BLOCK DIAGRAM

REVISION RECORD			
LTR	ECO NO.	APPROVED	DATE

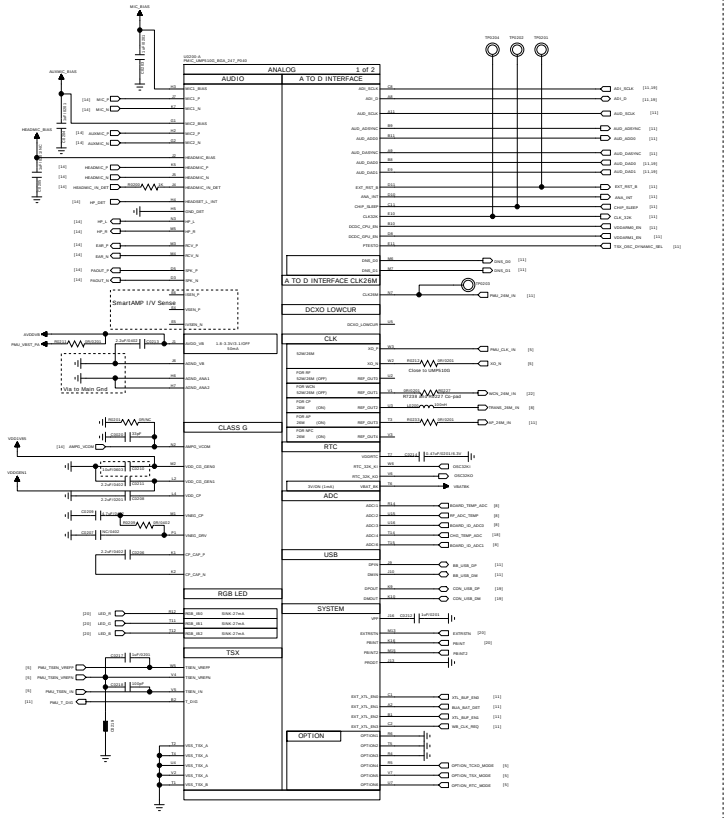
TITLE & REV.: UMS9230_A_CS_A_SCH_V0.1.0		
DOCUMENT NO.:		
DESIGNED: Hongyu.Yang	DATED: 2021-05-18	DEPARTMENT: HWE
PDR: Leiwen.Ma	DATED: 2021-05-18	COMPANY: UNISOC
APPROVED: Hongqing.Li	DATED: 2021-05-18	CONFIDENTIAL AND PROPRIETARY

RF BLOCK DIAGRAM

REVISION RECORD			
LTR	ECO NO.	APPROVED	DATE

TITLE & REV.:		
DOCUMENT NO.:		
DESIGNER:	DATED:	DEPARTMENT: HWE
EQA:	DATED:	COMPANY: UNISOC
APPROVED:	DATED:	CONFIDENTIAL AND PROPRIETARY

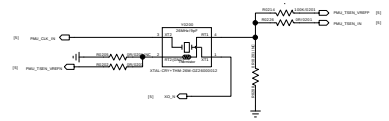
PMU_ANALOG



	R0211
内D	NC
外K	0R

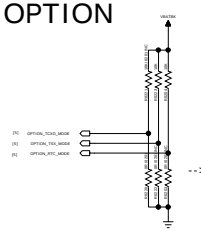
BKBT

TSX（PMU）Only



Default -->	Clock solution	Y0200	X0200	R0227	R0213	R0215	R0205	R0202	R0214	R0226	R0208
	TSX(PMU)Only	TSX	NF	0R	NF	0R	NF	0R	100K	0R	NF
	TCXO(WCN)+DCXO(PMU)	DCXO	NF	NF	NF	0R	0R	NF	NF	NF	0R

OPTION



Scenario	Option3(26M/52M)	Option4(TCXO_MODE)	Option5(TSX_MODE)	Option6(RTC_MODE)
26M TCXO+32K Crystal	0	1	0	0
26M TSX+32K Crystal	0	0	1	0
26M TSX+32K-less from PMIC internal	0	0	1	1
26M DCXO+32K-less from PMIC internal	0	1	1	1
26M DCXO+32K Crystal	0	1	1	0

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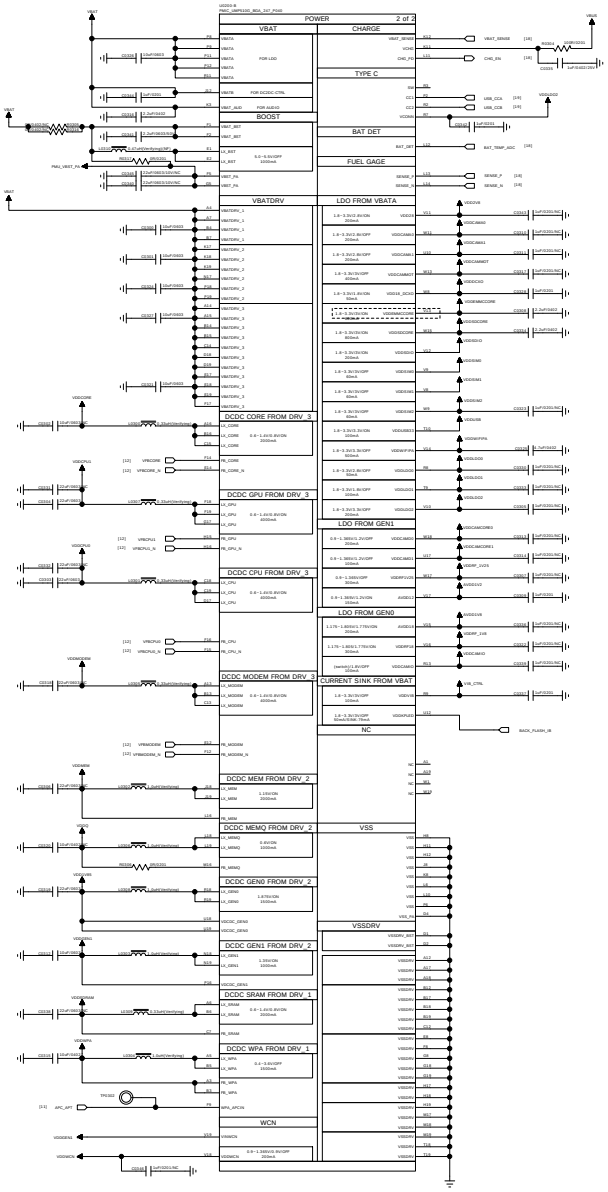
PMU_POWER



	R0317	C0341	R0305	R0316	L0310	C0340	C0345
内阻0.8Ω	0R	10uF	0R	0R	NC	22uF	22uF
外置	0R	2.2uF	NC	NC	NC	NC	NC
内阻1.5Ω	NC	10uF	0R	0R	0.47uH	22uF	22uF

PMIC PN	PMIC VDDEMMCCORE
UMP510G	3.0V/600mA

Memory	UFS VCC	UFS VCCQ	UFS VCCQ2
UFS2.X Device	PMIC VDDEMMCCORE 3.0V(Back up external LDO or DCDC)	Not Used	PMIC VDD1V85

Notes:If UFS ICC is greater than 600mA,please use external LDO or DCDC.

UMP510G DCDC output

Input Power	Power Name	Output Voltage (V)	Output Current (mA)	Default Voltage (V)	Default
VBAT	DCDC CORE	0.3-1.3	2000	0.8	ON
	DCDC GPU	0.3-1.3	4000	0.8	ON
	DCDC CPU	0.3-1.3	4000	0.8	ON
	DCDC MODEM	0.3-1.3	4000	0.8	ON
	DCDC MEM	0.25-1.25	2000	1.15	ON
	DCDC MEMQ	0.25-1.25	1000	0.6	ON
	DCDC GEN0	1.8-2.5	1500	1.85	ON
	DCDC GEN1	0.6-1.5	1000	1.3	ON
	DCDC SRAM	0.3-1.3	2000	0.8	ON
	DCDC WPA	0.6-3.3	1500	/	OFF

