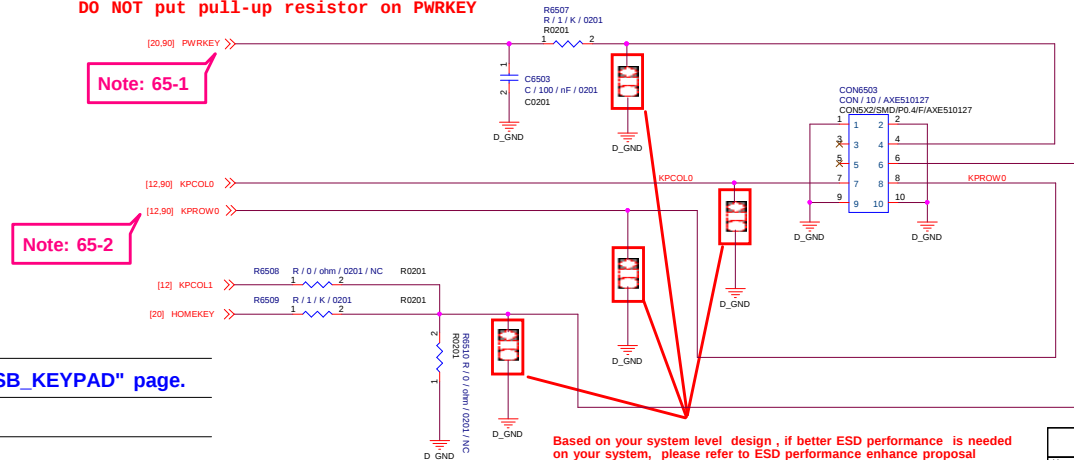


SIM2



Power Key / Key Pad

DO NOT put pull-up resistor on PWRKEY

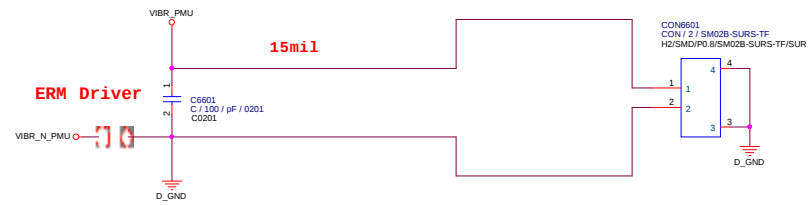


Schematic design notice of "65_PERI_Dual_SIM_ICUSB_KEYPAD" page.

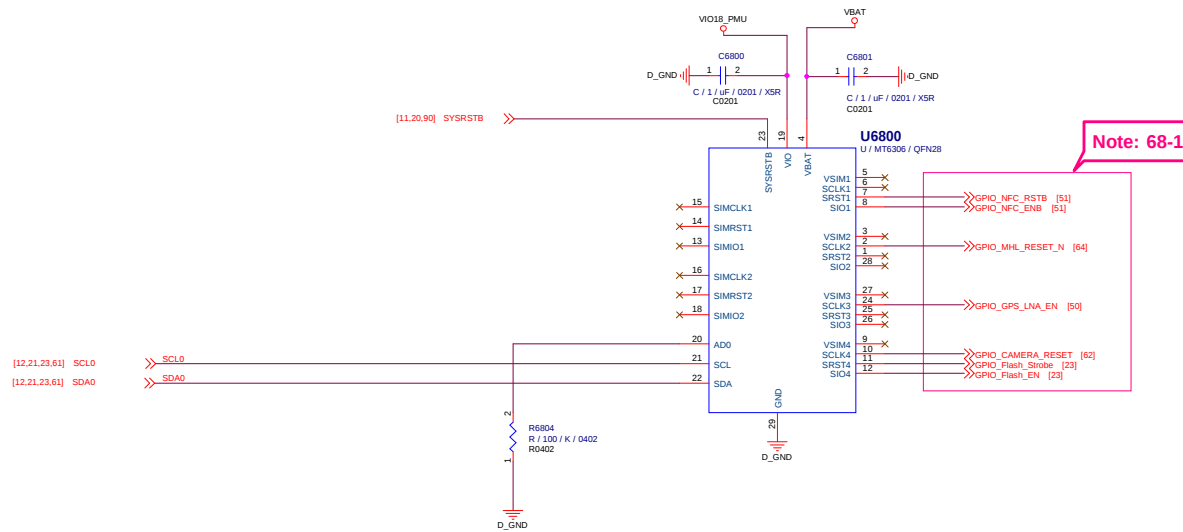
Note 65-1: DO NOT put pull-up resistor on PWRKEY

