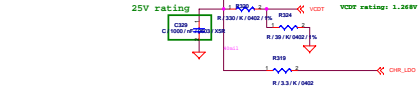
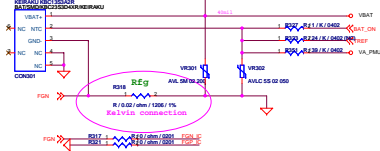


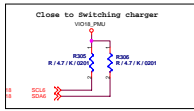
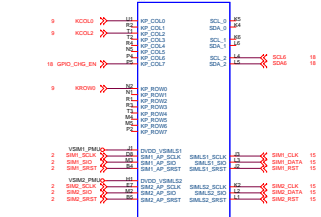
1. Close to Battery Connector.
- (Resense R328) <10m
2. Main path should be 40m1.
- (VIBUS -> U301's E -> U301's C -> R328 -> VBAT)
3. Star connection from R328 to BAT Connector



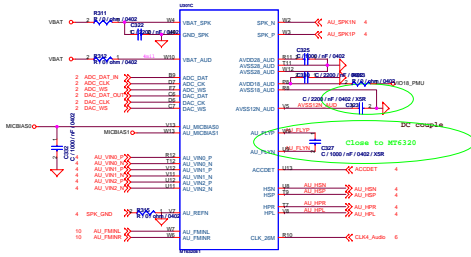
BATTERY CONNECTOR



Digital

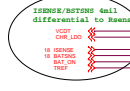


Audio

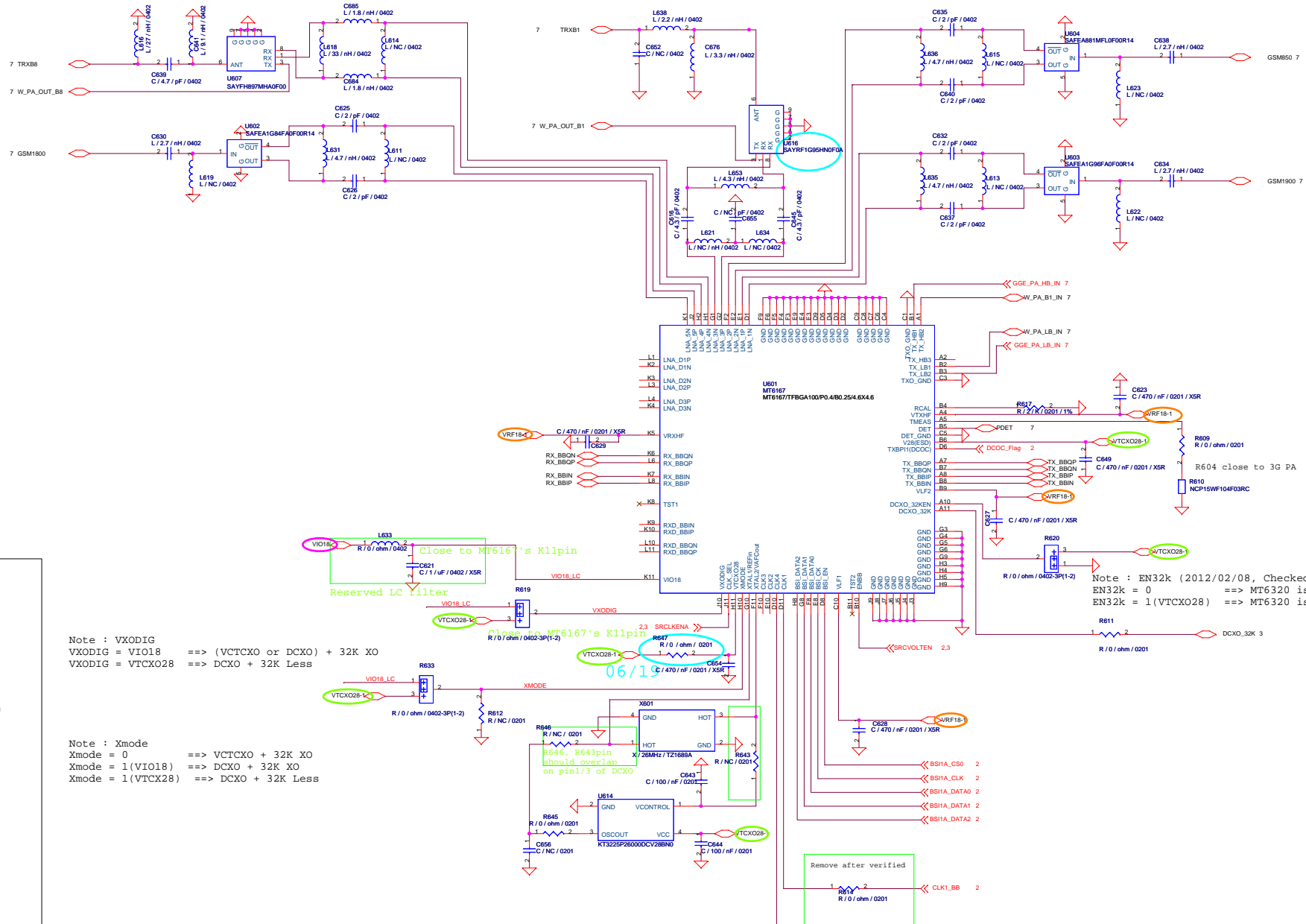


Symbol	LPDDR2/1.2V	DDR30/1.25V	DDR31/1.35V	DDR3/1.5V
VM_DR2	S	S	S	S
VM_DR3	S	S	S	S

usually pull high
to cancel the pull line



Note : Use RX Co-banding
GSM900 = 3G B8



Note : VXODIG
VXODIG = VIO18 ==> (VTCX0 or DCX0) + 32K XO
VXODIG = VTCX028 ==> DCX0 + 32K Less

Note : Xmode
Xmode = 0 ==> VTCX0 + 32K XO
Xmode = 1(VIO18) ==> DCX0 + 32K XO
Xmode = 1(VTCX28) ==> DCX0 + 32K Less

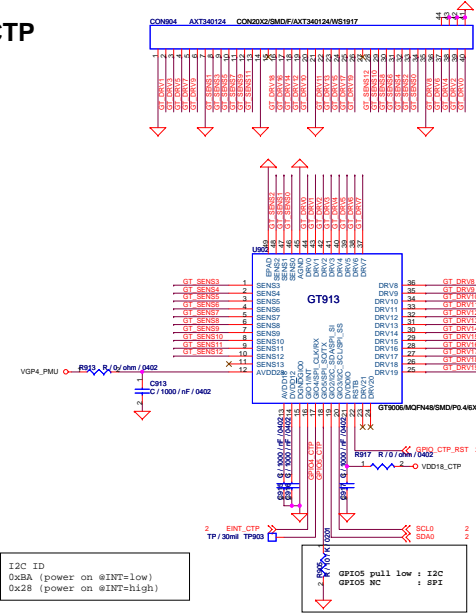
- VTCX0_1_PMU0 <-> R606 <-> VTCX028-1
- VRF18_PMU <-> R607 <-> VRF18-1
