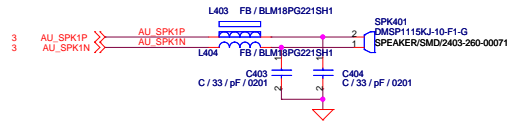
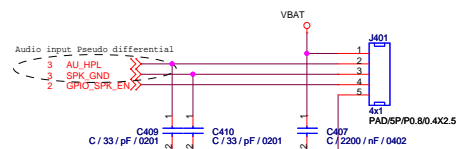




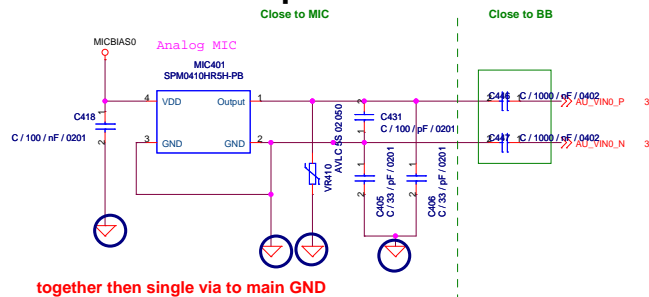
## Speaker (internal Audio AMP from PMIC)



## Speaker (external Audio AMP to Sub PCB)

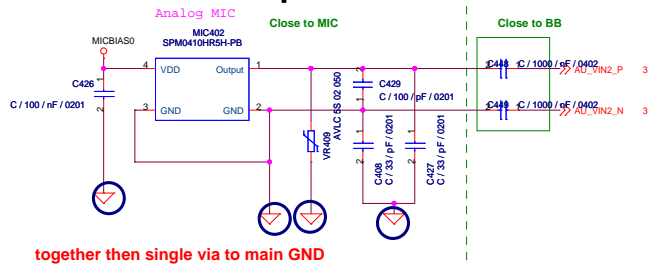


## Handset Microphone 1



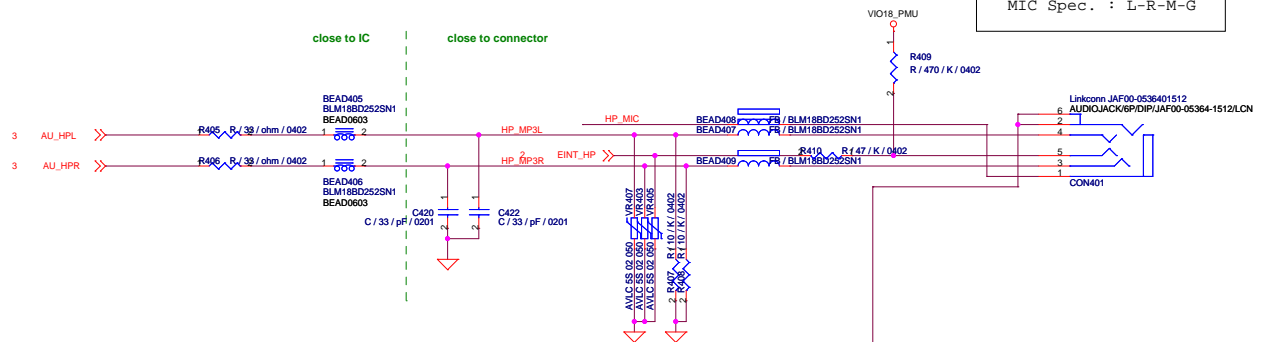
together then single via to main GND

## Handset Microphone 2-1

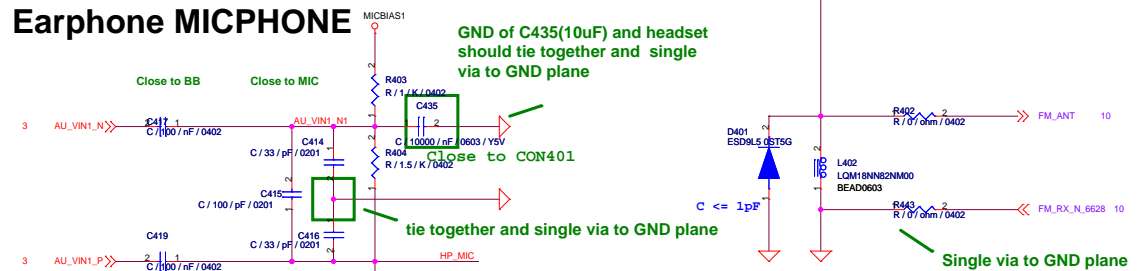


together then single via to main GND

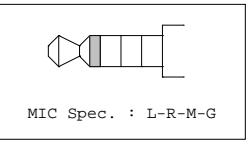
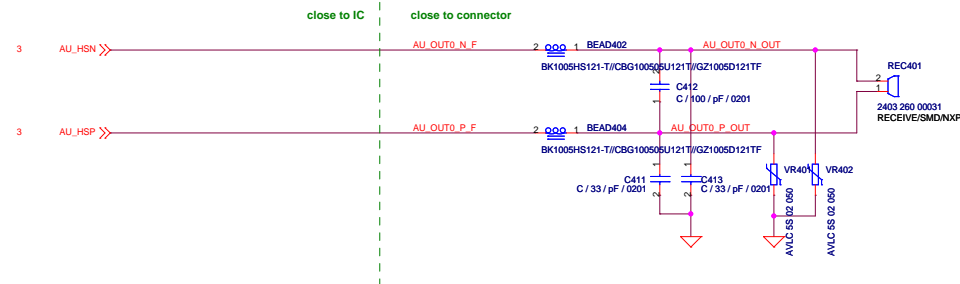
## Earphone Audio



