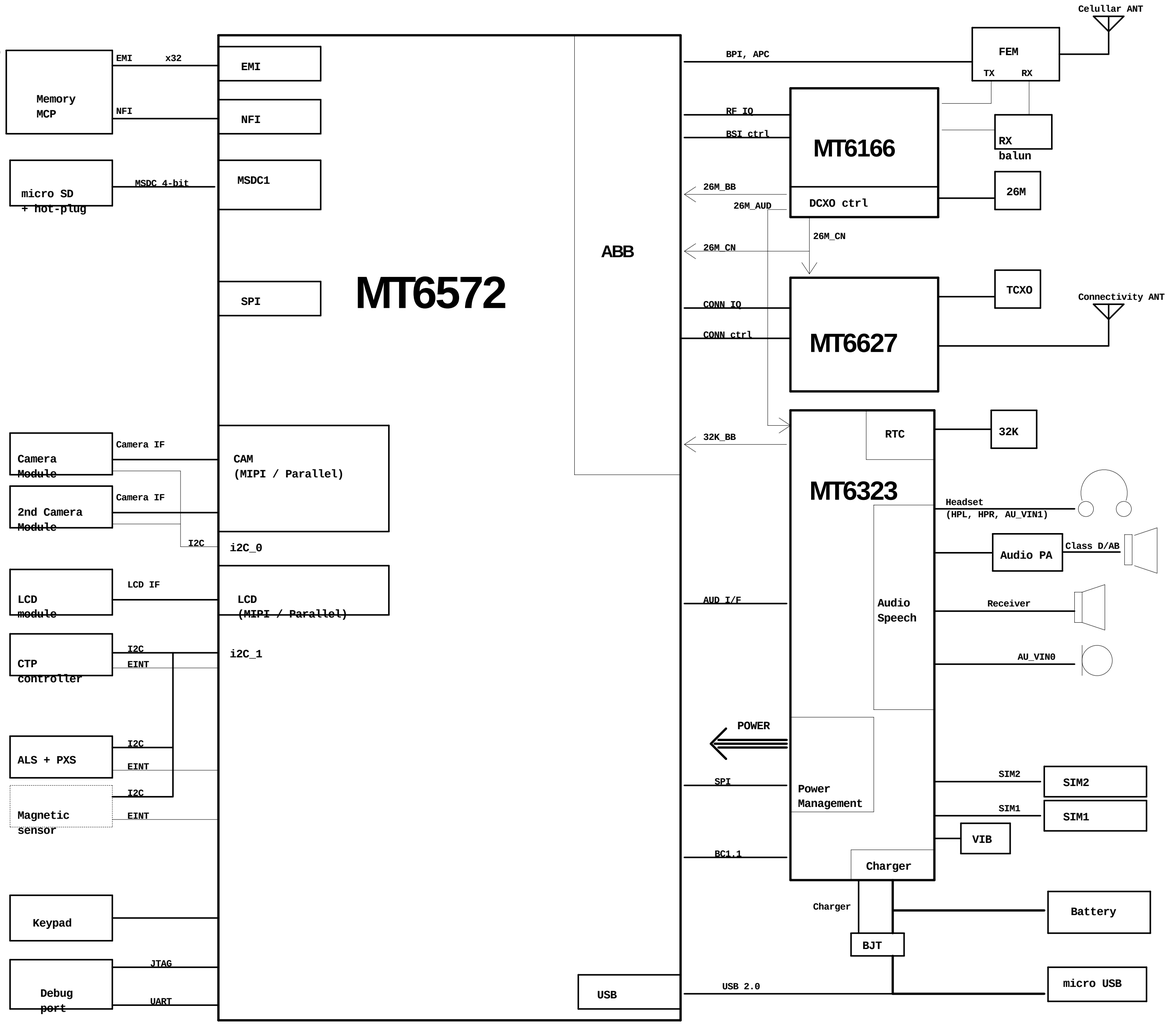
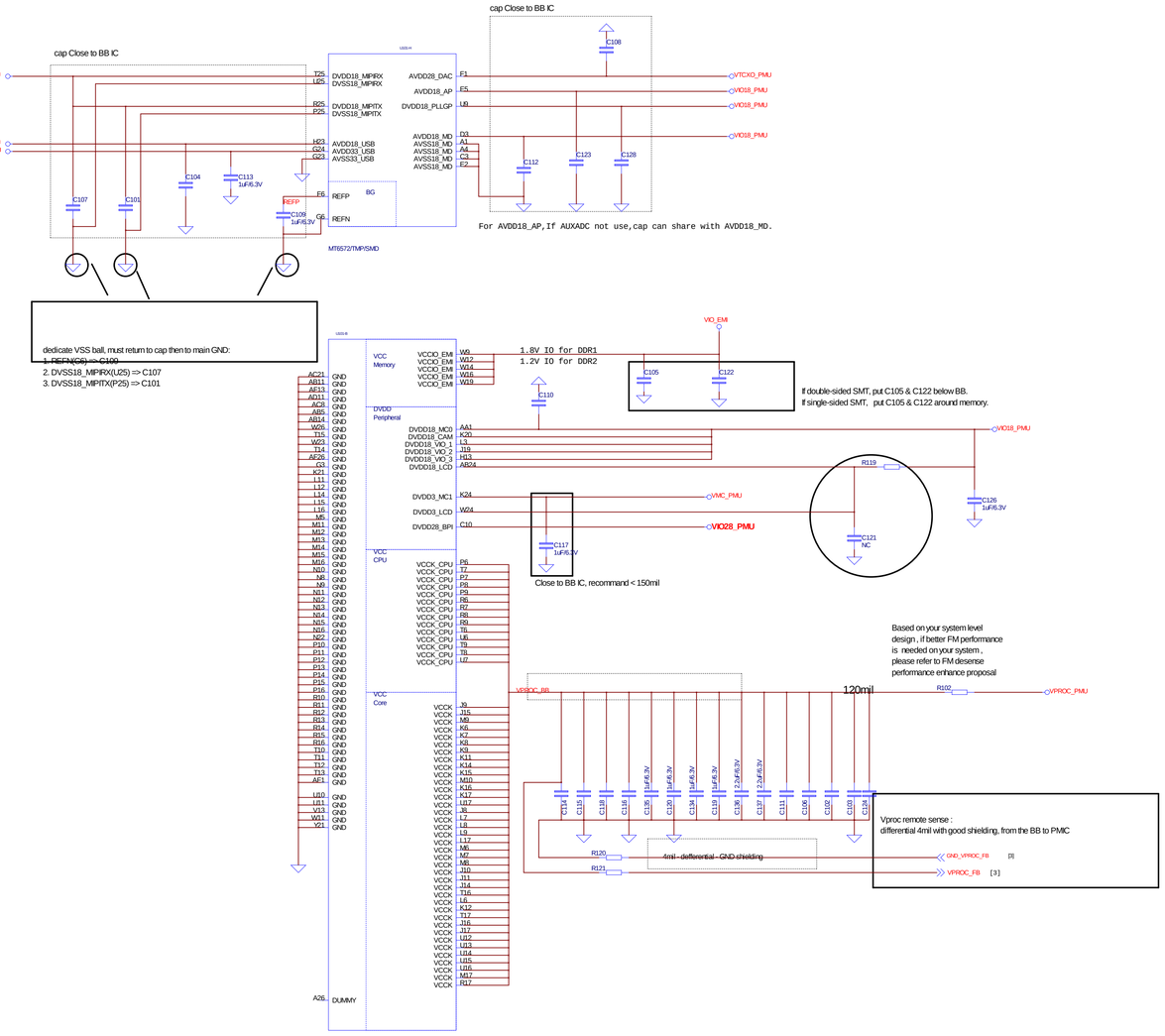
Project : MT6572
REF_SCH TOP LEVEL