Note 65-2: Volume Up : HOME Key / GND
Volume Down : KPCROW0/KPCOL0

VIBRATOR



MT6306 / GPIO extender I2C address: 0X64 (Write:0xC8, Read:0xC9)



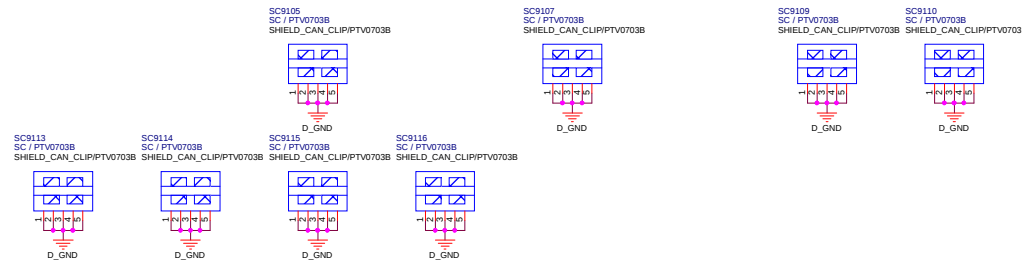
Schematic design notice of "68_PERI_MT6306_IO" page.

Note 68-1: AP GPIO not enough for MHL feature, need to add GPIO expander

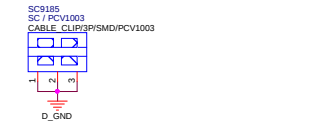
Shielding Clip

Fiducial mark

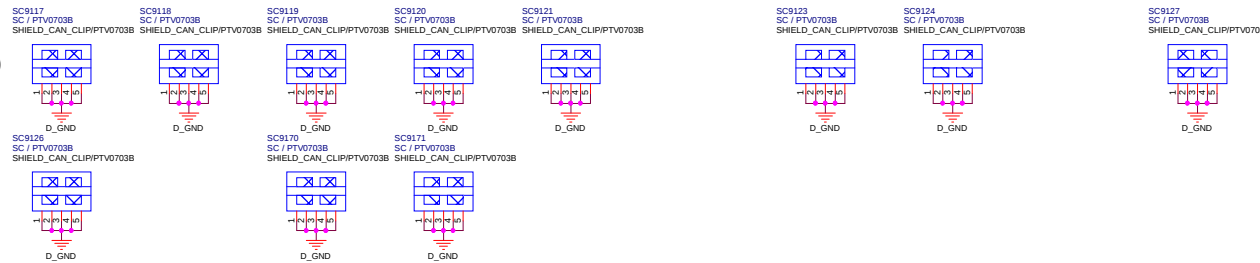
BB-Top



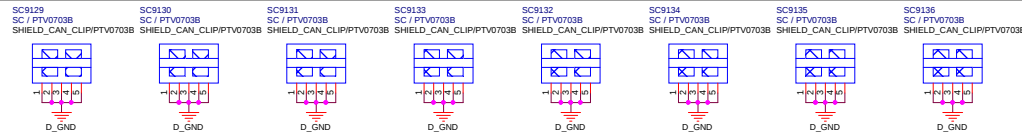
Antenna cable clip



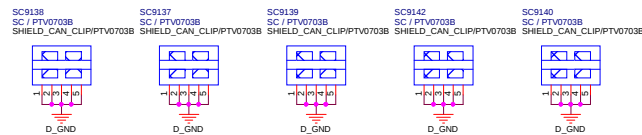
RF Top



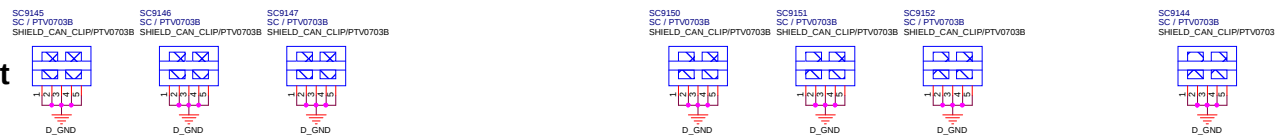
6605



NFC



BB-Bot



RF-Bot