- VIO18_PMU <-> R608 <-> VIO18
- 2 BSHA_CS0 <-> BSHA_CS0
- 2 BSHA_CLK <-> BSHA_CLK
- 2 BSHA_DATA0 <-> BSHA_DATA0
- 2 BSHA_DATA1 <-> BSHA_DATA1
- 2 BSHA_DATA2 <-> BSHA_DATA2
- 2 DDC0_Flag <-> DDC0_Flag
- 2,3 SRCVOLTEN <-> SRCVOLTEN
- 2,3 SRCVOLTEN <-> SRCVOLTEN
- 2 CLK1_BB <-> CLK1_BB
- 3 CLK4_Audio <-> CLK4_Audio
- 2 RX_IP <-> R630 <-> RX_BBIP
- 2 RX_IN <-> R631 <-> RX_BBIN
- 2 RX_OP <-> R632 <-> RX_BBOP
- 2 RX_QN <-> R633 <-> RX_BBQN
- 2 TX_IP <-> R634 <-> TX_BBIP
- 2 TX_IN <-> R635 <-> TX_BBIN
- 2 TX_OP <-> R636 <-> TX_BBOP
- 2 TX_QN <-> R637 <-> TX_BBQN

Close to MT6167's Killpin
Reserved LC filter
Close to MT6167's Killpin
R646, R643pin should overlap on pin1/3 of DCX0

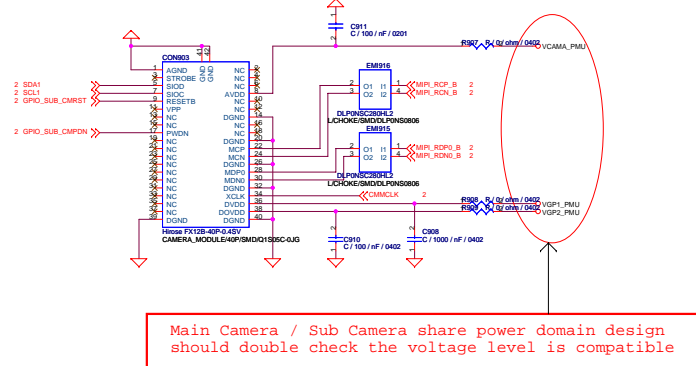
Remove after verified
R614 R / 0 / ohm / 0201
R615 R / 0 / ohm / 0201

MEDIATEK	
06 RF_MT6167_RX_B1B8_no RxD	
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Cuspm	MT6589 PHONE
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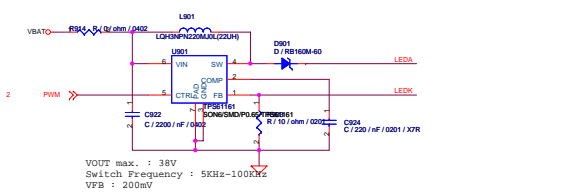
CTP