## Earphone MICPHONE



## Receiver



# eMMC+LPDDR2

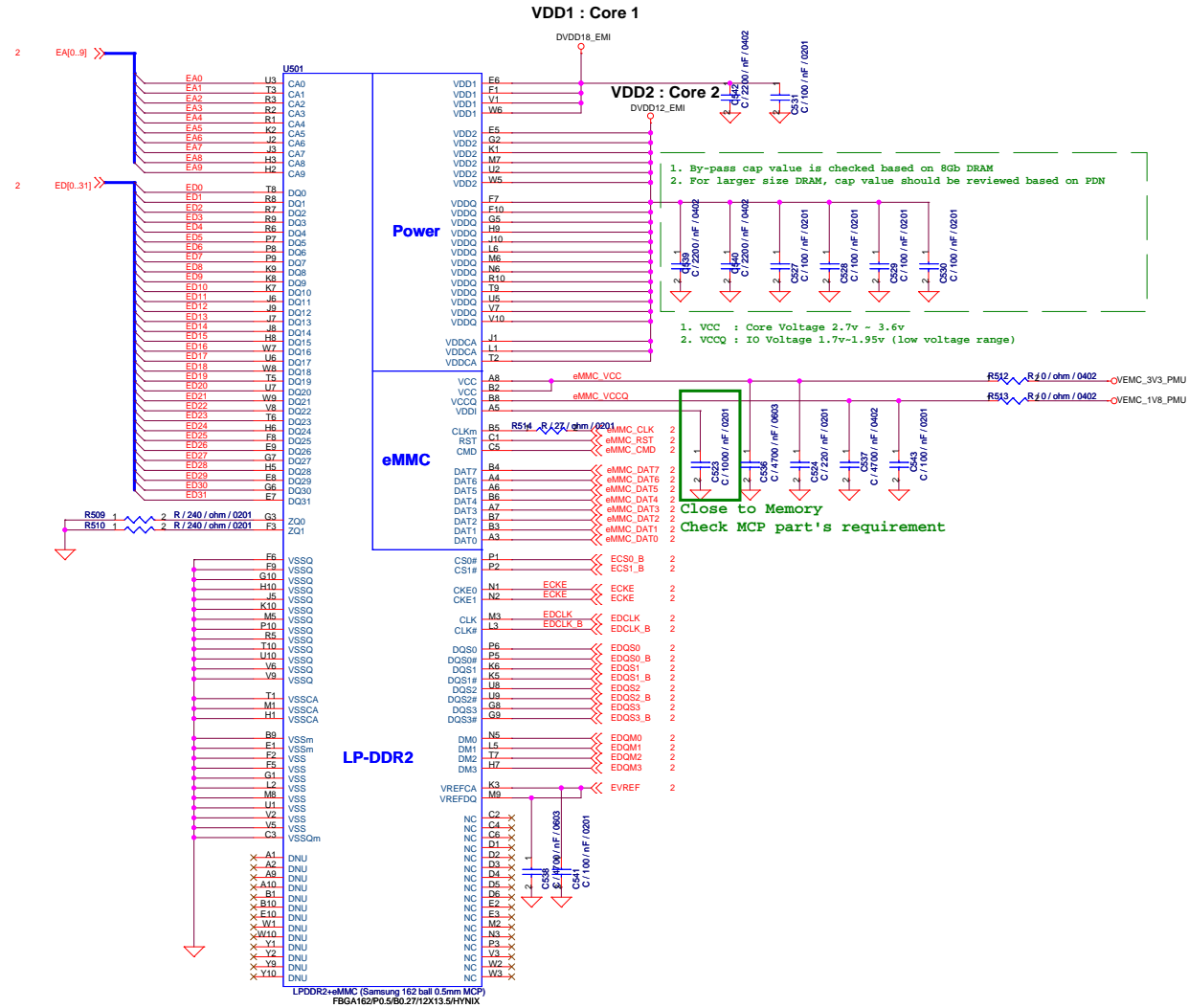
162 Ball, 0.5mm pitch

VDD1=1.8V

VDD2=1.20V

VDDCA=1.2V

VDDQ= 1.20V

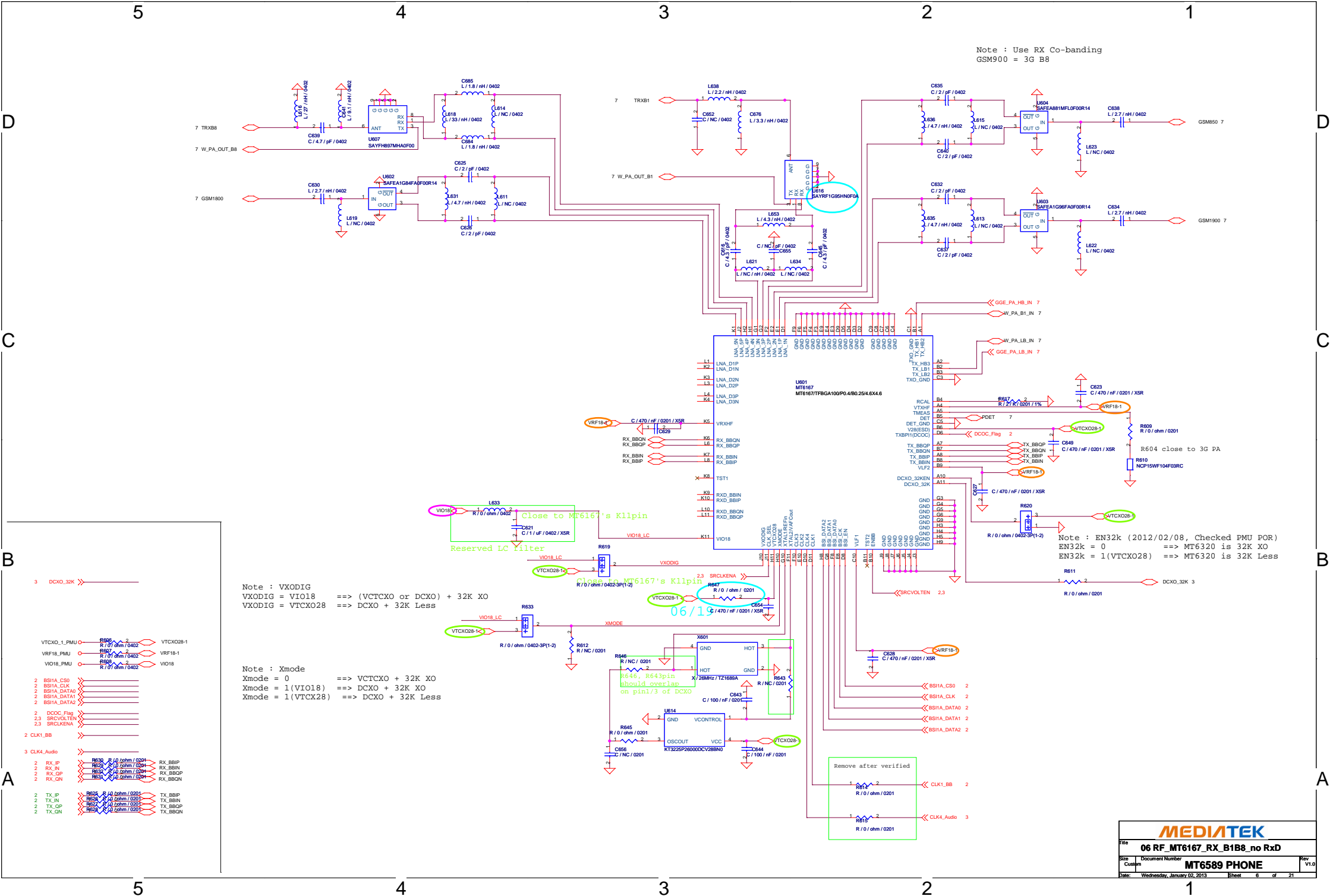


**MEDIATEK**

File **05 Memory (eMMC + x32LPDDR2)**

Size C Document Number **MT6589 PHONE** Rev V1.0

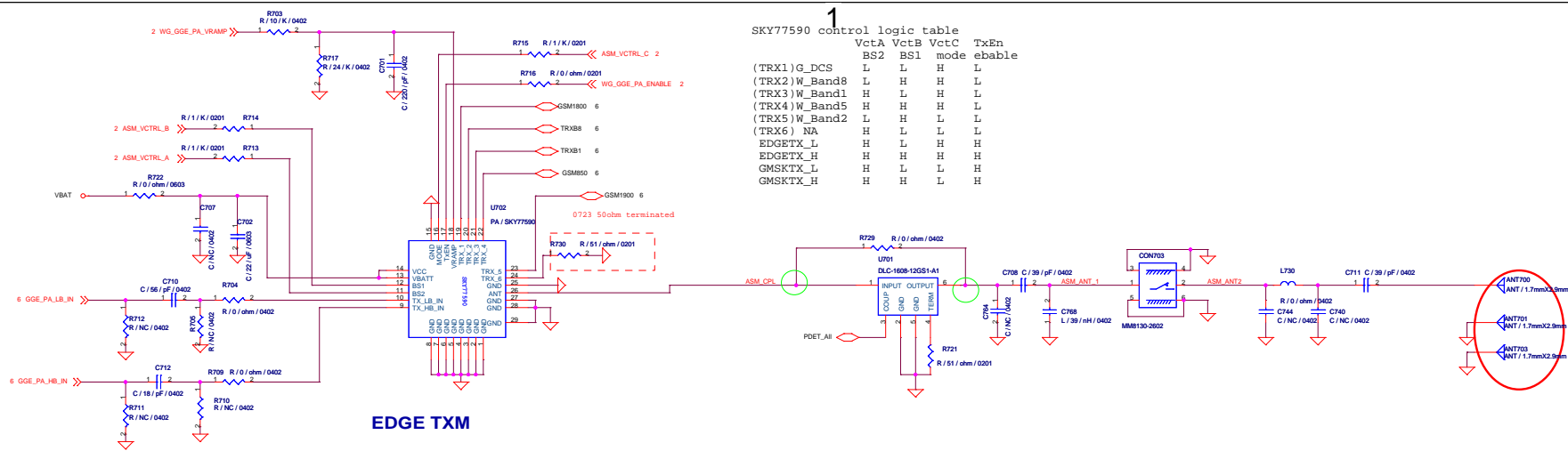
Date: Wednesday, January 02, 2013 Sheet 5 of 21



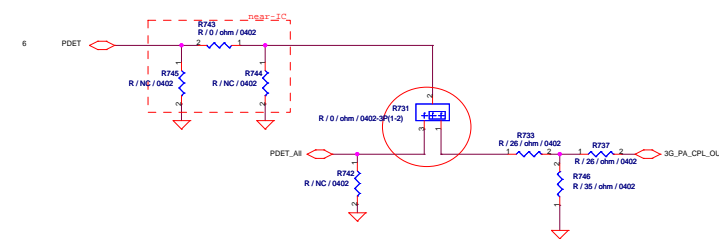