UMP510G LDO output

Input Power	Power Name	Output Voltage (V)	Output Current (mA)	Default Voltage (V)	Default
VBAT	VDD28	1.8-3.3	200	2.8	ON
	VDDCAMA0	1.8-3.3	200	2.8	OFF
	VDDCAMA1	1.8-3.3	200	2.8	OFF
	VDDCAMMOT	1.8-3.3	400	3	OFF
	VDD18_DCXO	1.8-3.3	50	1.8	ON
	VDDEMMCCORE	1.8-3.3	600	3	ON
	VDDSDCORE	1.8-3.3	800	3	ON
	VDDSDIO	1.8-3.3	200	3	ON
	VDDSIM0	1.8-3.3	60	3	OFF
	VDDSIM1	1.8-3.3	60	3	OFF
	VDDSIM2	1.8-3.3	60	3	OFF
	VDDUSB33	1.8-3.3	100	3.3	ON
	VDDWIFIPA	1.8-3.3	500	3.3	OFF
	VDDLDO0	1.8-3.3	50	2.8	OFF
	VDDLDO1	1.8-3.3	100	3.3	OFF
	VDDLDO2	1.8-3.3	200	3.3	OFF
GEN1	VDDCAMD0	1.0-1.25	400	1.1	OFF
	VDDCAMD1	1.0-1.25	200	1.1	OFF
	VDDRF1V25	1.0-1.25	300	1.25	OFF
	AVDD12	1.0-1.25	150	1.2	ON
GEN0	AVDD18	1.2-1.8	200	1.8	ON
	VDDRF18	1.2-1.8	300	1.8	ON
	VDDCAMIO	1.2-1.8	100	1.8	OFF
GEN1	WCN	1.0-1.6	200	1	OFF

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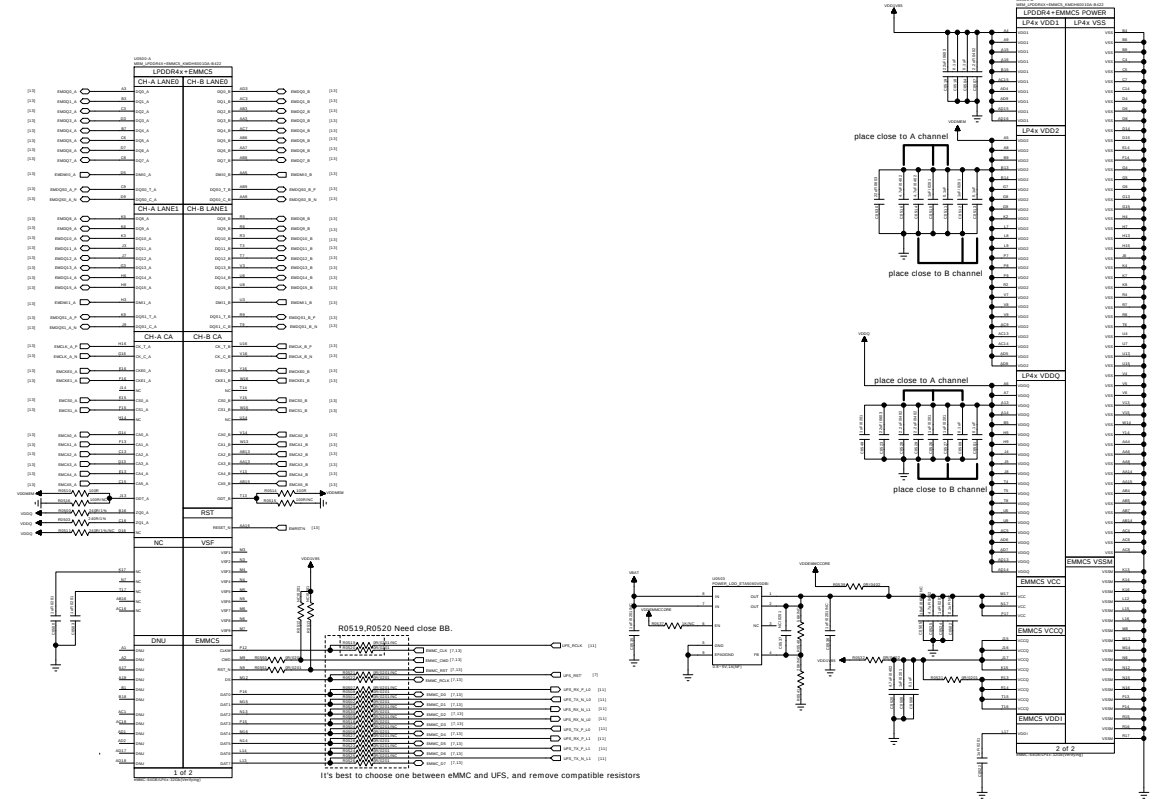
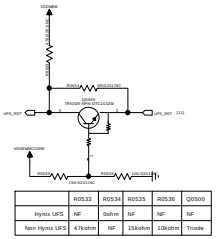
eMMC+LPDDR4/eMMC+LPDDR4X/UFS+LPDDR4X(Only support UFS2.X)





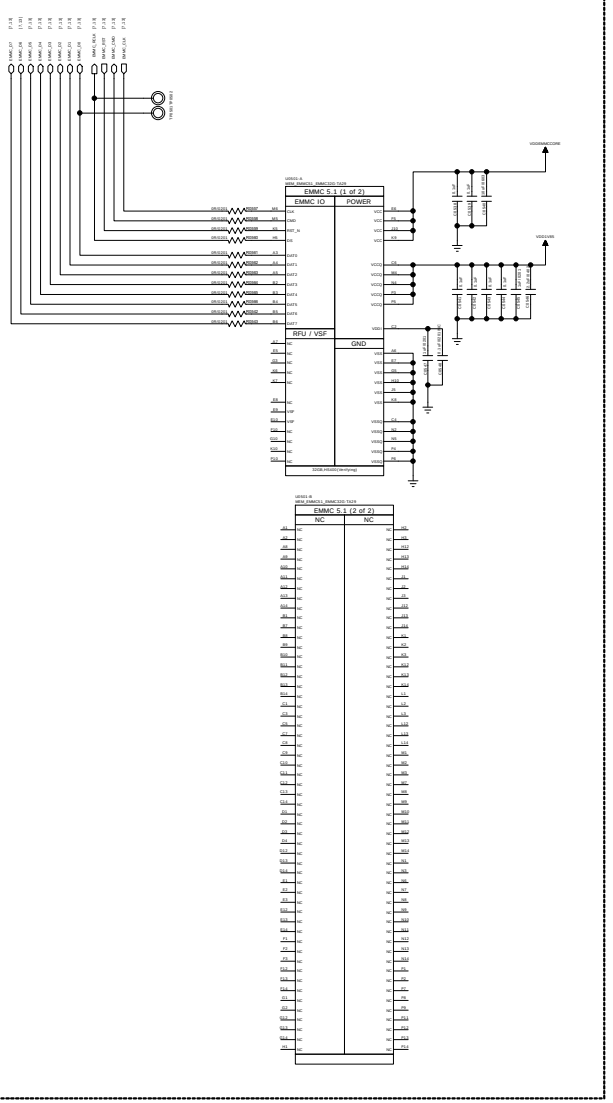
	R0533	R0534	R0535	R0536	Q0500
Hynix UFS	NF	0ohm	NF	NF	NF
Non Hynix UFS	47kohm	NF	15kohm	10kohm	Triode

PMIC PN	PMIC VDDEMMCCORE
UMP510G	3.0V/600mA

Memory	UFS VCC	UFS VCCQ	UFS VCCQ2
eMMC Device	PMIC VDDEMMCCORE 3.0V(Back up external LDO or DCDC)	PMIC VDD1V85	PMIC VDD1V85
UFS2.X Device	PMIC VDDEMMCCORE 3.0V(Back up external LDO or DCDC)	Not Used	PMIC VDD1V85

Notes:If UFS ICC is greater than 600mA,please use external LDO or DCDC.