	ÉíÛÚÉÐ½âÁ¢Ï¯ÐÁÉê± ÖØÍÞ¹«É¾	
Title	WBW5210	
Size: D	Document Number: 01 Block Diagram	Rev: ?
Date: Friday, February 14, 2014	Sheet 1 of 17	



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Title	WBW5210	
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BPI0~4 and 10~11 are 2G+3G mode both
BPI5~9 and 12~14 are 3G mode only

U003-A

[6] RX_I_P	D2	DL_I_P	BPI_BUS0	B12	ASM_VCTRL_A [6]
[6] RX_I_N	C2	DL_I_N	BPI_BUS1	B11	ASM_VCTRL_B [6]
[6] RX_Q_P	B1	DL_Q_P	BPI_BUS2	C12	ASM_VCTRL_C [6]
[6] RX_Q_N	C1	DL_Q_N	BPI_BUS3	A11	WG_GGE_PA_ENABLE [6]
			BPI_BUS4	D11	
[6] TX_I_P	A2	UL_I_P	BPI_BUS5	C11	
[6] TX_I_N	B2	UL_I_N	BPI_BUS6	A13	GPIO137_GPS_LNA_EN [10]
[6] TX_Q_P	B4	UL_Q_P			
[6] TX_Q_N	B3	UL_Q_N	BPI_BUS7	A10	W_PA_B1_EN
			BPI_BUS8	B10	
			BPI_BUS9	D10	
			BPI_BUS10	E3	W_PA_B8_EN
			BPI_BUS11	E8	
			BPI_BUS12	B9	EINT7_MAG [80]
VM0	A8	VM0	BPI_BUS13	B8	EINT4_GY [80]
VM1	A7	VM1	BPI_BUS14	E7	EINT5_ALP [21]
			BPI_BUS15	D7	
[6] TXBPI	D5	TXBPI	BSI_DATA2	D6	BSIA_DAT2 [6]
[6] WG_GGE_PA_VRAMP	E2	APC	BSI_DATA1	C2	BSIA_DAT1 [6]
			BSI_DATA0	F9	BSIA_DAT0 [6]
	F3	VBIAS	BSI_EN	F11	BSIA_EN [6]
			BSI_CLK	G11	BSIA_CK [6]

MT6572/TMP/SMD

U003-D

[3] AUD_MISO	J1	AUD_DAT_MISO			
[3] AUD_CLK	K5	AUD_CLK_MOSI			
[3] AUD_MOSI	K1	AUD_DAT_MOSI			
[3] PMIC_SPI_MOSI	L2	PMIC_SPI_MOSI			
[3] PMIC_SPI_MISO	L5	PMIC_SPI_MISO			
[3] PMIC_SPI_SCK	L4	PMIC_SPI_SCK			
	K2	PMIC_SPI_CSN			
[3,4]PMIC_SPI_CS					
[3] WATCHDOG	G2	WATCHDOG			
[3,6]SRCLKENA	H4	SRCLKENA			
[3] EINT_PMIC	J2	EINTX			
[3] SIM1_SCLK	H5	SIM1_SCLK			
[3] SIM1_SIO	M3	SIM1_SIO			
[3] SIM2_SCLK	J5	SIM2_SCLK			
[3] SIM2_SIO	M1	SIM2_SIO			

R210=20K,DDR1,VM=1.8V;
R210=NC,DDR2,VM=1.2V
R210 NC

MT6572/TMP/SMD

reserve for JTAG debug

[3] SIM1_SCLK — VIO18_PMU — R208 20K — NC

Normal : NC
JTAG : 20K

Reserve R footprint for JTAG debugging

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

U003-G

[13] GPIO_CMPDN2	L25	CMPDN2			
[13] GPIO_CMRST2	K25	CMRST2			
[13] CMPDN	H22	CMPDN			
[13] CMRST	Y22	CMRST			
2 MPI_RDN0	R24	RDN0	MPI_CAM		
2 MPI_RDP0	R23	RDP0			
2 MPI_RDN1	R22	RDN1			
2 MPI_RDP1	R21	RDP1			
2 MPI_RCN	R26	RCN			
2 MPI_RCP	T26	RCP			
2 MPI_TDN0	P19	TDN0	MPI_LCD		
2 MPI_TDP0	P20	TDP0			
2 MPI_TDN1	N25	TDN1			
2 MPI_TDP1	N26	TDP1			
	P23	TDN2			
	P24	TDP2			
2 MPI_TCN	N20	TCN			
2 MPI_TCP	M19	TCP			
R202 MPI_VRT	P26	VRT			
CMMCLK	Y22		CMMCLK [13]		
CMPCLK	Y23		CMPCLK [13]		
RCN_A	V25		CMVSYNC [13]		
RCP_A	W25		CMHREF [13]		
RDN2_A	V24		CMDAT7 [13]		
RDP1_A	V23		CMDAT6 [13]		
RDN0_A	U22		CMDAT5 [13]		
RDP0_A	U21		CMDAT4 [13]		
CMDAT3	V26		CMDAT3		
CMDAT2	Y25		CMDAT2		
CMDAT1	AA25		CMDAT1		
CMDAT0	AB25		CMDAT0		