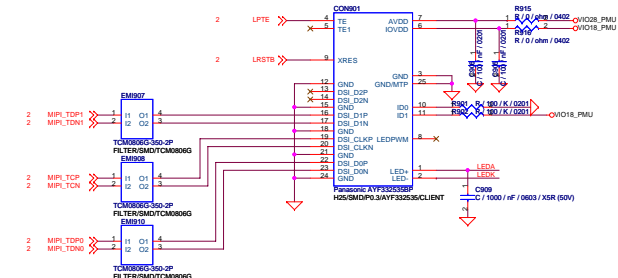
Sub Camera



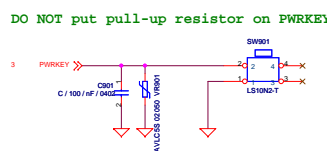
Backlight LED Driver



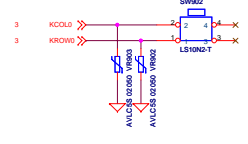
Main LCM



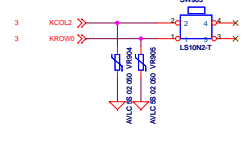
Power Key



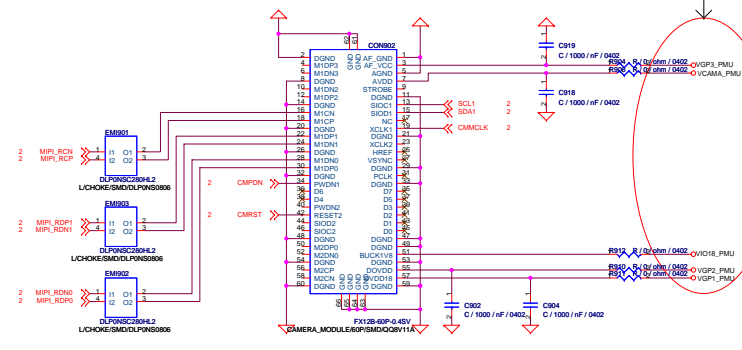
Volume Up



Volume Down

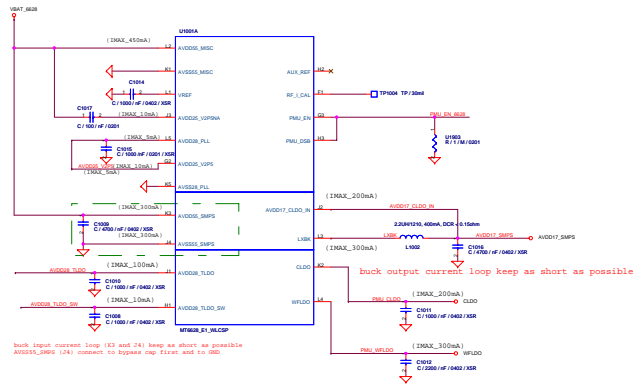


Main Camera



3D LCM (Reserved)

MT6628_PMU

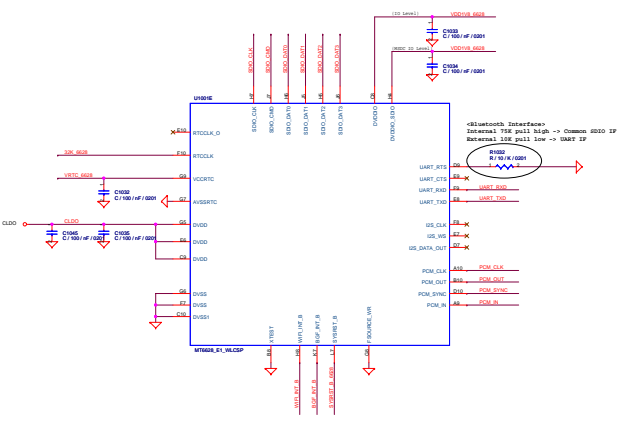


buck output current loop keep as short as possible

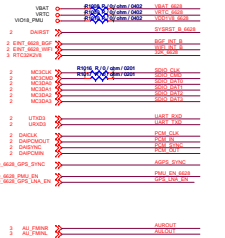
buck input current loop (23 and 24) keep as short as possible

MT6628_GPIO

WiFi_Boot	0	0010	
ANTSEL-2	1	0011	SPI
Xtal/OCX	00	1000	
ANTSEL-1 (N*0)	01	1001	
ANTSEL-1 (N*1)	10	1010	
ANTSEL-1 (N*2)	11	1011	RESERVE
MT/COM Boot	0	1001	MT6628E2
START_RST	1	0010	MT6628E2
MT/COM Boot	0	0010	MT6628E1
ANTSEL-0	1	1001	MT6628E1