Discrete EMMC



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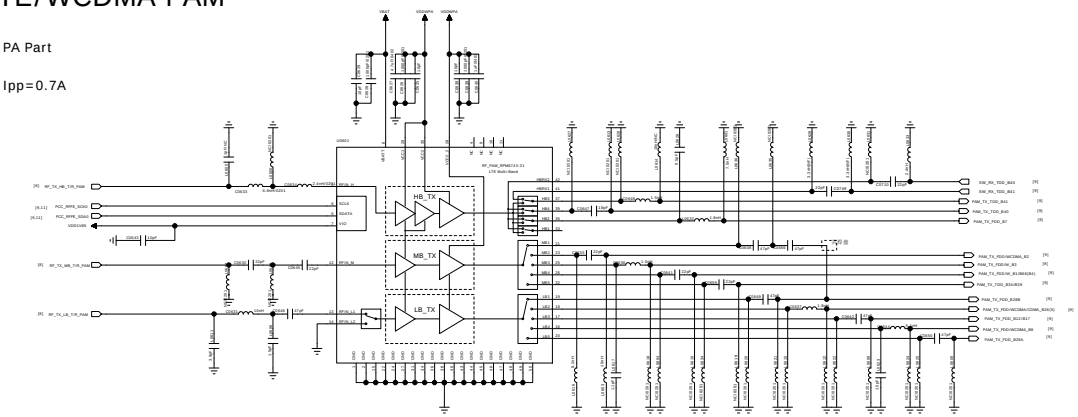
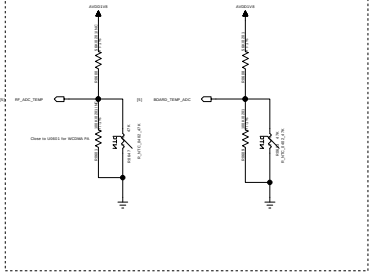
LTE/WCDMA PAM

PA Part

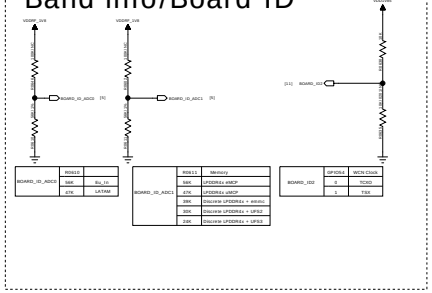
Ipp=0.7A



NTC



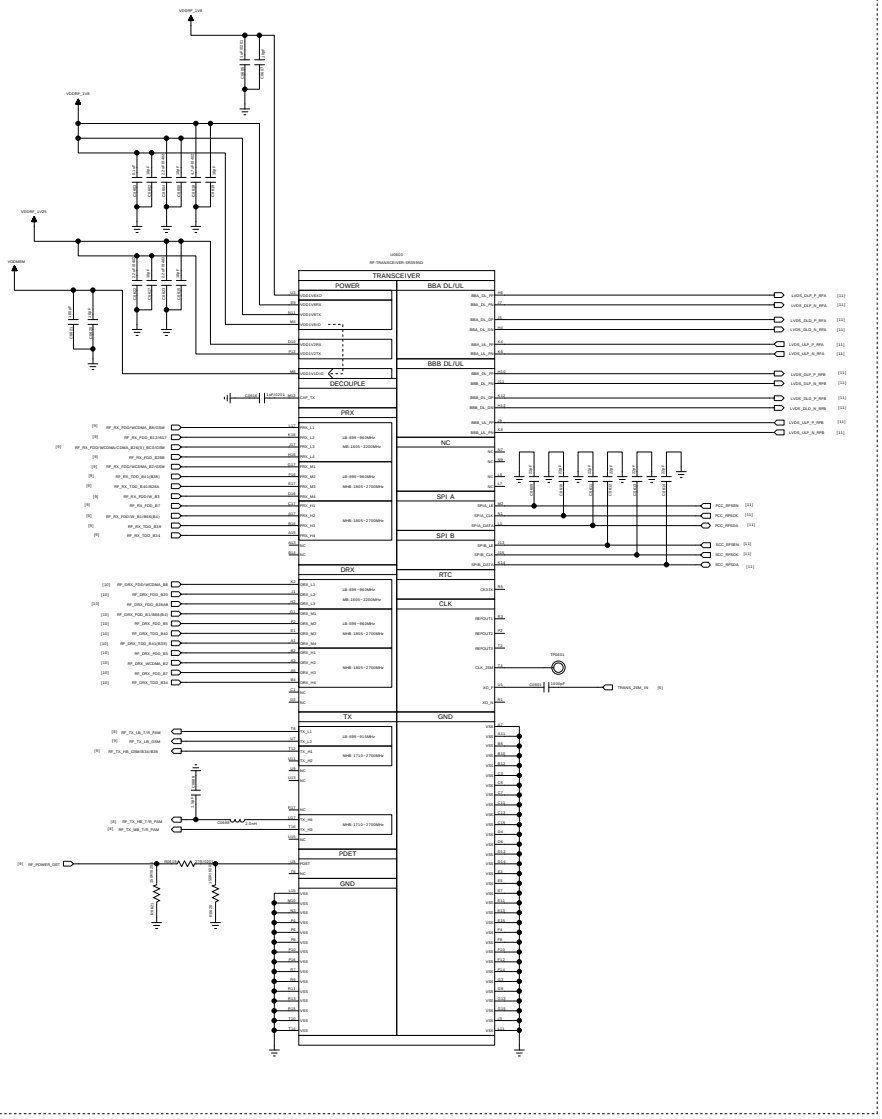
Band info/Board ID



BOARD_ID_ADC2	R0910	
	56K	Blu_Int
	47K	LATAM

BOARD_ID_ADC1	R0911	Memory
	56K	LPDDR4x eMCP
	47K	LPDDR4x eMCP
	39K	Discrete LPDDR4x + eMMC
	30K	Discrete LPDDR4x + UFS2
	24K	Discrete LPDDR4x + UFS3

BOARD_ID2	GPIO54	MCN Clock
	0	TCXO
	1	TBD



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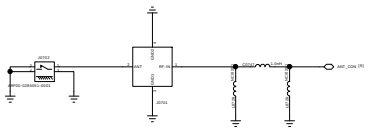
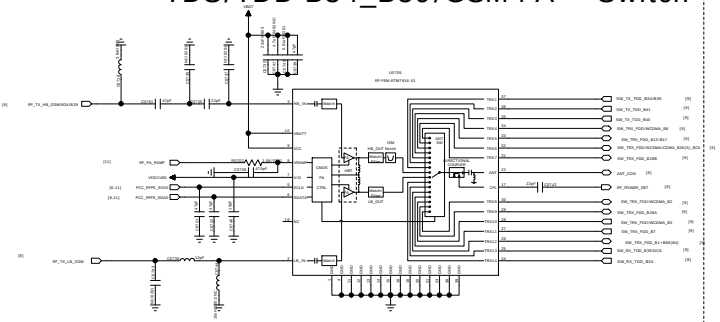
Primary Antenna

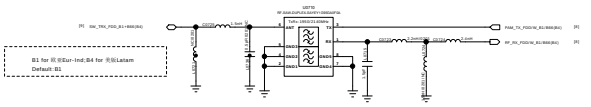


TDS/TDD B34_B39/GSM PA + Switch



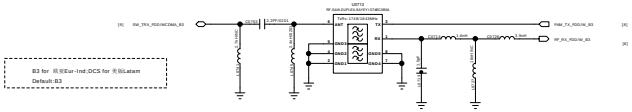
FDD LTE Parts

FDDLTE/WCDMA_B1



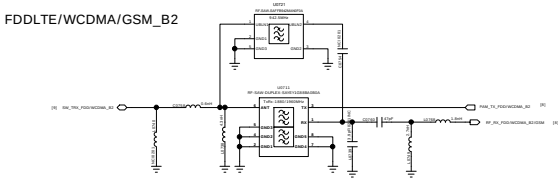
B1 for 欧非Eur-Ind;B4 for 美版Latam
Default: B1

FDDLTE/WCDMA_B3



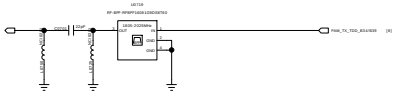
B3 for 欧非Eur-Ind:DCS for 美版Latam
Default: B3