R209 NC

R202 close to BB

MT6572/TMP/SMD

GPIO99_FLASH_EN — R212
GPIO98_FLASH_SEL — R213

U003-E

[6] CLK1_BB	E1	CLK26M	SYSTEM	PWM	PWM_A D12 GPIO128_PWM_BL_CTRL
[3] CLK32K_BB	H2	CLK32K_IN			PWM_B E12
[3] RESETB	M2	SYSRSTB		LCD Parallel	
	G4	TESTMODE			LPD17 N1 EINT6_HP [5]
	AC24	FSOURCE			LPD16 N2
					LPD15 N3
[3] CHD_DP	J26	CHD_DP	BC 1.1		LPD14 P2
[3] CHD_DM	J25	CHD_DM			LPD13 N4
					LPD12 R2 TP203
[14] USB_DM	G26	USB_DM	USB 2.0		LPD11 N5
[14] USB_DP	G25	USB_DP			LPD10 R1 MC1INS [2]
R203 USB_VRT	H25	USB_VRT			LPD9 P5
					LPD8 T1
[13] SCL_0	C25	SCL_0	I2C		LPD7 R5
[13] SDA_0	C26	SDA_0			LPD6 T2
[12,21] SCL_1	B24	SCL_1			LPD5 T5
[12,21] SDA_1	B23	SDA_1			LPD4 U2
					LPD3 T3
GPIO100_CTP_RSTB	E24				LPD2 U5
GPIO99_FLASH_EN	E25	SPI_MISO	SPI		LPD1 T4
GPIO98_FLASH_SEL	F23	SPI_MOSI			LPD0 V2
[12] EINT3_CTP	E23	SPI_SCK			
		SPI_CS			LPCE0B AD25
					LPTE AB26 LPTE [12]
[18] MC1CMD	K23	MC1_CMD	T-flash	KP	LRSTB AC26 GPIO_LRSTB [12]
[18] MC1CK	L21	MC1_CK			LPRDB AA22
[18] MC1DAT0	K22	MC1_DAT0			LPA0 AB23
[18] MC1DAT1	M22	MC1_DAT1			LPWRB AC25
[18] MC1DAT2	M25	MC1_DAT2			
[18] MC1DAT3	L26	MC1_DAT3			KROW0 B25 KROW0 [20]
					KROW1 A24 KROW1 [20]
					KROW2 B26
					KCOL0 C24 KCOL0 [20]
					KCOL1 D24 KCOL1 [20]
					KCOL2 A25
					GPIO109_SPK_EN
	B7	AUX_IN0	ADC	UART	UTXD1 E25 UTXD1 TP201
	B6	AUX_IN1			URXD1 D25 URXD1 TP202
	C5	AUX_IN2_XP			UTXD2 E26 UTXD2 TP208
	B5	AUX_IN3_XP			URXD2 F26 URXD2 TP209
	C4	AUX_IN4_XM			
	A5	AUX_IN5_YM			

VIO18_PMU — R216 NC — R219 NC — R220 NC
R221 NC — R222 NC — R223 NC

LCD_ID — C201

MT6572 support JTAG from below :
1. KP (recommand)
2. MC1
3. CAM
for JTAG pin out from MC1/CAM, refer to HW design notice

R211 — VIO18_PMU
R217 NC — EINT5_ALP [21]
R218 NC — EINT7_MAG [80]
R214 NC — EINT4_GY [80]
EINT6_HP [5]

VCAMD_IO_PMU — R204 — R205
[13] SCL_0
[13] SDA_0
Power by CAM_IO

VIO18_PMU — R206 — R207
[12,21] SCL_1
[12,21] SDA_1
Power by CTP, MEMS sensor

MAINBOARD MARK

TP212 TP214 TP213 TP211

Title	ÉíÛÜÈÐ¼ðÁ¢Ì´ðÁÊè±¸ ÓõÐÞ¹«Ë¾		
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	02 BB Peripheral		
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Charger

1. Close to Battery Connector.
(Rsense (R328) <10mm)
2. Main path should be 40mil.
(VBUS -> U303's E, -> U303's C -> R328 -> VBAT)
3. Star connection from R328 to BAT Connector

VBUS
R329
VCDT
VCDT rating: 1.268V
R324
C329
40mils
R331
CHR_LDO
U303
U305
SSM6K35MFV
VDRV
ISENSE
40mils
40mils
4mil
R328
Rsense
Differential with VBAT to MT6323 pin P13 P12
40mils
4mil
AUXADC_REF [6]
BATTERY CONNECTOR
TP301
R334
R334,R335 must to be close to PMIC AUXADC_REF pin
40mils
R317
VBAT
BAT_ON
J303
VR302
VR303
C317
C302
C305
C315
R335
if battery NTC is 10kohm, R334=16.9K, R335=27K;
if battery NTC is 47kohm, R334=61.9K, R335=100K.