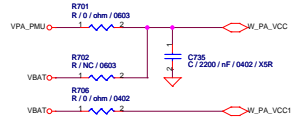
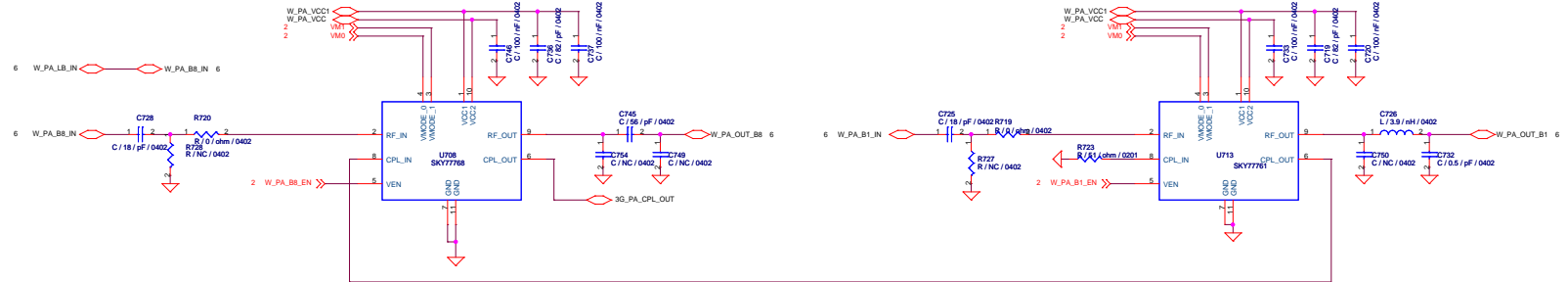
1

SKY77590 control logic table

	VctA	VctB	VctC	TxE	en
(TRX1)G_DCS	L	L	H	L	
(TRX2)W_Band8	L	H	H	L	
(TRX3)W_Band1	H	L	H	L	
(TRX4)W_Band5	H	H	H	L	
(TRX5)W_Band2	L	H	L	L	
(TRX6) NA	H	L	L	L	
EDGE_TX_L	H	L	H	H	
EDGE_TX_H	H	H	H	H	
GMSK_TX_L	H	L	L	H	
GMSK_TX_H	H	H	L	H	



EDGE TXM



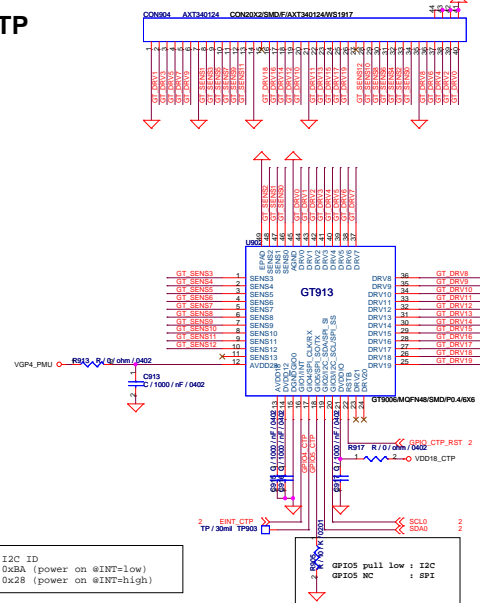
Non-final SCH, internal use only  
don't release to customer!