FDDLTE/WCDMA/GSM_B2

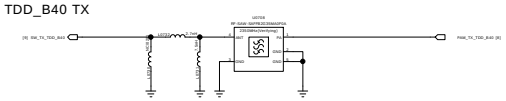


TDD LTE Parts

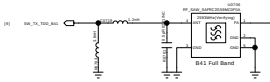
TDD_B34/B39 TX



TDD_B40 TX

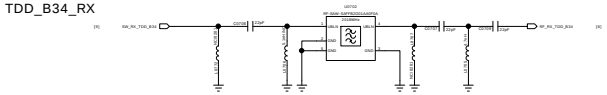


TDD_B41 TX

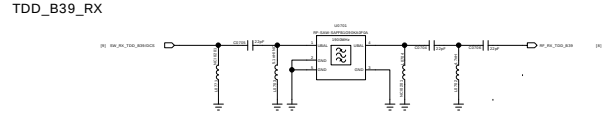


B41 Full Band

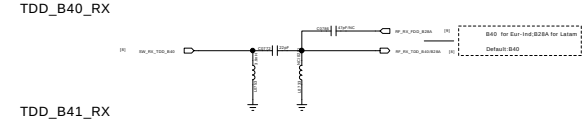
TDD_B34_RX



TDD_B39_RX

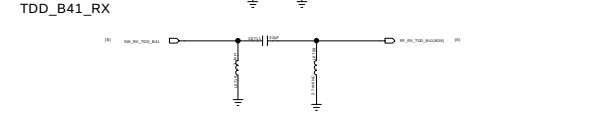


TDD_B40_RX



B40 for Eur-Ind;B28A for Latam
Default: B40

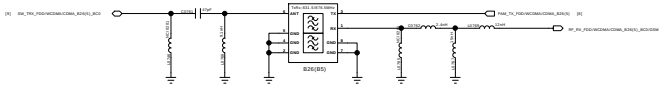
TDD_B41_RX



PRIMARY TRX Path

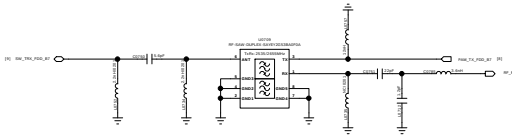
FDD LTE Parts

FDDLTE/WCDMA/CDMA/GSM_B5_B26

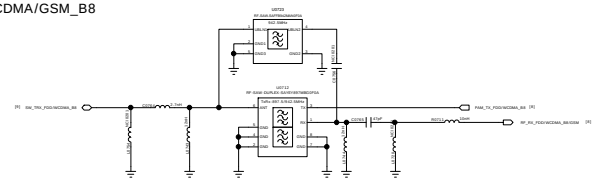


B26(B5)

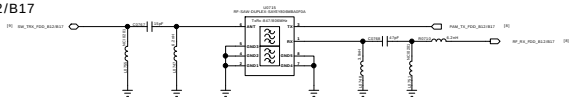
FDDLTE_B7



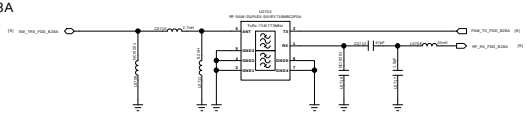
FDDLTE/WCDMA/GSM_B8



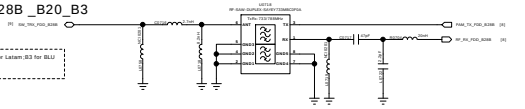
FDDLTE_B12/B17



FDDLTE_B28A



FDDLTE_B28B _B20_B3



B20 for Eur-Ind;B28B for Latam;B3 for BLU
Default: B20

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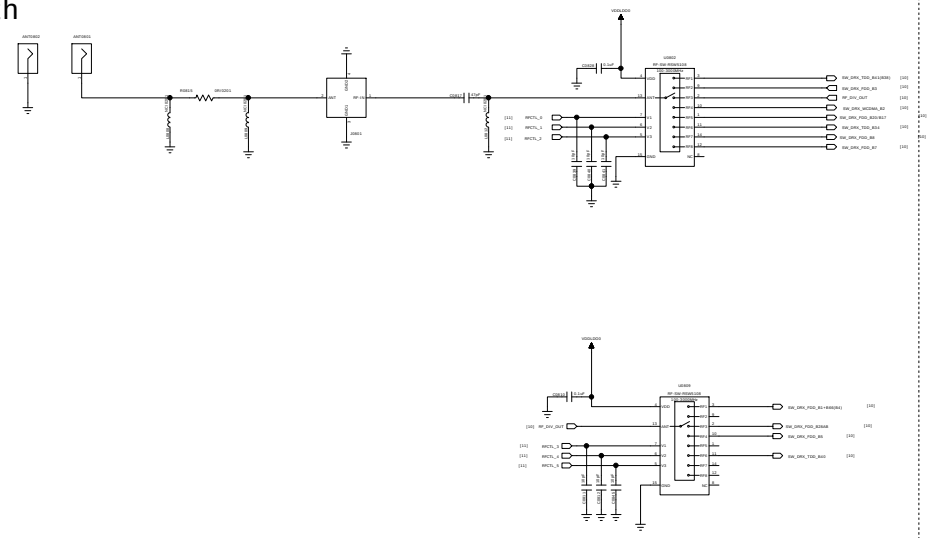
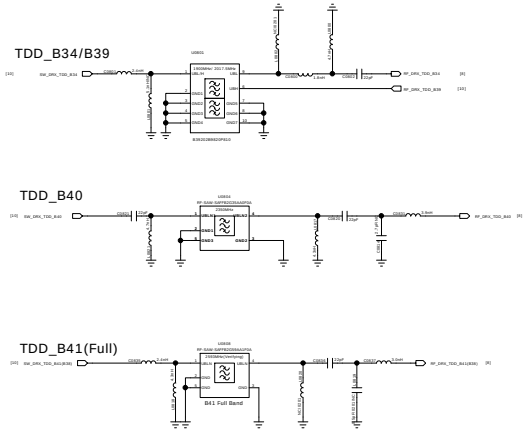
Diversity LTE Path

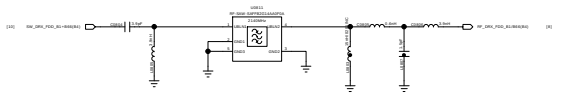


Diversity RX Path

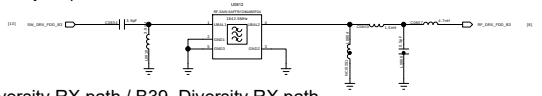


Diversity RX Path

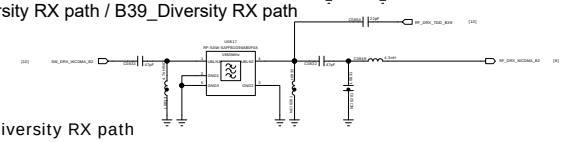
FDD_B1+B66(B4)_Diversity RX path



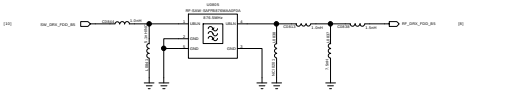
FDD_B3_Diversity RX path



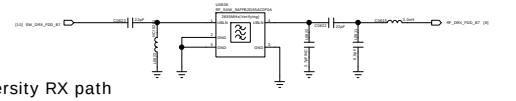
FDD_B2_Diversity RX path / B39_Diversity RX path