VBAT
80mil
C310
Add Zenar Diode
Place on the path
from VBAT to
(Battery connector
or test point or IO
connector)
500mW
VF : 4.85V~5.36V
D301
Between IC and IO port

U001
MT6323VFBGA145/P0.4/80.25/5.8X5.8

VBAT
C313 2.2uF/6.3V
MICBIAS0
MICBIAS1
C312
[5] AU_VIN0_P
[5] AU_VIN0_N
[5] AU_VIN1_P
[5] AU_VIN1_N
VA_PMU
C314 1uF/6.3V
[5] ACCDET
[6] CLK4_AUDIO
VBAT_SPK
GND_SPK
AU_MICBIAS0
AU_MICBIAS1
AU_VIN0_P
AU_VIN0_N
AUDIO
AU_VIN1_P
AU_VIN1_N
AU_VIN2_P
AU_VIN2_N
AVDD28_ABB
AVDD28_AUXADC
GND_ABB
ACCDET
CLK26M
SPK_P
SPK_N
AU_HSP [5]
AU_HSN [5]
AU_HPL [5]
AU_HPR [5]
DRIVER
ISINK0
ISINK1
ISINK2
ISINK3
KEYLED1
D305
BUCK OUTPUT
VPROC
VPROC_SW
L301
VPROC_PMU
VPROC_FB [1]
GND_VPROC_FB [1]
VPA
VPA_SW
L304
PMU_PA
C328 2.2uF/6.3V
VPA_FB
VSYS
VSYS_SW
L303
VSYS_PMU
D306
VBAT
D307
VPA_SW
D308
C326 NC
VEMC_3V3_PMU
C321 NC
ISENSE/BSTSNS 4mil differential to Rsense
C330 1uF/6.3V
ISENSE
BAT_ON
VCDT
VDRV
CHARGER
BATSNS
ISENSE
BATON
VCDT
VDRV
CHR_LDO
CHRLDO
C316 1uF/6.3V
C316 Close to PMIC
[28] PWRKEY
[2] WATCHDOG
[2] RESETB
R316
CONTROL SIGNAL
PWRKEY
SYSRSTB
RESETB
FSOURCE
INT
EXT_PMIC_EN
PMU_TESTMODE
C331 NC
[2] EINT_PMIC
[2] AUD_MOSI
[2] AUD_CLK
[2] AUD_MISO
AUD_MOSI
AUD_CLK
AUD_MISO
[2,6] SRCLKENA
SRCLKEN
FCHR_ENB
[2] PMIC_SPI_SCK
[2,4] PMIC_SPI_CS
[2] PMIC_SPI_MOSI
[2] PMIC_SPI_MISO
SPI_CLK
SPI_CSN
SPI_MOSI
SPI_MISO
ALDO OUTPUT
VA
VA_PMU
VCN28
VCN_2V8_PMU
VTCXO
VTCXO_PMU
VCAMA
VCAMA_PMU
VCN33
VCN_3V3_PMU
AVDD33_RTC
VRTC
C355 1uF/6.3V
DLDO OUTPUT
VM
VM_PMU
VRF18
VRF18_PMU
VIO18
VIO18_PMU
VCN18
VCN_1V8_PMU
VCAMD
VCAMD_PMU
VCAM_IO
VCAMD_IO_PMU
VBAT_INPUT
VBAT_VPROC
VBAT_VPA
VBAT_VSYS
VBAT_LDO3
VBAT_LDO2
VBAT_LDO1
VEMC_3V3
VMC
VMCH
VUSB
VSIM1
VSIM2
VGP1
VGP2
VGP3
VCAM_AF
VEMC_3V3_PMU
VMC_PMU
VMCH_PMU
VUSB_PMU
VSIM1_PMU
VSIM2_PMU
VIBR_PMU
VAF_PMU
R336
30mil
4mil (VPA no use)
15mil
20mil
20mil
20mil
VSYS_PMU
20mil
VIO18_PMU
DVDD18_DIG_PMIC
DVDD18_DIG
DVDD18_IO
AUXADC
AUXADC_VREF18
AUXADC_ALXIN_GPS
AVSS28_AUXADC
[6] AUXADC_REF
AUXADC_REF
AUXADC_TSX
GND_AUXADC
C332 1uF/6.3V
C327
C322
C322 must to be close to PMIC AUXADC_TSX pin
R001
[2] SIM1_SCLK
[2] SIM1_SIO
[2] SIM2_SCLK
[2] SIM2_SIO
SIM LVS
SIM1_AP_SCLK
SIM1_AP_SIO
SIM1_AP_SRST
SIM2_AP_SCLK
SIM2_AP_SIO
SIM2_AP_SRST
SIM1_SCLK
SIM1_SIO
SIM1_SRST
SIM2_SCLK
SIM2_SIO
SIM2_SRST
[19] SCLK
[19] SIO
[19] SRST
[19] SCLK2
[19] SIO2
[19] SRST2
BC 1.1
[2] CHD_DM
[2] CHD_DP
CHG_DM
CHG_DP
RTC
RTC_32K1V8
RTC_32K2V8
32K_IN
32K_OUT
XIN
XOUT
CLK32K_BB [2]
VREF
C320
GND_VREF
GND_ISINK
GND_VSYS
GND_VPA
GND_VPROC
GND_VPROC
GND_LDO
GND_LDO
GND_LDO
GND_LDO
GND_LDO
GND_LDO
GND_LDO
GND_LDO
C301 C302 C304 C318 C306 C307 C308 C309
NC
1uF/6.3V
1uF/6.3V
1uF/6.3V
1uF/6.3V
Connect TSX/XTAL GND to AUXADC_GND first than connect to main GND
dedicate VSS ball, must return to cap then to main GND:
1. GND_VREF(N14) => C320

RTC
X301
C324
C319
Close to chip
R333 NC
DCXO_32K [8]
RTC 32K : X301+C324+C319=> mount, R333=> NC
32K-less: X301+C324=> remove, C319+R333=> 0R
VRTC
R312
C323
C325
B301