MT6589 <==> MT6628 Connector



MT6628_BT/WiFi

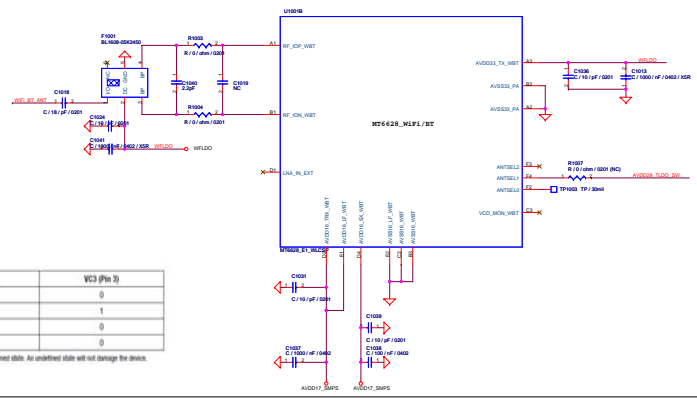
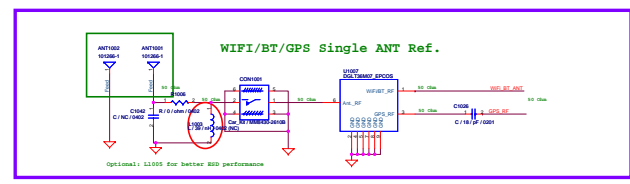
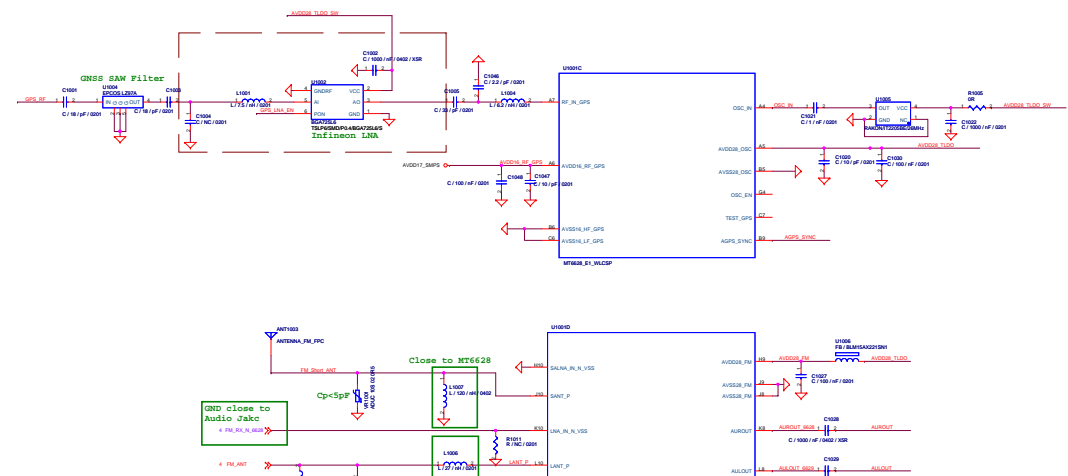


Table 5. SKY6523-11 Truth Table

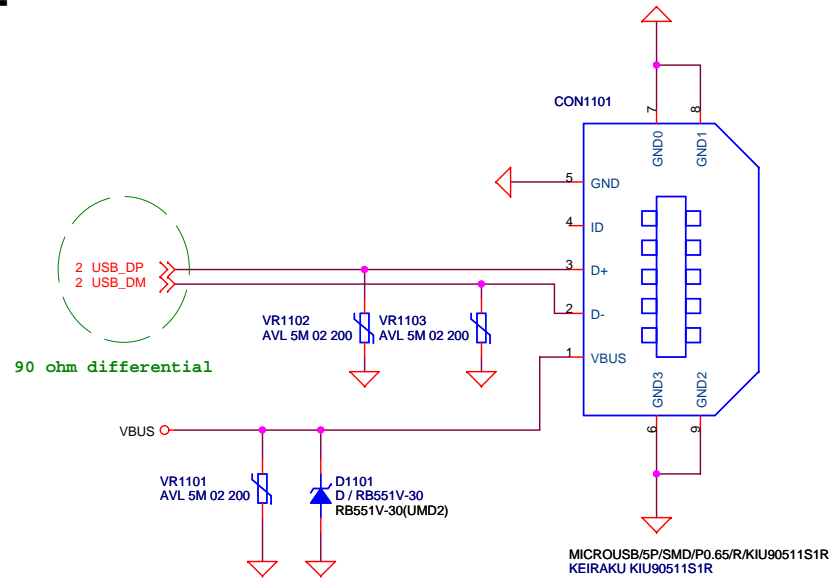
Mode	VCI (Pin 1)	VC2 (Pin 11)	VC3 (Pin 3)
Bypass	0	0	0
Transmit	0	0	1
Receive	0	1	0
Bluetooth	1	0	0

Note: "0" = 0 V to +0.25 V "1" = +2.7 V to +2.8 V. Any other value than described in this Table places the switch into an undefined state. An undefined state will not damage the device.

MT6628_GPS / FM



USB HS IF



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11.USB			V1.0
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D