MEDIATEK			
Title	07 RF_TX_ASM_B1B8		
Size	Document Number	MT6589 PHONE	
Custom			
Date:	Wednesday, January 02, 2013	Sheet	7 of 21

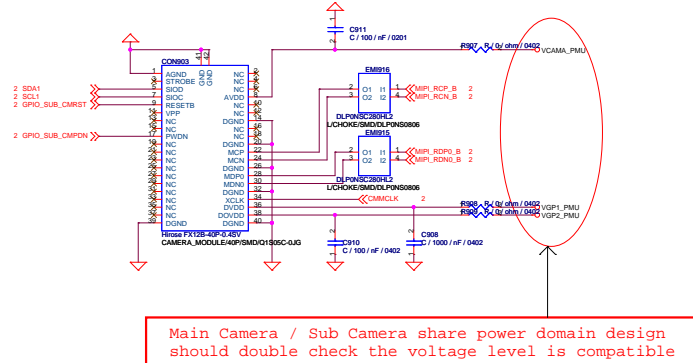




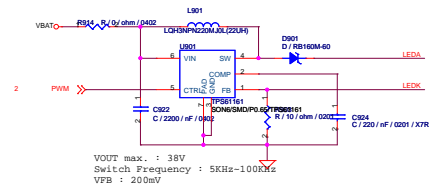
## CTP



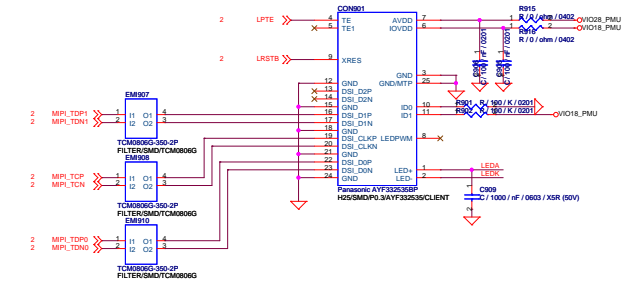
## Sub Camera



## Backlight LED Driver

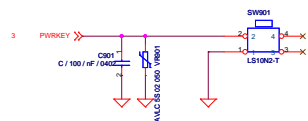


## Main LCM

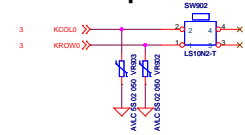


## Power Key

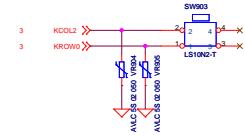
DO NOT put pull-up resistor on PWRKEY



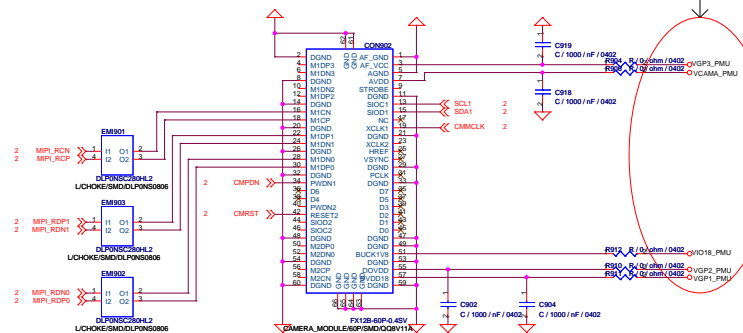
## Volume Up



## Volume Down

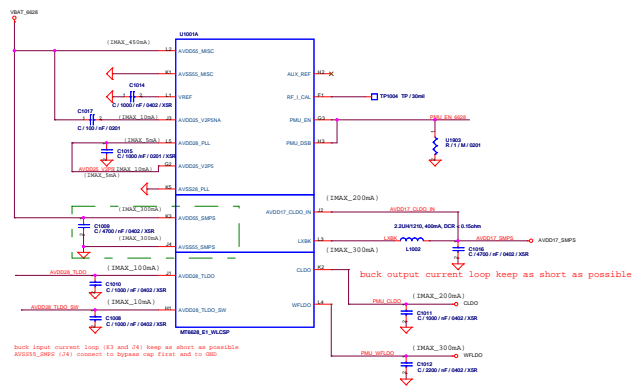


## Main Camera



## 3D LCM (Reserved)

## MT6628\_PMU



## MT6628\_BT/WiFi

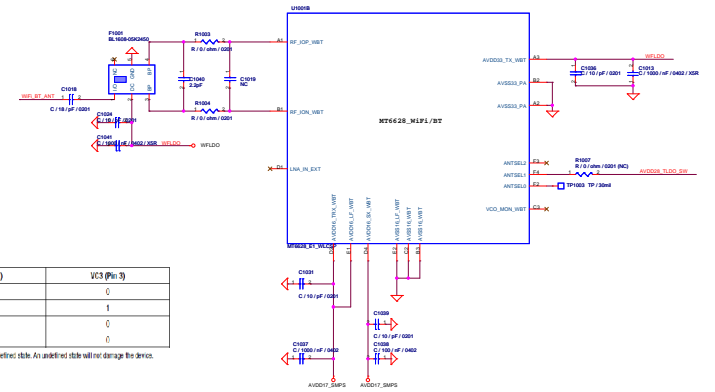
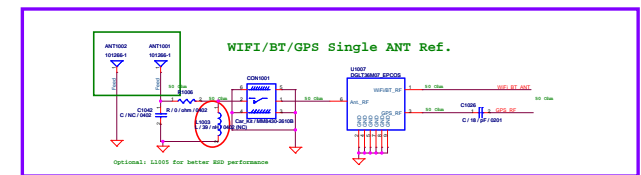


Table 5. SKY65523-11 Truth Table

Mode	VC1 (Pin 1)	VC2 (Pin 1)	VC3 (Pin 3)
Bypass	0	0	0
Transmit	0	0	1
Receive	0	1	0
Standby	1	0	0

Note: "0" = 0 V to +0.25 V; "1" = +2.7 V to +3.0 V. Any state other than described in this Table places the module into an undefined state. An undefined state will not damage the device.