Vibra
VIBR_PMU
R337
J301
C311 1uF/6.3V
J302

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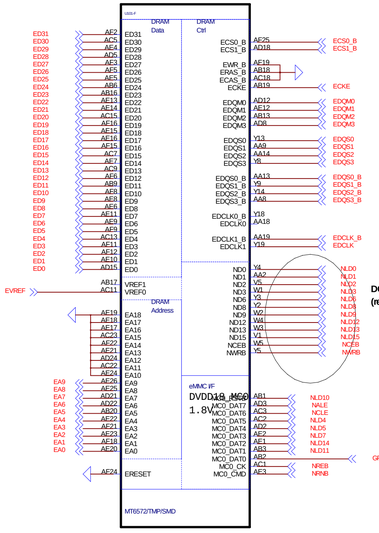
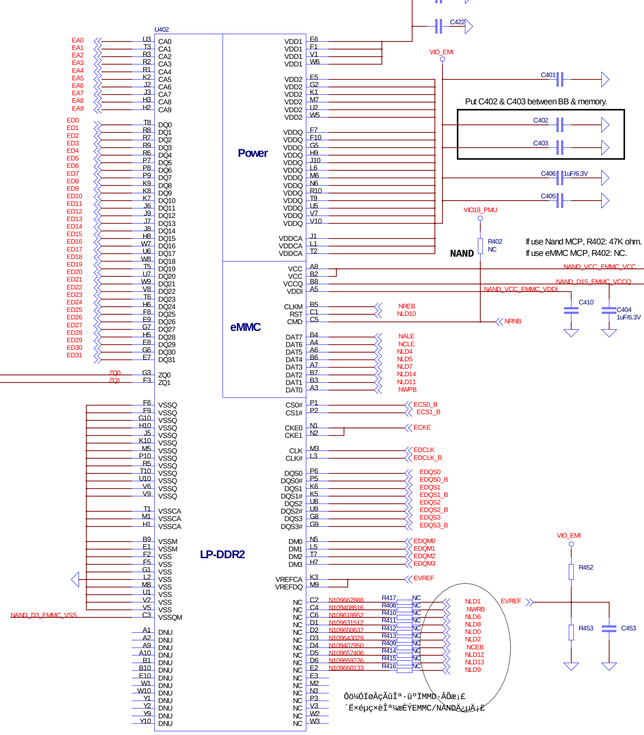
Memory MCP



DO NOT use these GPIO as enable signal @ eMMC boot
(refer to design notice - GPIO selection)

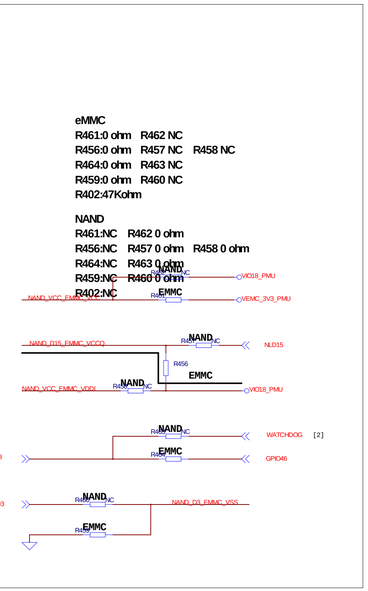
Please make sure the ball map is match to the MCP type you selected



ÐòÝúÍøÀçÃûÎª·Û°ÏMMD,ÃÛ¤¡£
´E×é¡ç×èÎª¼æÈÝEMMC/NANDÃçúÃ¡£

eMMC
R461:0 ohm R462 NC
R456:0 ohm R457 NC R458 NC
R464:0 ohm R463 NC
R459:0 ohm R460 NC
R402:47Kohm

NAND
R461:NC R462 0 ohm
R456:NC R457 0 ohm R458 0 ohm
R464:NC R463 0 ohm
R459:NC R460 0 ohm
R402:NC



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	WBW5210	
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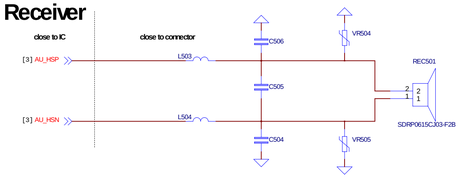
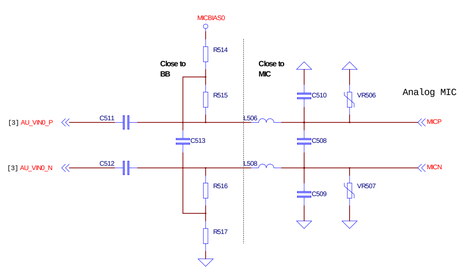
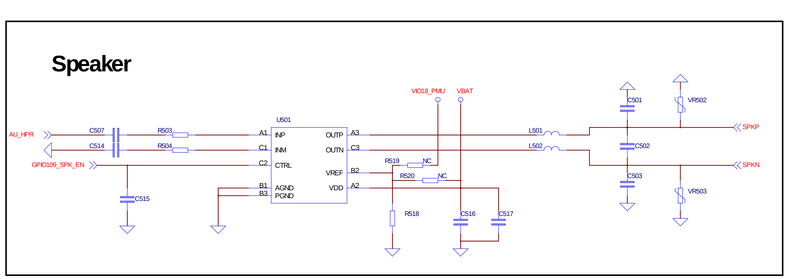
Receiver