C

C

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B

A

A



Title
12 Reserved

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5

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C

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A


5

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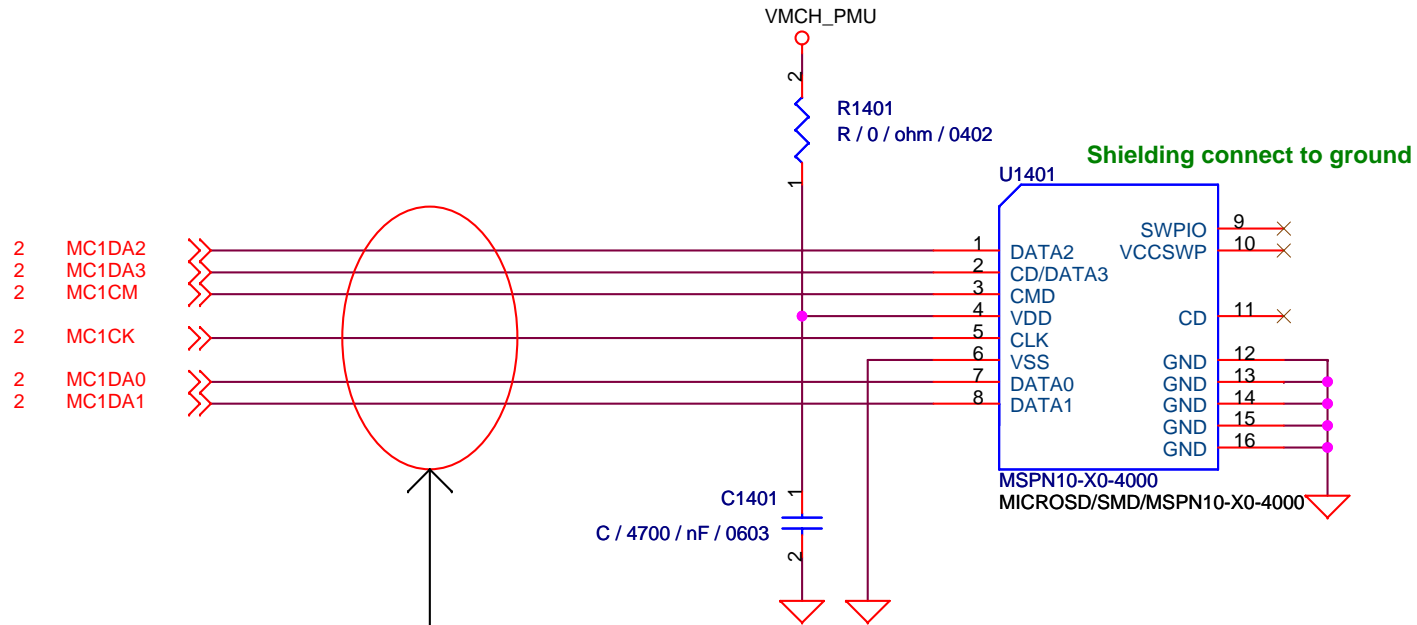
3

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Title			
13 Reserved			
Size	Document Number		Rev
B	MT6589 PHONE		V1.0
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SD CARD