## MT6628\_GPIO

WiFi_Boot	0	RESET
ANTSEL-2	1	RF1

Xtal/OCS	0	XTAL
ANTSEL-1 (b'0)	1	RF1
	1	RESERVED

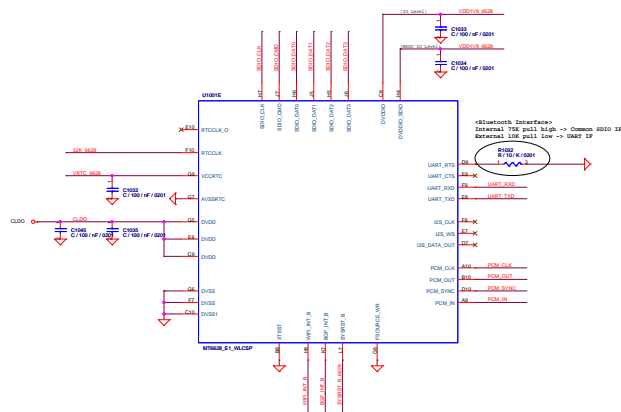
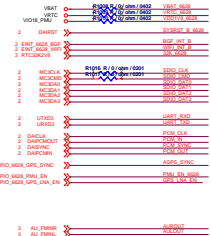
  

BT/COM Host	0	RESET
UART_RST	1	RESET

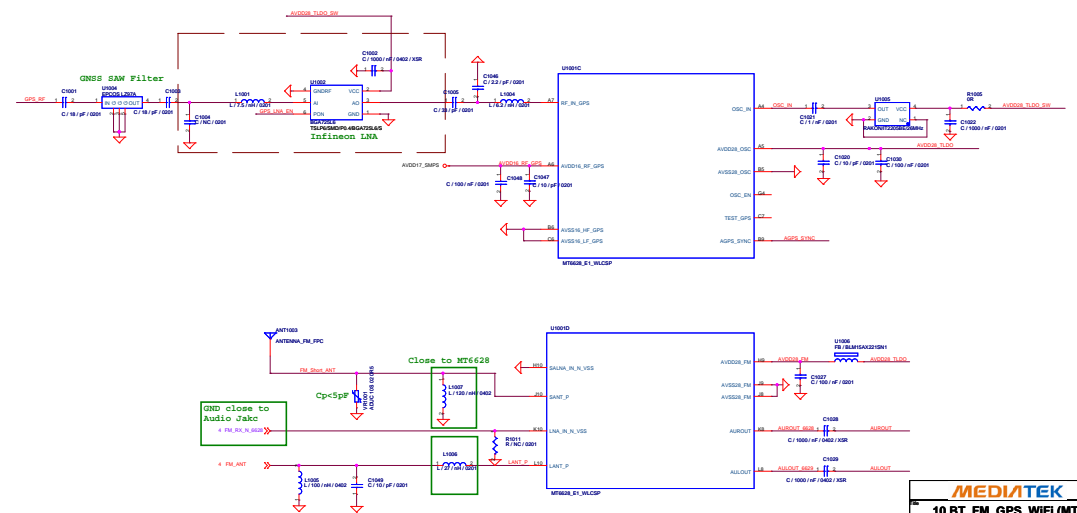
  

BT/COM Host	0	RESET
UART-0	1	RESET

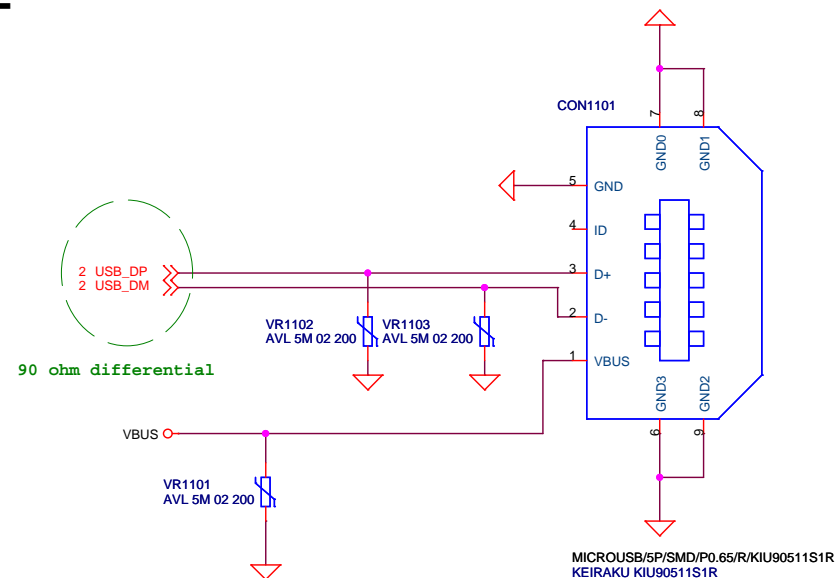
### MT6589 <==> MT6628 Connector



## MT6628\_GPS / FM



# USB HS IF




**MEDIATEK**

Title			11.USB
Size B	Document Number	MT6589 PHONE	
Date:	Wednesday, January 02, 2013	Sheet	11 of 20