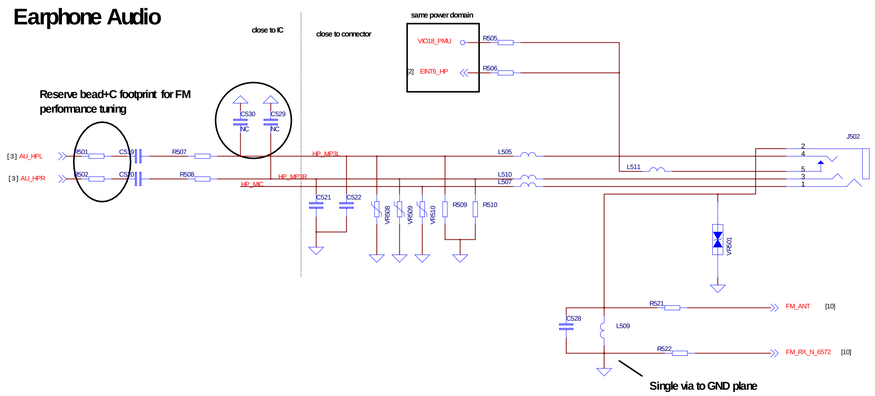
Handset Microphone 1



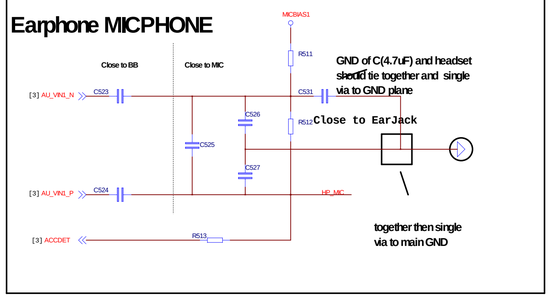
Speaker



Earphone Audio



Earphone MICPHONE



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Title	WBW5210	
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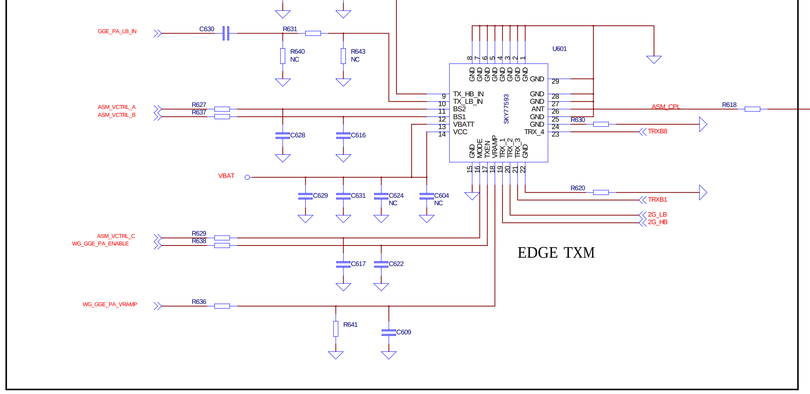
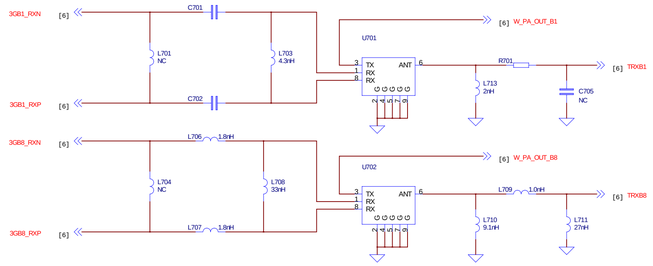
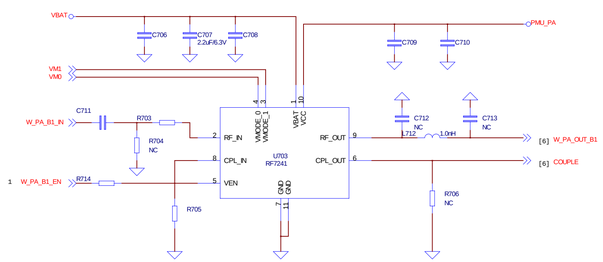

GGE_PA_LB_IN
C630
R631
R640
NC
R643
NC
U601
ASM_VCTRL_A
ASM_VCTRL_B
R627
R637
C628
C616
TX_HB_IN
TX_LB_IN
BS2
BS1
VBATT
VCC
SKY77593
GND
GND
GND

×÷TDÏîÄ¿ÓëEDGEÏîÄ¿£¬´ËÒ³NC¡£

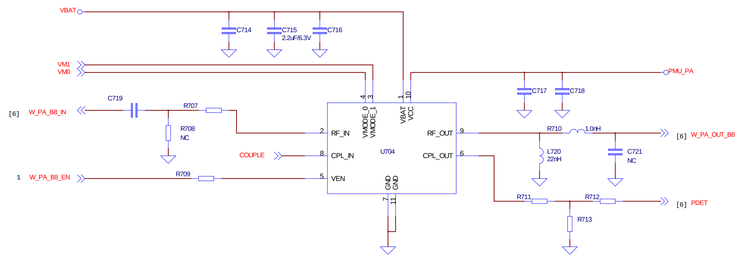
WCDMA B1/B8 RX



WCDMA B1 TX



WCDMA B8 TX



Title	ÉíÜÚÊÐ½ÂÁc¨ÐÅÉè± ÓëÌÐ³¤Ê¾	
	WBW5210	
Size: D	Document Number: 07 WCDMA_B1/B8_TX	Rev: ?
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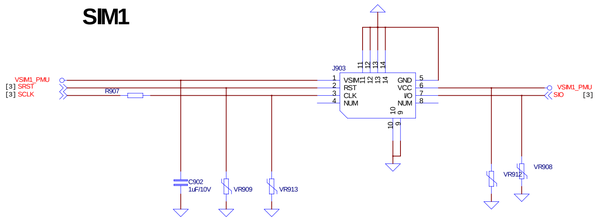
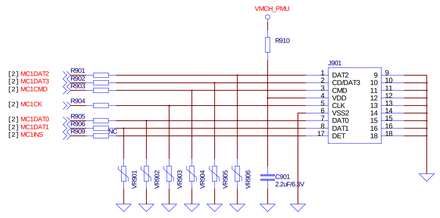
8-pin connector