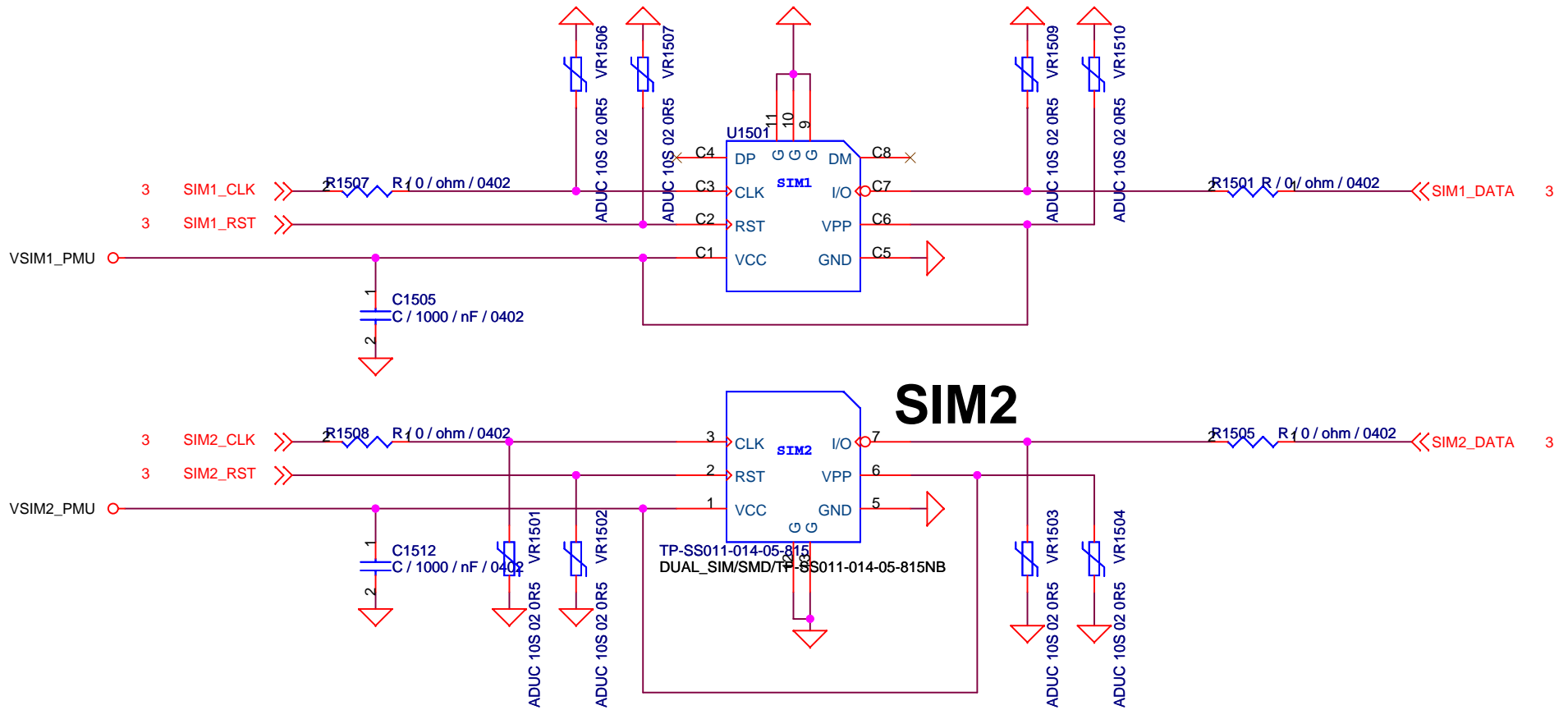


T-card ESD protection is optional depends on T-card's type and position

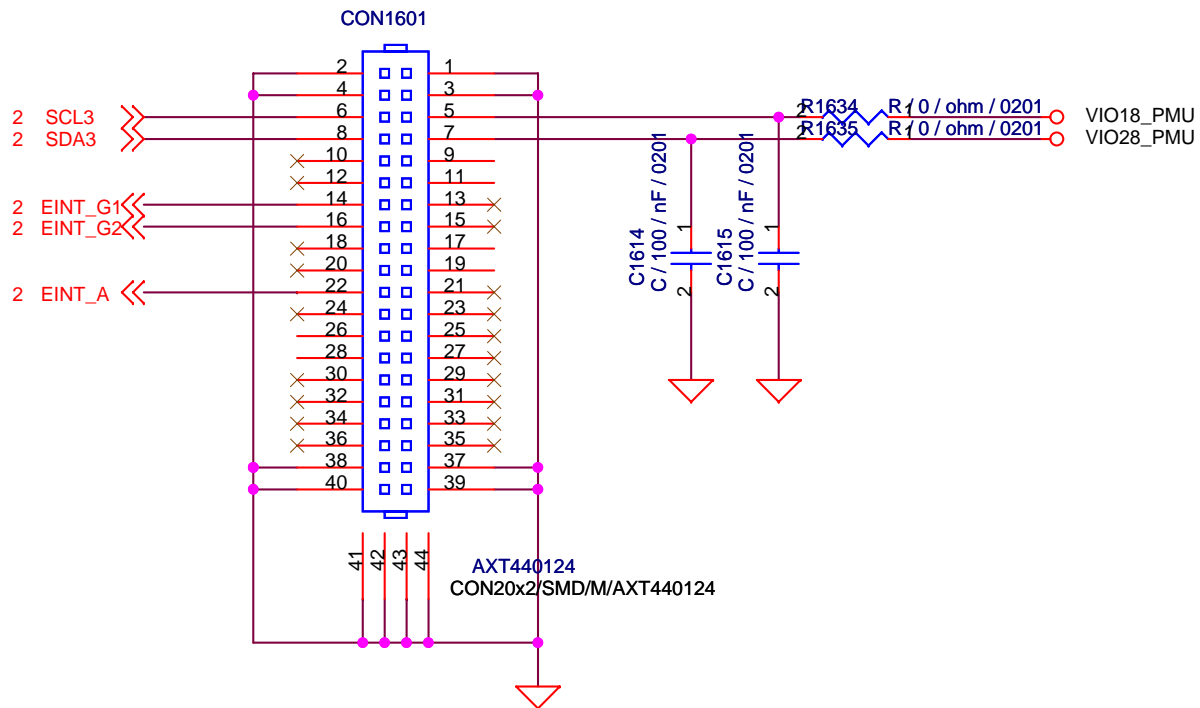
MEDIA TEK		
Title		
14 Memory CARD		
Size	Document Number	Rev
A	MT6589 PHONE	V1.0
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SIM1 & SmartCard

8-pin connector



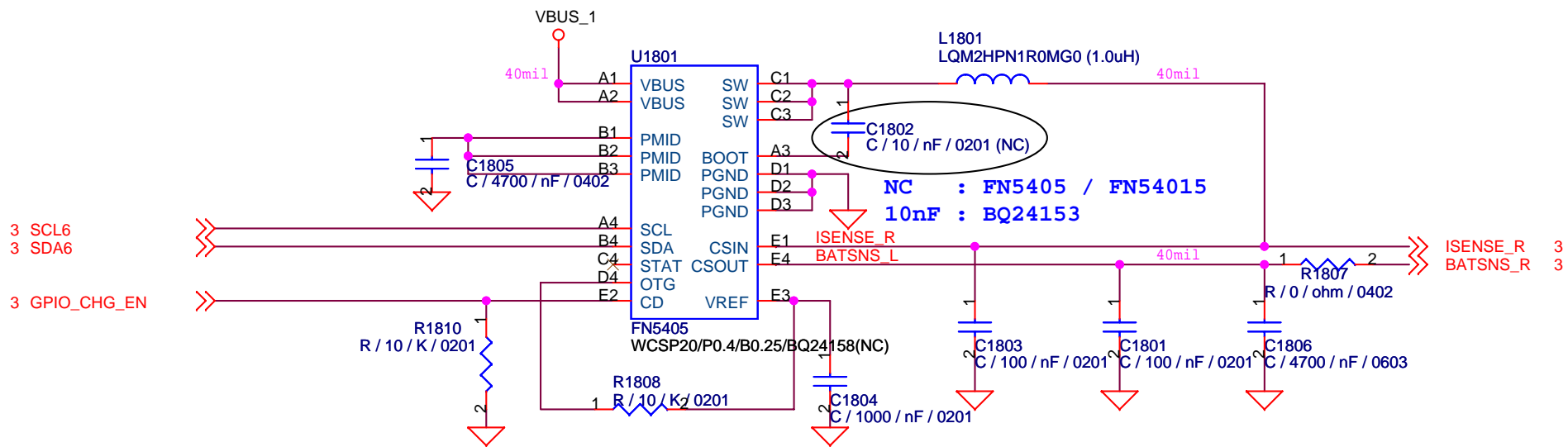
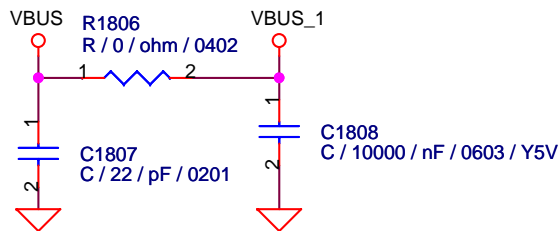
MEDIA TEK		
Title		
15 Dual SIM		
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Custom	MT6589 PHONE	V1.0
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Title		
16 Sensors, OFN (Key)		
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Switching Charger