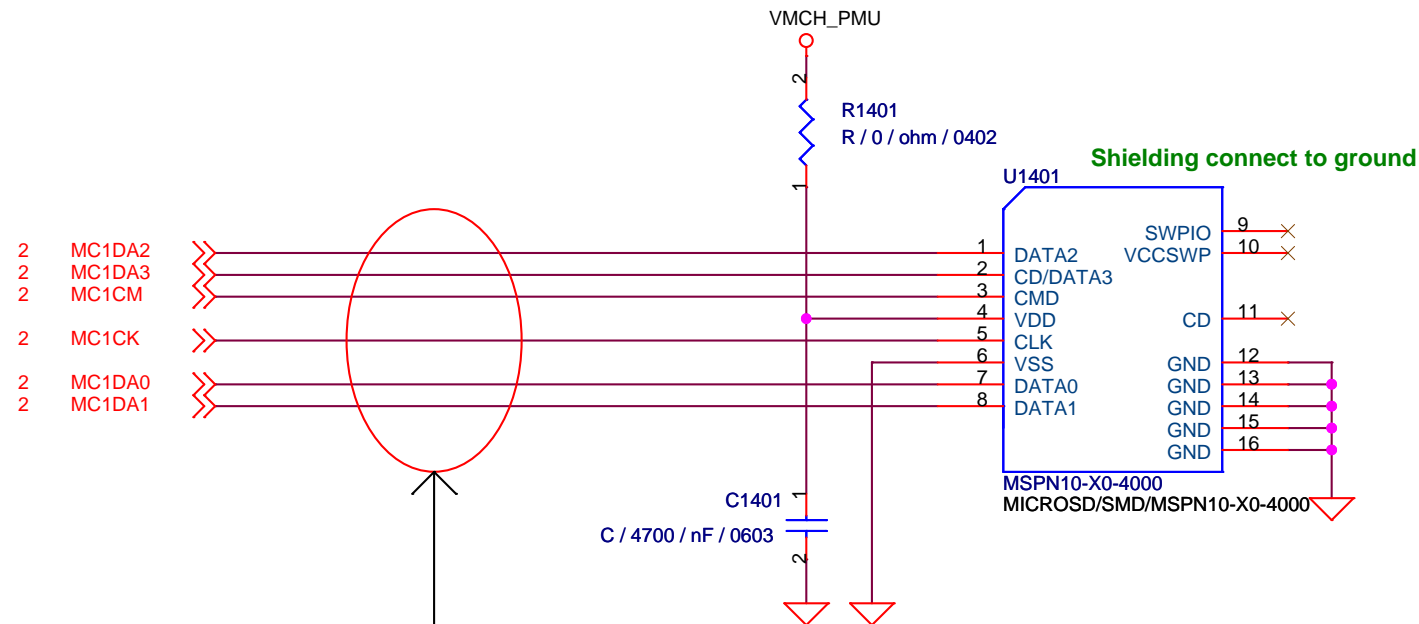
Rev  
V1.0

	5	4	3	2	1	
D						D
C						C
B						B
A						A
	5	4	3	2	1	

		
Title	12 Reserved	
Size A	Document Number MT6589 PHONE	Rev V1.0
Date:	Wednesday, January 02, 2013	Sheet 12 of 21



# SD CARD

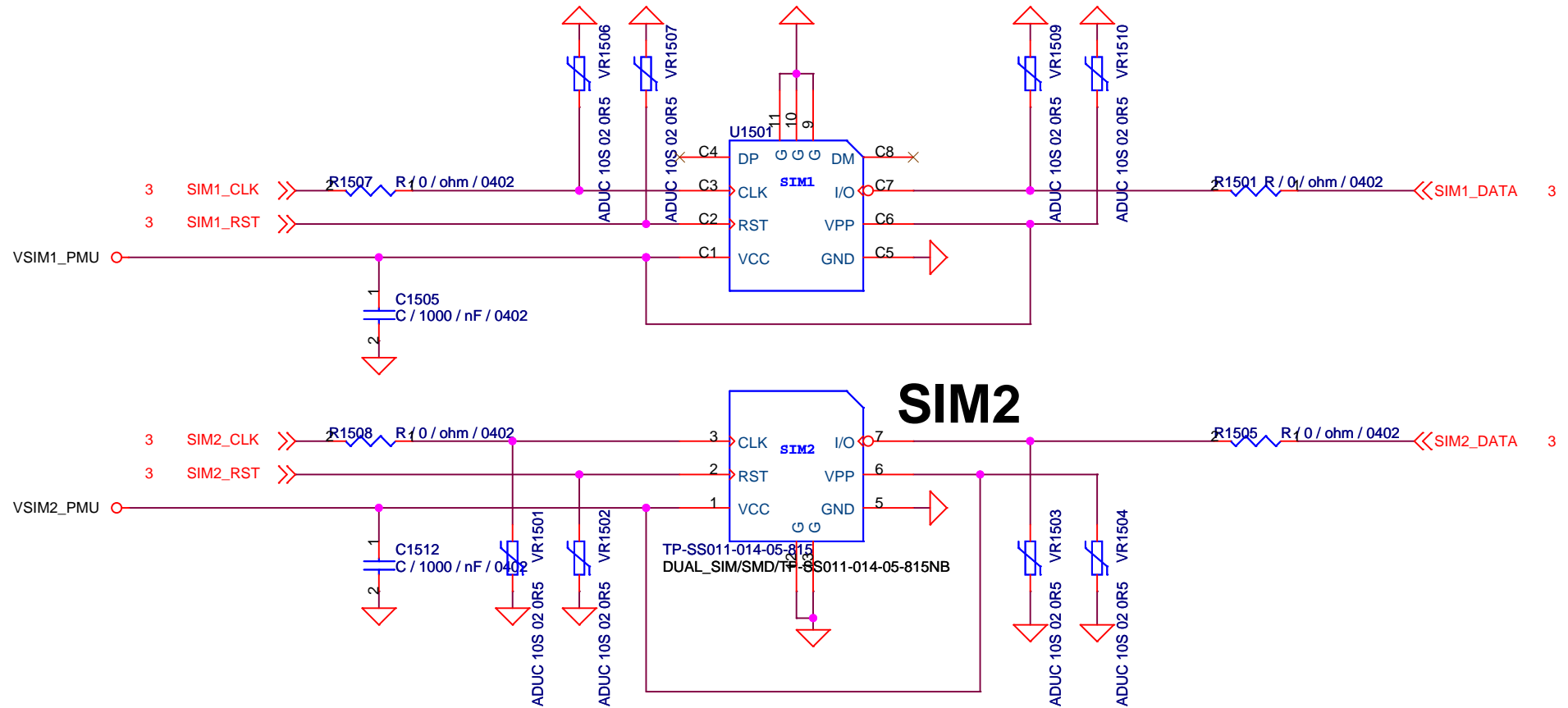


**MEDIA**TEK

Title		
14 Memory CARD		
Size A	Document Number MT6589 PHONE	Rev V1.0
Date:	Wednesday, January 02, 2013	Sheet 14 of 20