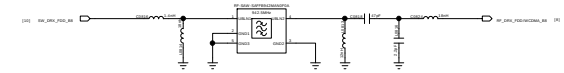
FDD_B5_Diversity RX path



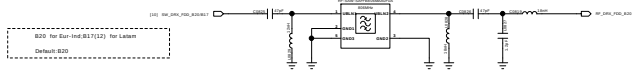
FDD_B7_Diversity Rx path



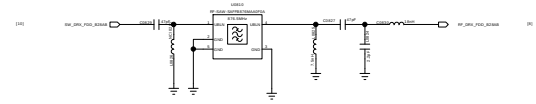
FDD_B8_Diversity RX path



FDD_B12/B17_Diversity RX path



FDD_B28A/B_Diversity RX path



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PDA:	DATED:	COMPANY:	Spreadtrum communications, Inc.
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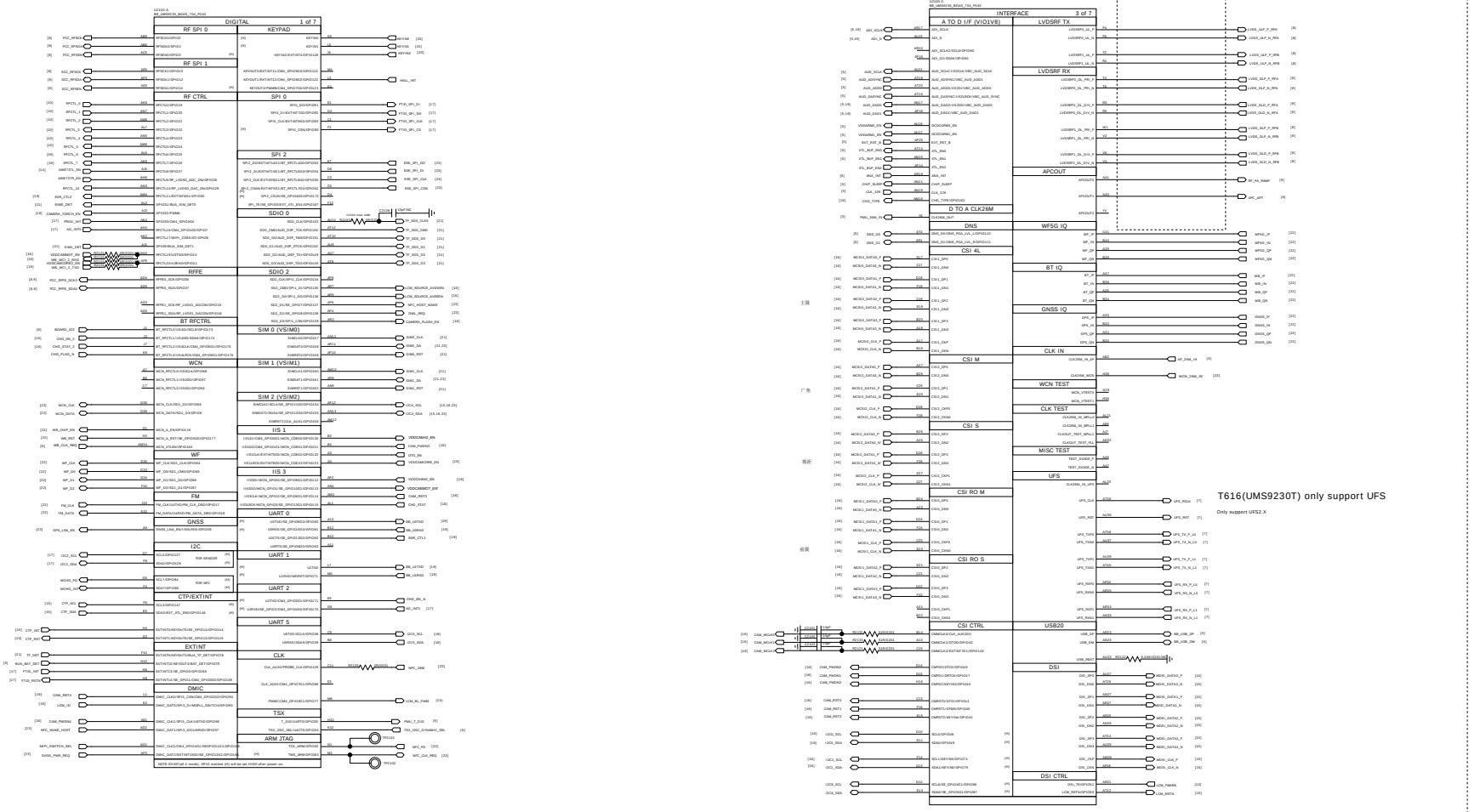
DIGITAL



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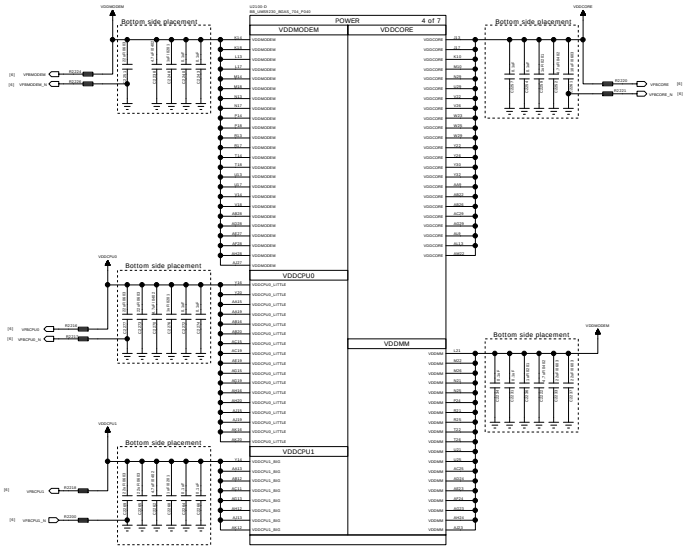
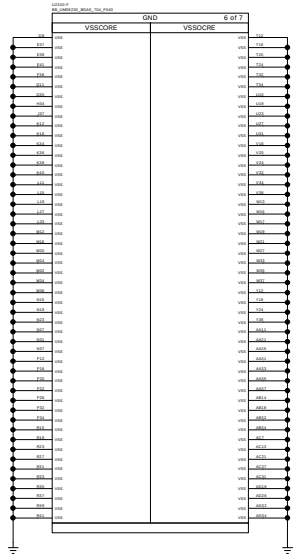
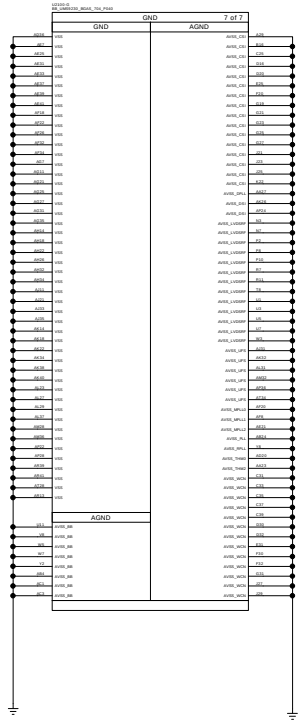
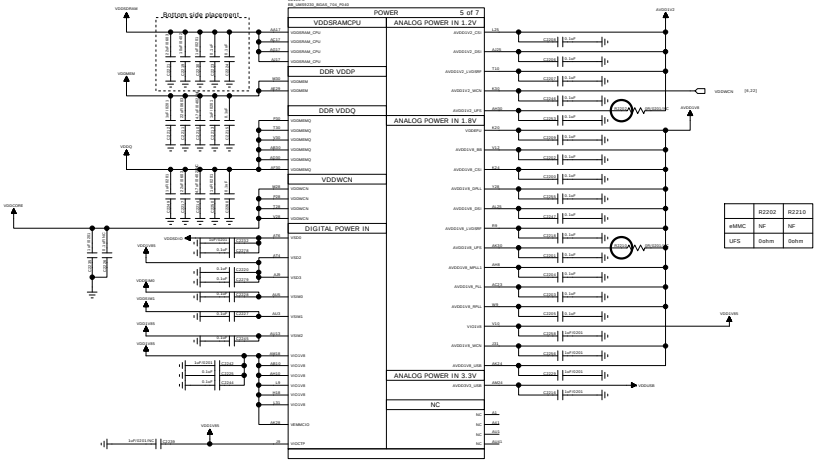
POWER









	R2202	R2210
eMMC	NF	NF
UFS	0ohm	0ohm

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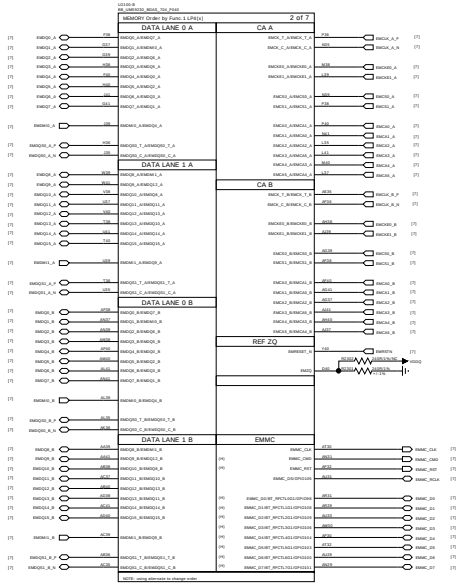
MEMORY



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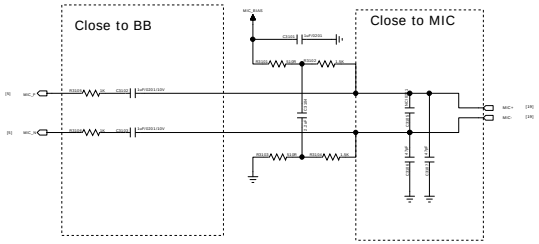
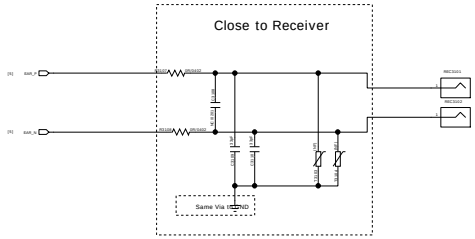
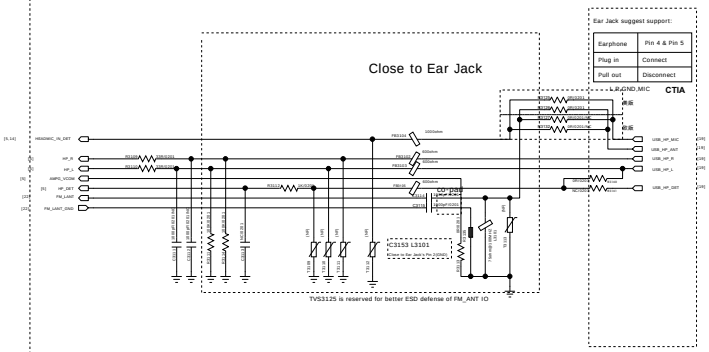
MAIN MIC