If switching charger is used:

- (1) R1801~R1805, C1801~C1806, L1801, U1801 are needed
- (2) U303, U304 change to NC
- (3) R328 change to 56m Ohm

MEDIATEK

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18 Switching Charger		
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Title **19 Reserved**

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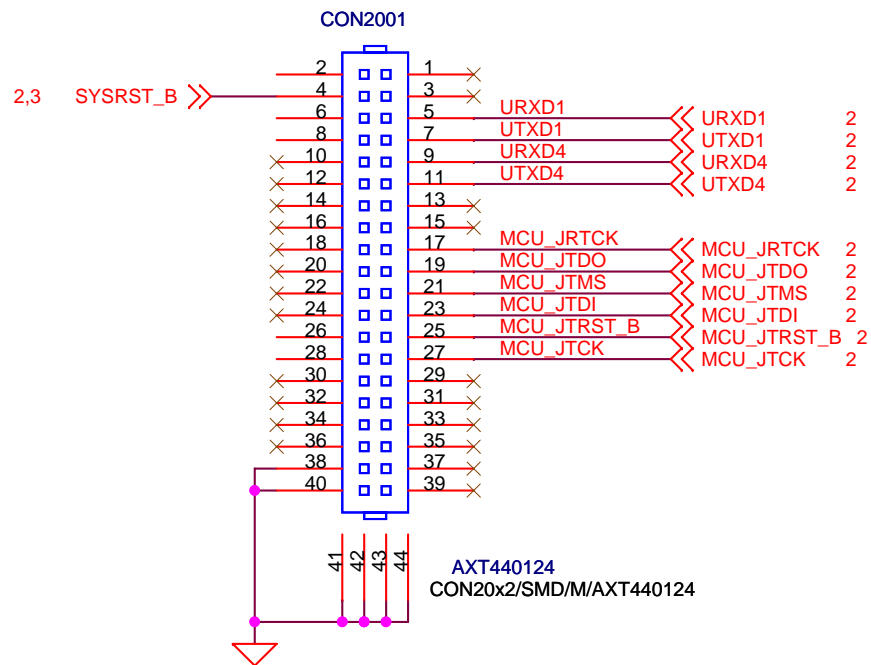
5