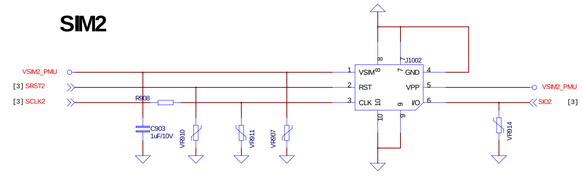
SIM1



T-FLASH CARD



SIM2



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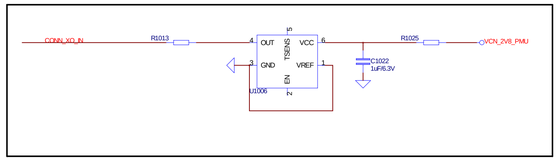
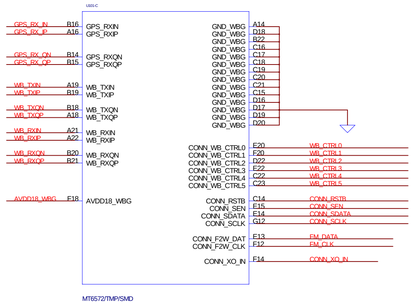
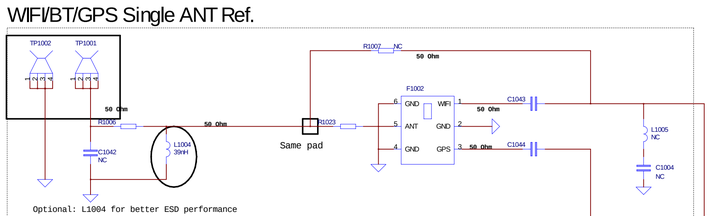
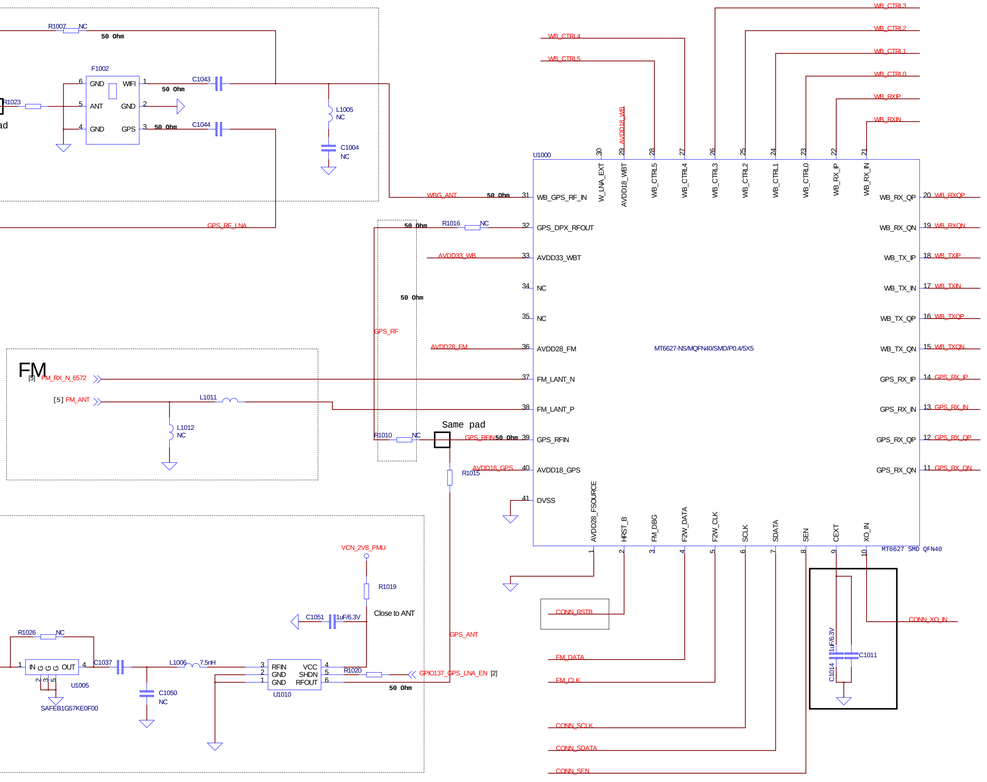
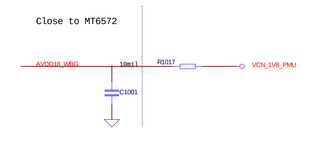


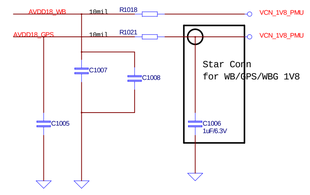


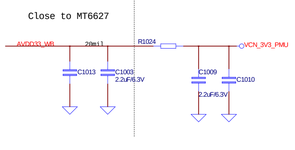
WIFI/BT/GPS Single ANT Ref.











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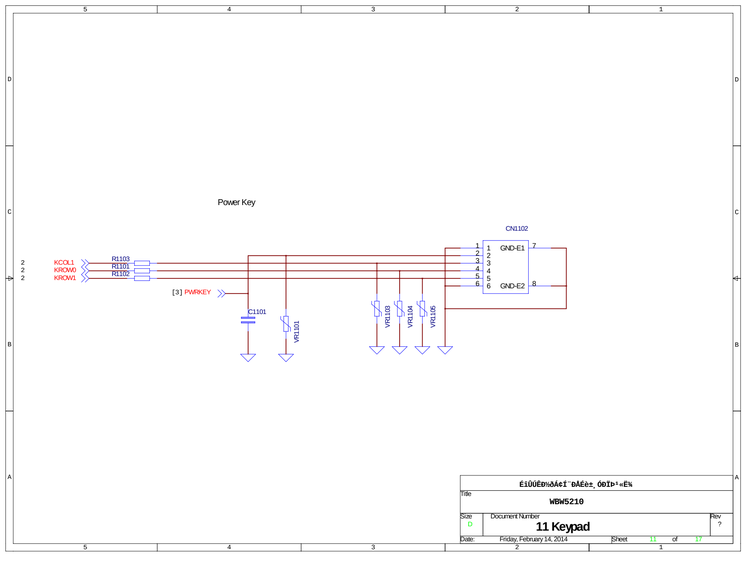