# SIM1 & SmartCard

8-pin connector

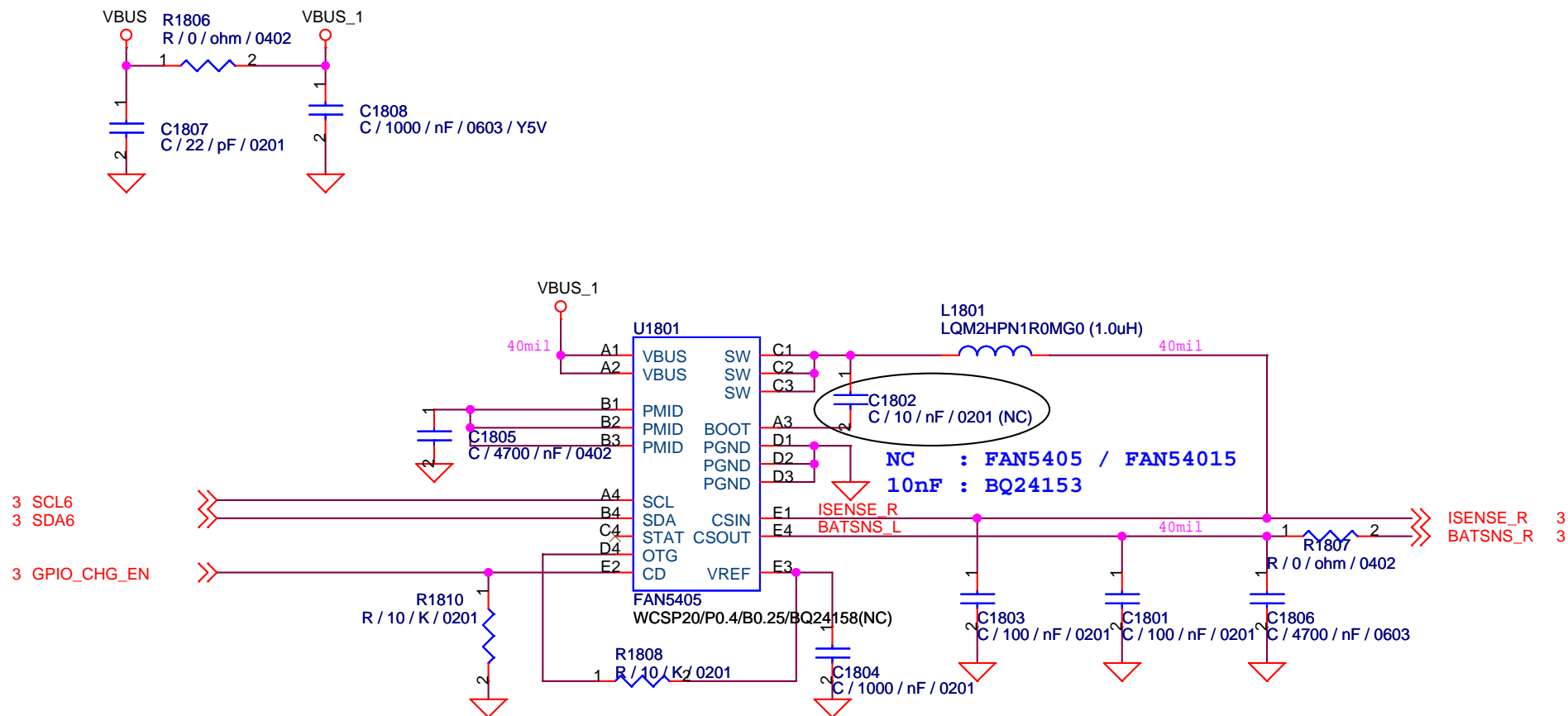


Title			
<b>15 Dual SIM</b>			
Size	Document Number		Rev
Custom	<b>MT6589 PHONE</b>		V1.0
Date:	Wednesday, January 02, 2013	Sheet	15 of 20





# Switching Charger




If switching charger is used:

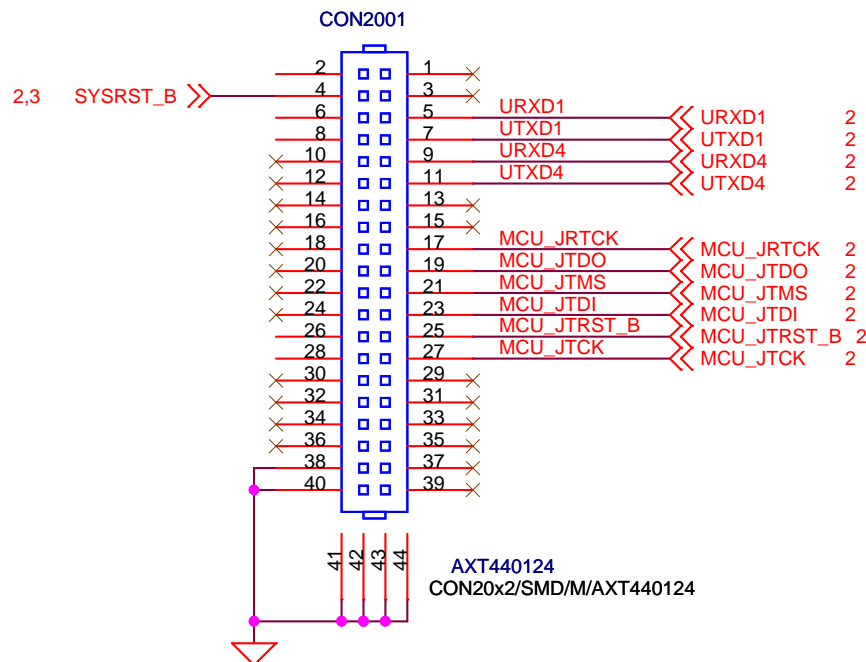
- (1) R1801~R1805, C1801~C1806, L1801, U1801 are needed
- (2) U303, U304 change to NC
- (3) R328 change to 56m Ohm

**MEDIA**TEK

Title		
18 Switching Charger		
Size A	Document Number MT6589 PHONE	Rev V1.0
Date:	Wednesday, January 02, 2013	Sheet 18 of 20

	5	4	3	2	1	
D						D
C						C
B						B
A						A
	5	4	3	2	1	

		
<div>Title</div> <div>19 Reserved</div>		
<div>Size</div> <div>A</div>	<div>Document Number</div> <div>MT6589 PHONE</div>	<div>Rev</div> <div>V1.0</div>
Date:	Wednesday, January 02, 2013	Sheet 19 of 20