RECEIVER

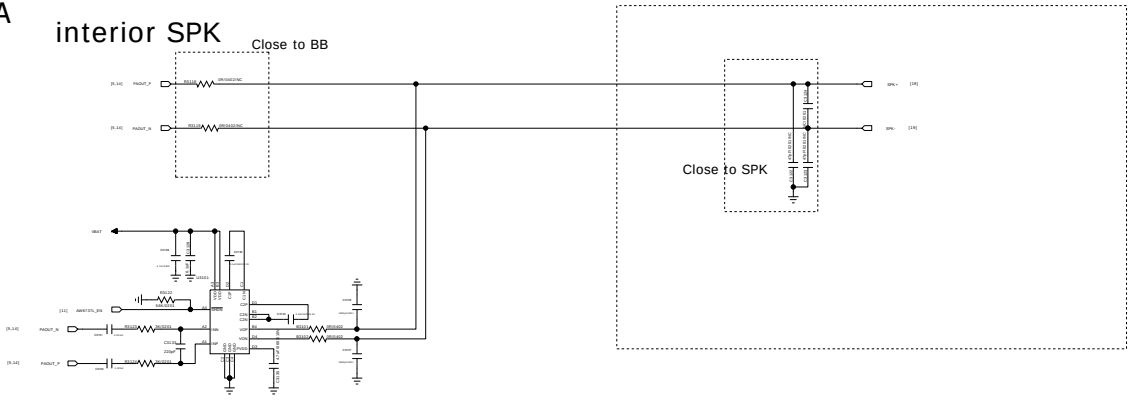


3.5mm Ear Jack

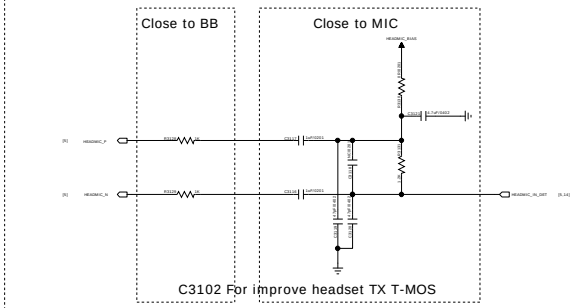


Audio PA

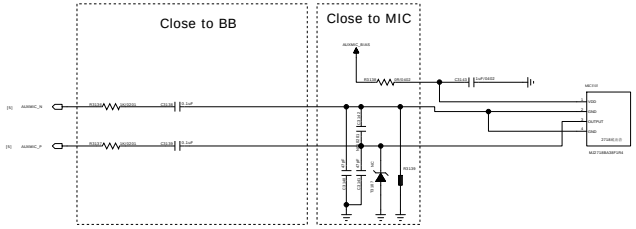
interior SPK



HEAD MIC



AUX MIC



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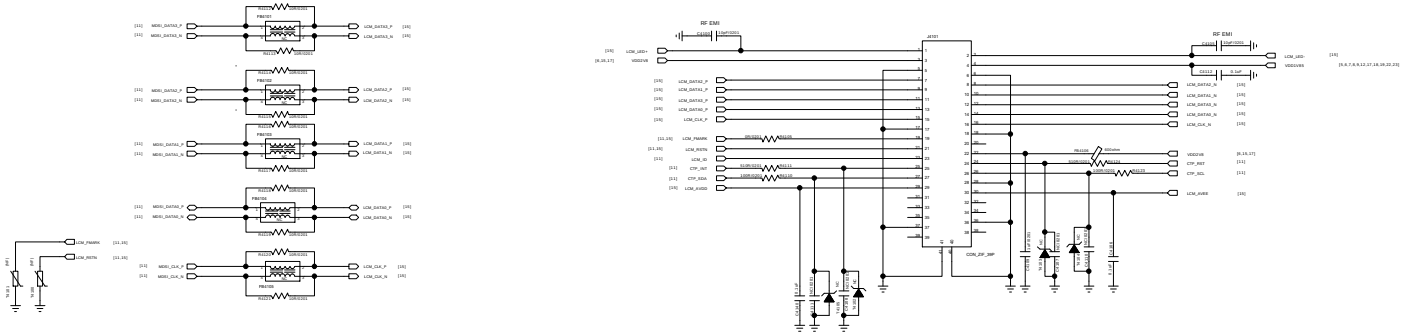
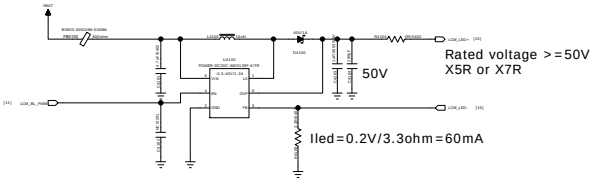
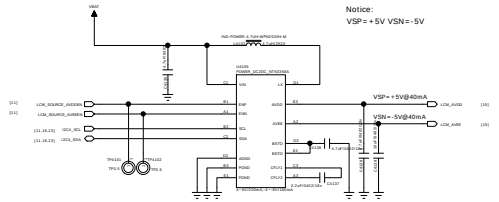
5.99" LCM(MIPI)



Back Light Driver



Source Driver



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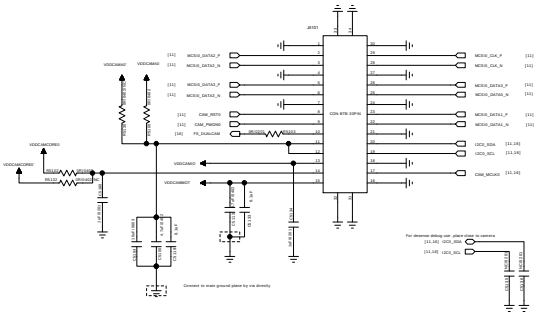
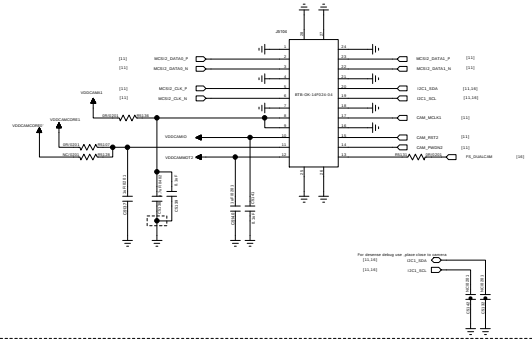
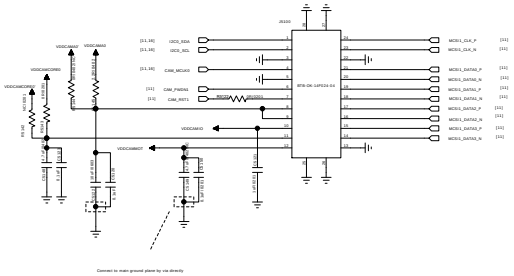
Rear Camera 0: Main 48M