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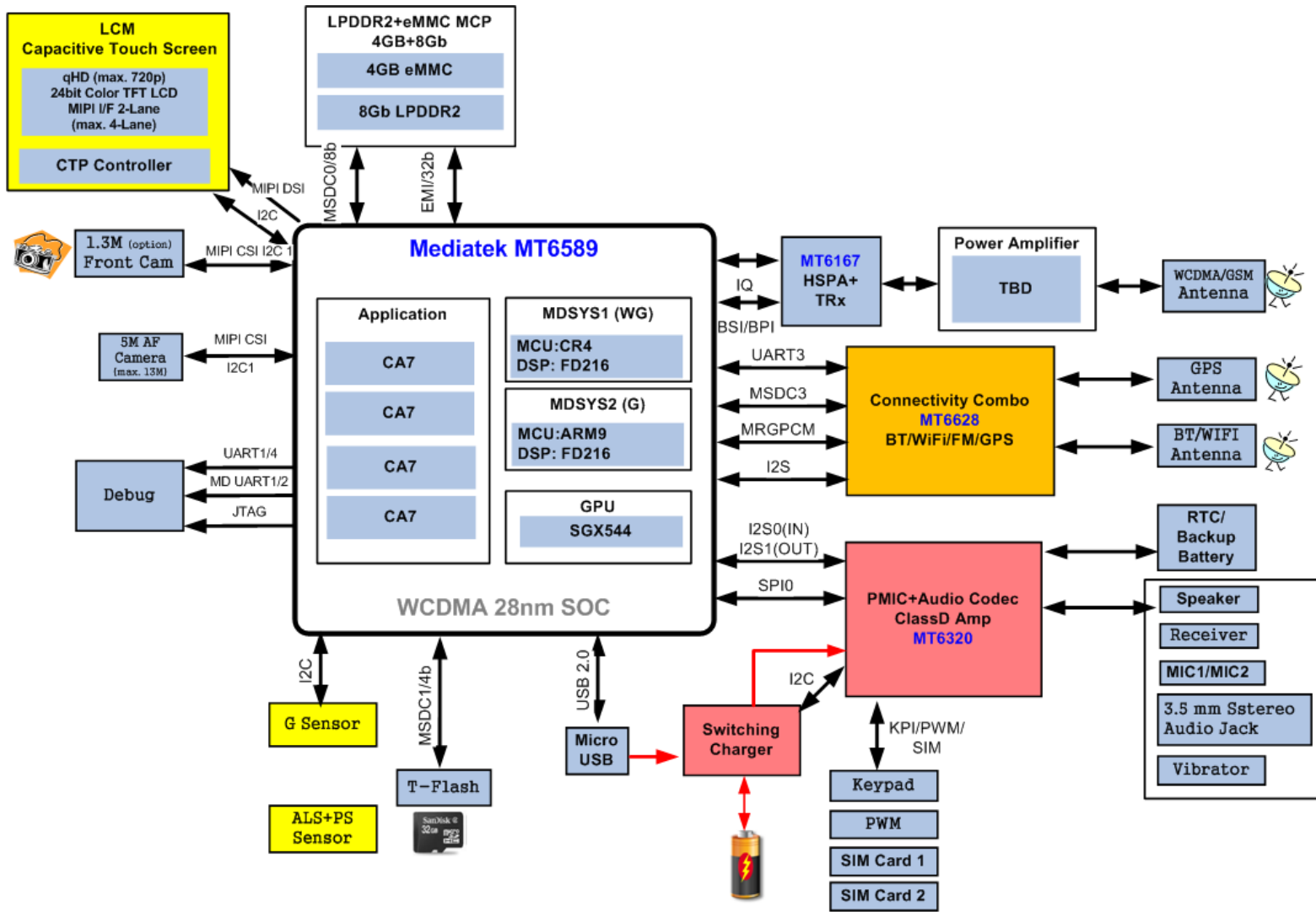
2

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MEDIATEK

Title		
20 Debug		
Size	Document Number	Rev
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98 Block Diagram		
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Date	Category	Item
2012.09.27 (V0.12)	General	Clone from MT6589_MT6320_MT6167_MT6628_EMMC_LPDDR2_WG_NO RXD_V0.12.DSN
	Page7	Change RF3236 and TXM control table to SKY77590
2012.10.01 (V0.13)	Page3	Change C338/C343 from 2.2uF -> 4.7uF
2012.10.04 (V0.14)	Page3	Change R323 from 24K -> NC
		Change R351 from NC -> 39K
2012.10.17 (V0.15)	Common	Change VDD18_PMU to VIO18_PMU Change VDD28_PMU to VIO28_PMU
	Page3	Update PMIC power spec. table
	Page7	Change U702 pin23 from net TRXB2 to GSM1900 Change U702 pin22 from net TRXB5 to GSM850
	Page9	Add Camera share power notification
	Page11	Change the connection between EM11105 and CON1101
	Page14	Remove Add T-card ESD notification
	2012.11.12 (V0.16)	Page2
Page3		Remove D301 and C339 reserved for VPA performance originally
		Remove R330, R331 reserved for VM power boos-strap function (internal pull low for LPDDR2)
		Remove R307, R309
		Remove Pre-Charge LED, Indicator LED and add KEYPAD LED
		Update VM_SEL boot-strap table
		Add 4 shottky diod at VPROC/VDDK/VPA/VM LX pin
		Remove R333, R326, R325
Remove C308~C313 LDO Cin		
Change C342 from NC to 10uF (NC)		
Change L307 from CKP25202R2M-T to MDMK2020T2R2MM (NC)		
Change U303, U304 to NC (Reserve for Pulse charger)		
Page4		Add external Audio AMP / internal Audio AMP solution
Page5	Remove R518~R526 eMMC pull high resistor	
	Change C537 from 2.2uF -> 4.7uF Change C523 from 0.1uF -> 1uF	
Page9	Change VOL_UP/DOWN mapping	
Page10	Remove I2S interface of MT6628 (sync to MRG interface)	
	Remove MT6628 co-clock circuit	
Page11	Change the connection between EM11105 and CON1101	
	Remove MHL related feature	
	Remove IC_USB description	
	Remove USB common choke (Optional by customer application) Change ESD protection device to virastor	
Page15	Remove IC-USB function	
Page16	Remove Gyro sensor	
Page99	Update block diagram	
2012.11.15 (V0.17)	Page3	Change D301/D303/D304/D304 value from "Rohm RB521C-30" to "Rohm RB521CS-30"
		Remove R301~R304 MHL/NFC used I2C pull high resistor
		Remove U303, U304 pulse charger schematic
Page4	Change description "Speaker (external Audio AMP)" to "Speaker (external Audio AMP to Sub PCB)"	