**MEDIA**TEK

Title

**20 Debug**

Size  
A

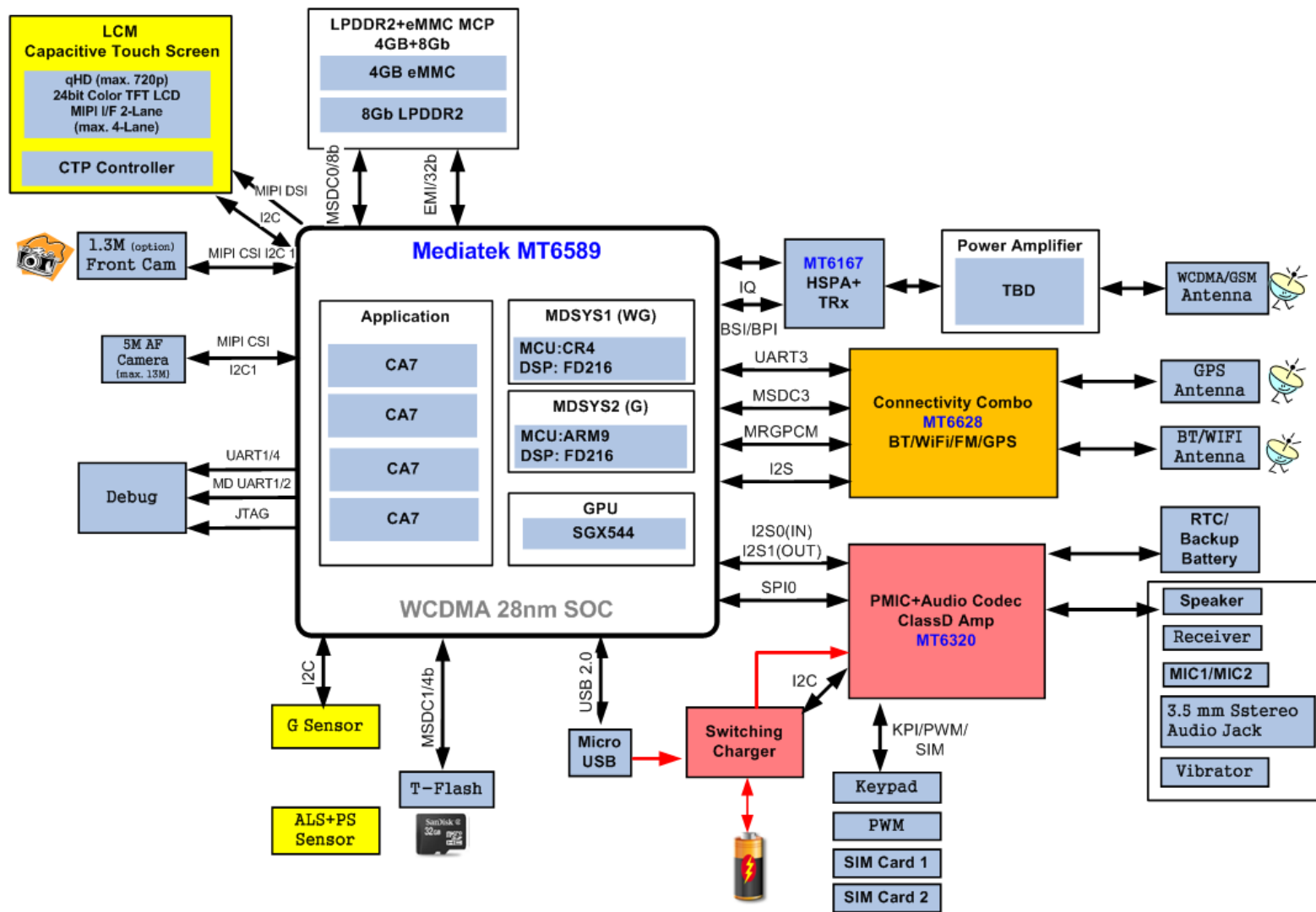
Document Number

**MT6589 PHONE**

Rev  
V1.0

Date: Wednesday, January 02, 2013

Sheet 20 of 20



**MEDIATEK**

Title  
**98 Block Diagram**

Size B Document Number  
**MT6589 PHONE**

Rev  
V1.0

Date: Wednesday, January 02, 2013 Sheet 98 of 20

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 EMII105 and CON1101
2012.11.12 (V0.16)	Page14	Remove Add T-card ESD notification
	Page2	Remove UCTS1/URTS1 debug trace
	Page3	Remove D301 and C339 reserved for VPA performance originally
		Remove R330, R331 reserved for VM power boost-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 EMII105 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)"
2012.11.19 (V0.18)	Page3	Change R328 value from "R / 56 / ohm / 0805/ 1%" to "R / 56 / m / ohm / 0805/ 1%"
		Remove Pulse charger related information
2012.11.23 (V0.19)	Page3	Add Pulse charger
	Page18	Change U1801 value from "FN5405" to "FAN5405"
2012.11.28 (V0.20)	Page2	Connect Baseband CLK26M2 (pin AJ14) to CLK26M1 (pin AJ19)
	Page3	Change VPA current sepc. description from 800mA -> 600mA
2012.12.04 (V0.21)	Page1	Modify MT6589 VPROC_FB (pin AB11) & GND_VPROC_FB (pin AD11) to be floating
	Page3	Remove R349, R350 and let CPU remote sense from bypass cap
	Page18	Change C1808 from 10uF -> 1uF for USB inrush current spec.
2012.12.17 (V0.22)	Page3	Change description C134 form 10uF to 22uF
		Update Power spec. table
	Page4	Change description "C431/C405/C406" close to MIC
		Change description "C408/C427/C429" close to MIC
2013.01.02 (V1.00)	Page1	Remove R110-R111/R113-R118
	Page3	Change J301 ISINK power to VBAT
		Add C344/C345/C346/C347 for RF de-sense issue
		Remove R313
		Remove R342-R347 and share all PMIC LDO input with R341
		Remove R358/R340 and share VRF18_1/VRF18_2/VIO18 bulk input with R339
	Page4	Update J401 external audio amp design
	Page7	Change R703 to 10K
		Change R717 to 24K
		Change C701 to 220pF
	Page11	Remove D1101

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