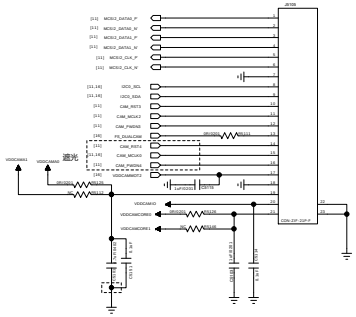
Ultra wide camera:8M



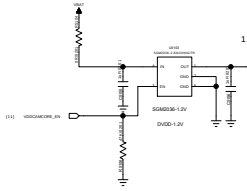
Front Camera 1:16M



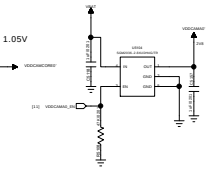
Micro distance 2M



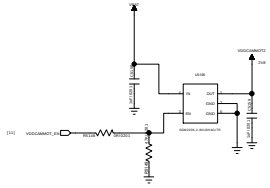
(VCAMD_1) LDO for Rear Camera



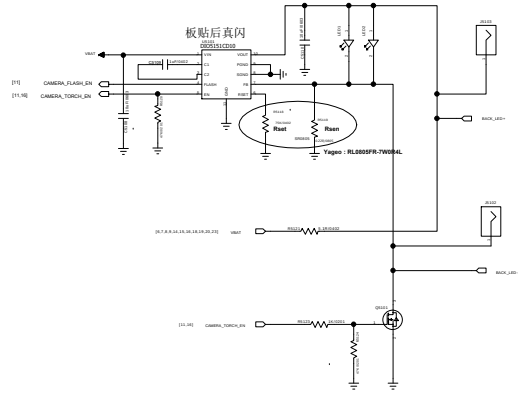
(VCAMA_EXT1) LDO for Rear Camera



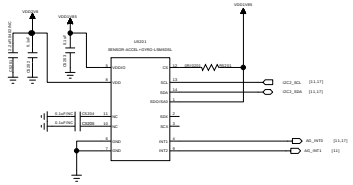
(VCAMAF) LDO for camera AF 2.8V



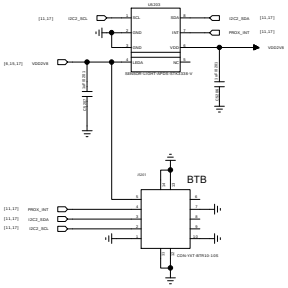
Back FLASH LED



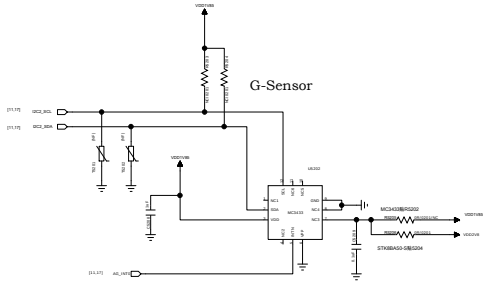
Accelerometer&GYRO: ICM-20600



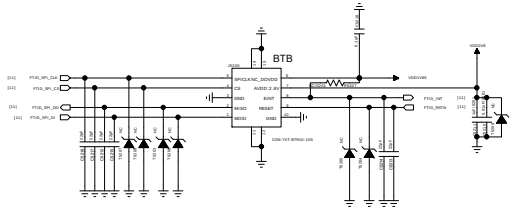
ALS & PROX



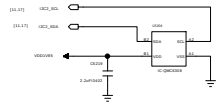
G Sensor



FingerPrint ID



Magnetic Sensor



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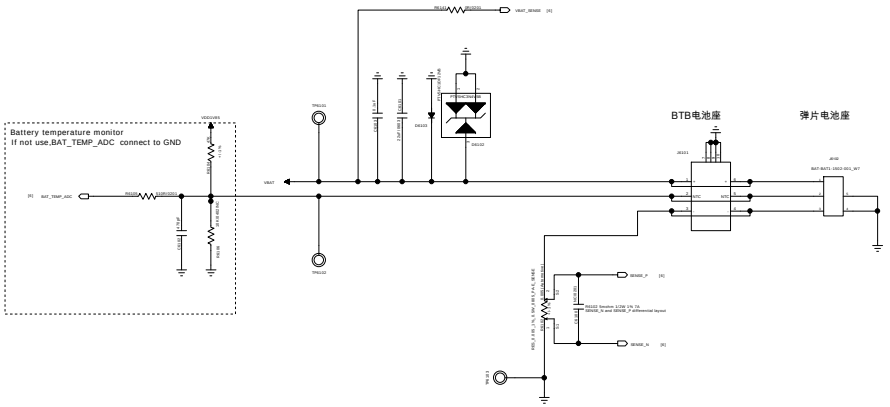
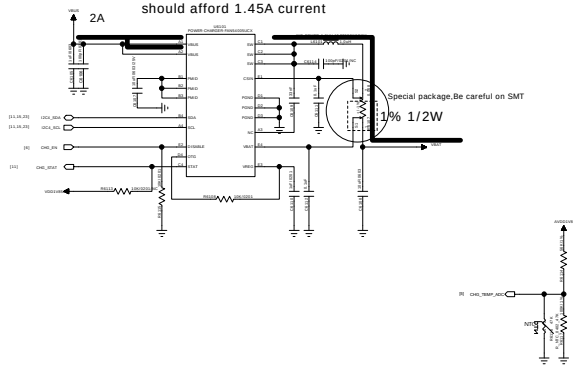
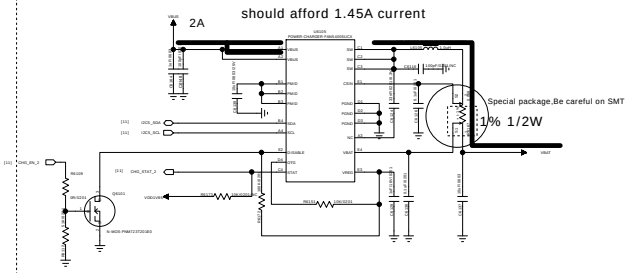
BATTERY



Main Charger



Switching charger II



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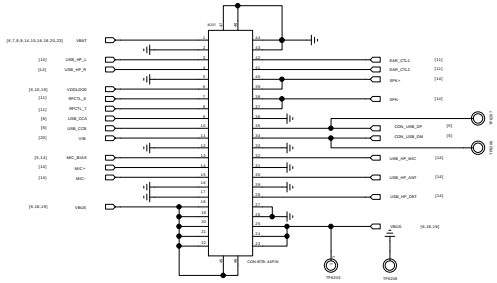
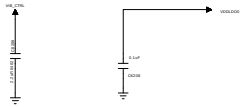
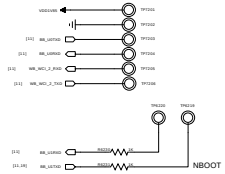
USB Connector



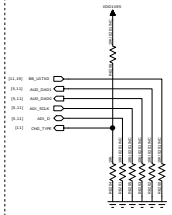


Test Points



MARK POINT

Strapping pin



Ball name	Signal name in boot code	Value	Descriptions	Default vale
U1TXD	USB_DLOAD_EN	0	USB download(no time out)	1(ie=1,wpu)
		1	UART download	
AUD_DAD1	ARM_BOOT_MD0	00	Reserved	11(ie=1,wpu) (MSB=MD1, LSB=MD0)
		01	UFS boot	
AUD_DAD0	ARM_BOOT_MD1	10	SD boot	
		11	eMMC 6.5Mhz	
ADI_SCLK	ARM_BOOT_MD2	0	Reserved	1(ie=1,wpu)
		1	Reserved	
ADI_D	ARM_BOOT_MD3	0	NON-KEY Download(With timeout) mode	1(ie=1,wpu)
		1	Normal mode	
CHG_TYPE	ARM_BOOT_MD4	0	Other(DCP/other)	0(ie=1,wpd) 无按键下载和N6Pro有差别，3s time out
		1	USB insert(SDP/CDP)	

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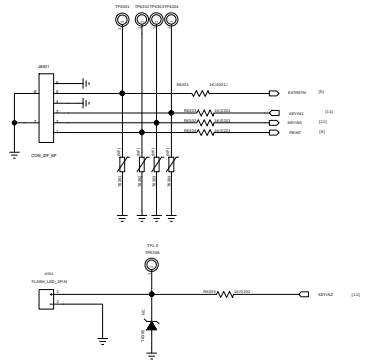
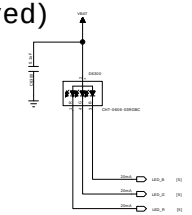
Volume Key

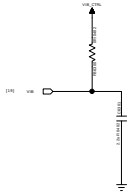


spport two keys 7S reset ,also support single key 7S reset with UMP510G
Two keys :EXTRSTN+PBINT

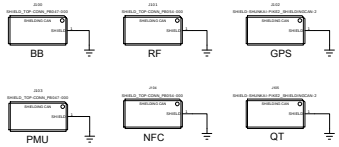
KEYPAD LED(Reserved)
RGB



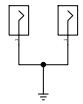
VIBRATOR



SHIELDING



Grounding shrapnel



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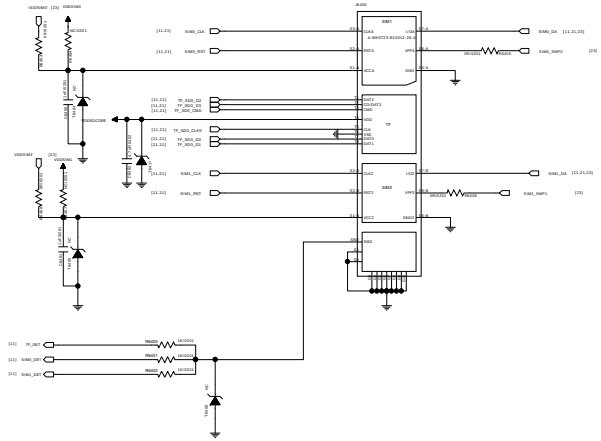
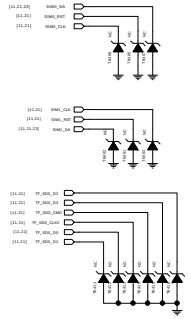
SIM0 & SIM1 & T_Flash