Title	ÉíÜÜÉÐ¼ÀéÍ¯ÐÀÉê±¸ ÓÐÍÞ³»É¾	
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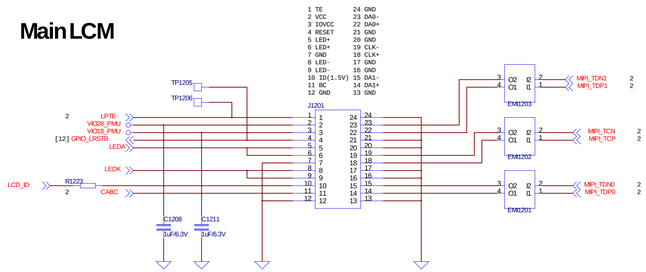
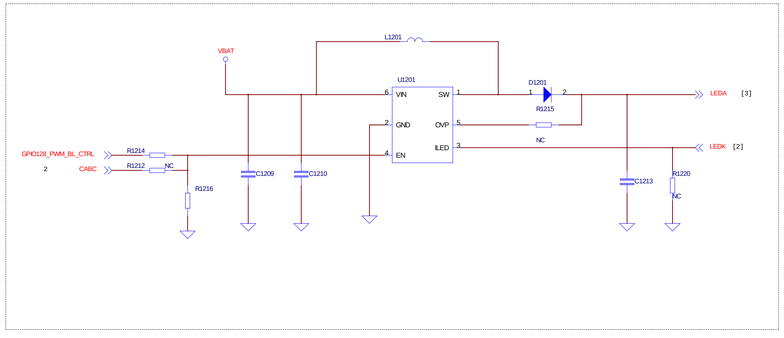
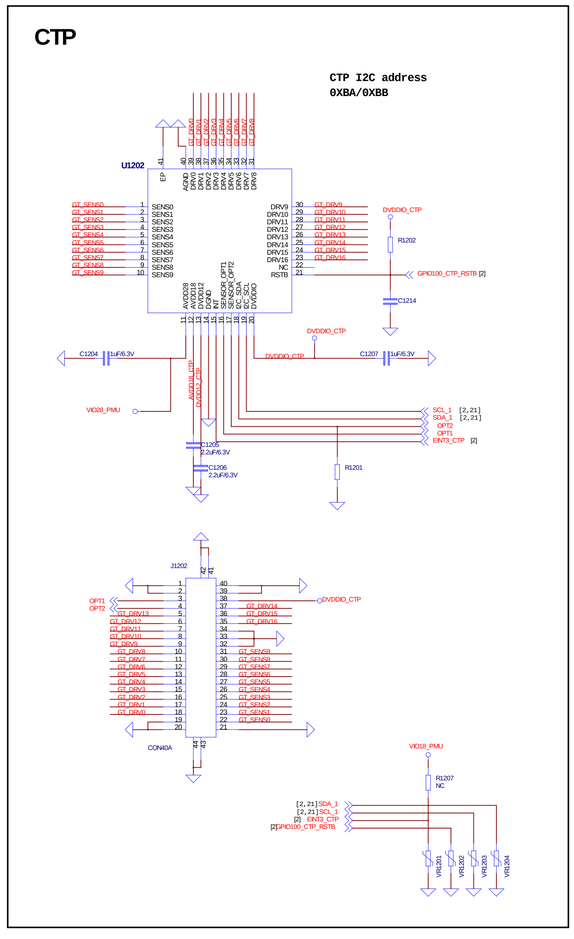
Main LCM

Main LCM





CTP



Title	ÉíÖÜÊÐ½ðÀé´ðÅÉèè¸ÓÐÐ¹«Ë¾	
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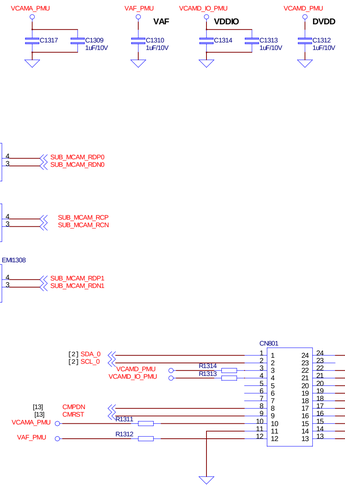
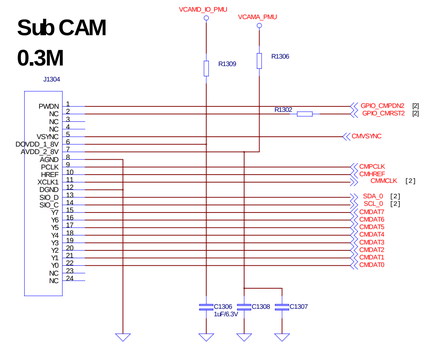
Main CAM
5M

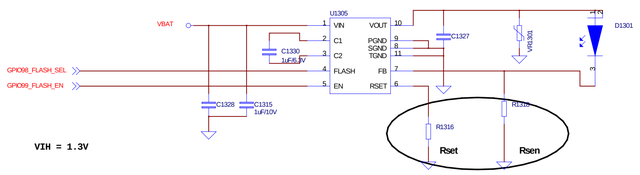


Sub CAM
0.3M



Camera Flash LED driver

Torch : <100mA
Flash : <500mA



VIH = 1.3V

SENSOR_FLASH_SEL
H: Flash mode
L: Torch mode

Vfb(Torch) = 47mV
Vfb(Flash) = 1.26/Rset x10.2K
I_out = Vfb / Rsen

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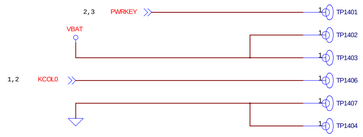
Test point



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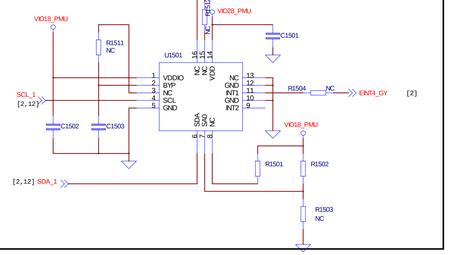
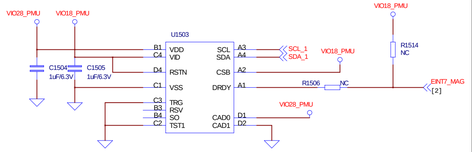
G-Sensor

G Sensor I2C address
0011001W/R W(33h) R(32h)



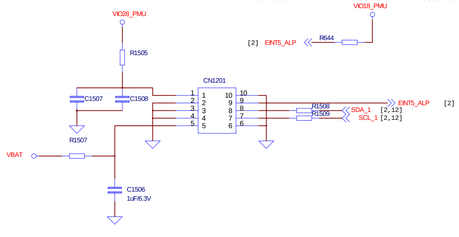
M-Sensor

M Sensor I2C address
0001101R/W R(1B) W(1A)



ALS & PS Sensor

ALS Sensor I2C address
0100011 write 0x46 read 0x47



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V0001:³ðÊ¼°æ±¾

Title		
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