	R6403	R6404	R6408	R6407	R6405	R6406
with NFC	0R	NF	0R	NF	0R	0R
No NFC	NF	0R	NF	0R	NF	NF



Reserve 0402 CAP for ESD defense and test point

Tray	Tray DET Value
Without Tray	L
Tray inserted	H

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COMPANY:	
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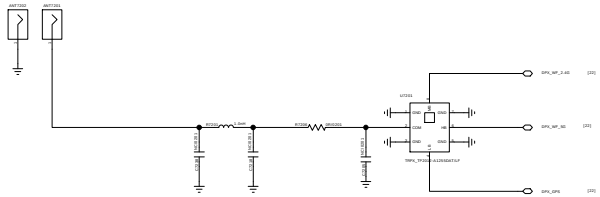
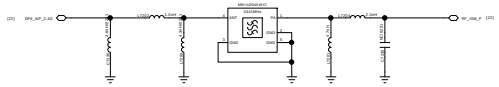
WIFI&BT ANT



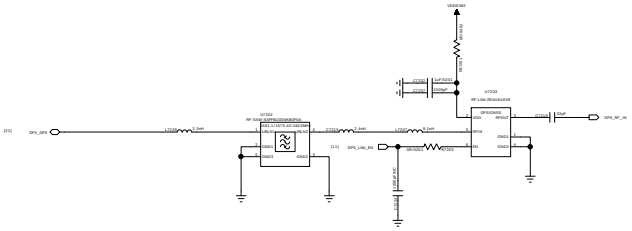
WIFI/BT SAW



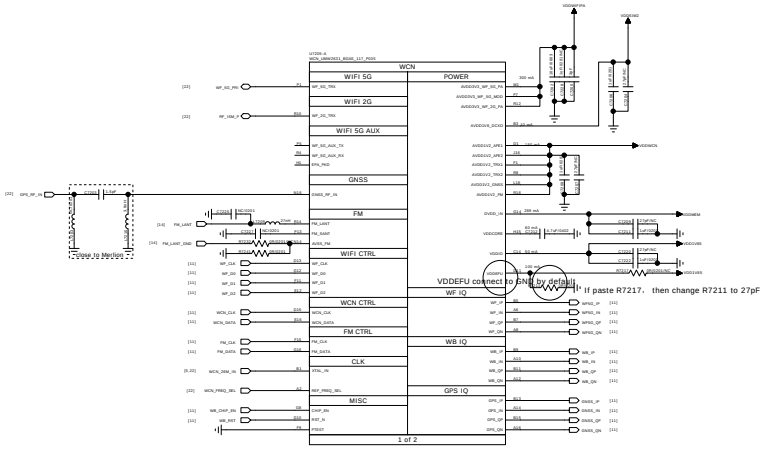
		C7205	R7230
Default	KCT8553C	0ohm	NF
Option	RFFM8516	10pF	3.9K

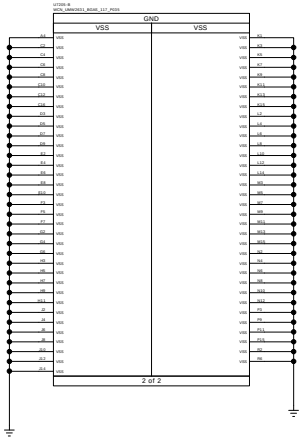
5G WIFI

GNSS SAW LNA



WCN

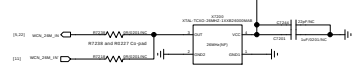




Bonding Option

FREQ_SEL---Internal Pull-up	
0	52MHz
1	26MHz

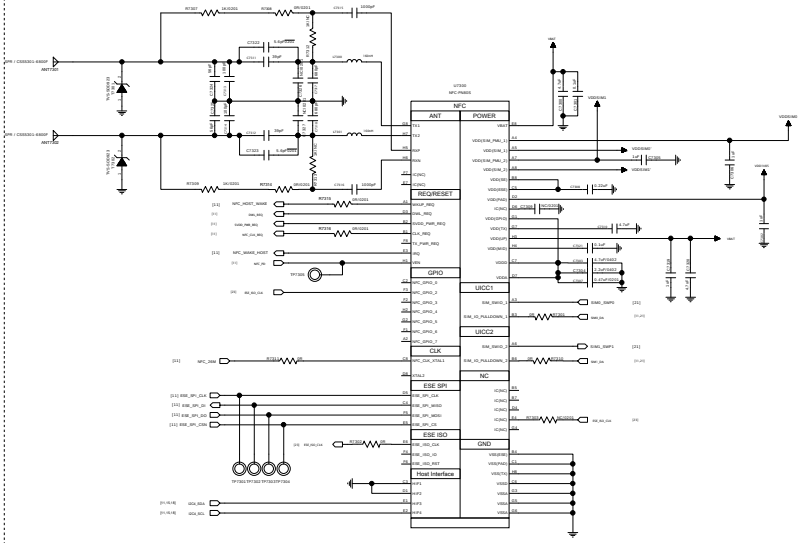
TSX (PMU) Only								
-->	X7200	R7220	R7238	R7218	C7244	C7201	R7245	R0227
TSX (PMU) Only	NF	NF	NF	NF	NF	NF	NF	0R
TCXO(WCN)+DCXO(PMU)	TCXO	NF	0R	0R	22pF	1uF	0R	NF
TCXO(WCN)+32K(PMU)	TCXO	0R	0R	NF	22pF	1uF	0R	NF



REVISION RECORD			
LTR	ECO NO.	APPROVED	DATE

DESIGNER:	DATED:	TITLE & REV:
		DOCUMENT NO.:
CHECKED:	DATED:	DEPARTMENT: Hardware DEPT.
APPROVED:	DATED:	COMPANY: Spreadtrum communications, Inc.
		CONFIDENTIAL AND PROPRIETARY

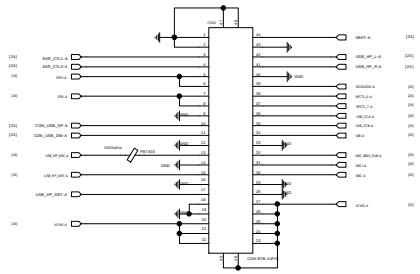
NFC



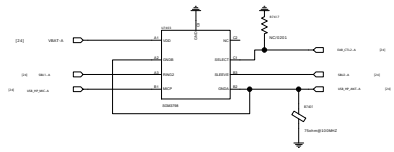
REVISION RECORD			
LTR	ECO NO.	APPROVED	DATE

TITLE & REV.:	
DOCUMENT NO.:	
DESIGNER:	DATED:
DEPARTMENT:	
EQA:	DATED:
COMPANY:	
APPROVED:	DATED:
CONFIDENTIAL AND PROPRIETARY	SHEET: 1 OF 1

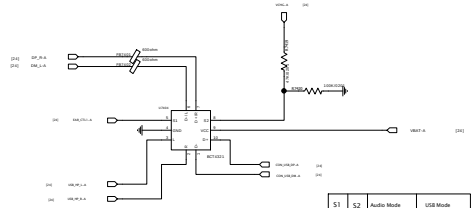
Main connector



TYPE-C Switch



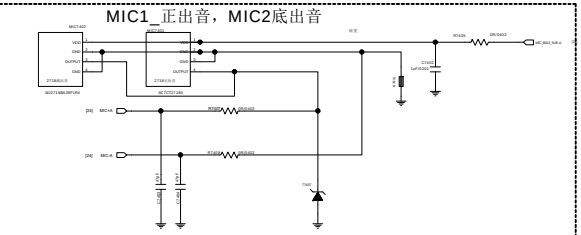
SELECT	FUNCTION	
0	MICP--SLEEVE	GNDB--RING2
1	MICP--RING2	GNDA--SLEEVE



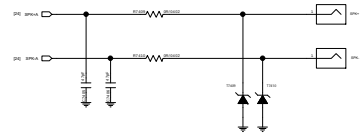
S1	S2	Audio Mode	USB Mode
0	1	OFF	ON
0	0	ON	OFF

MIC

MIC1_正出音，MIC2底出音



SPK



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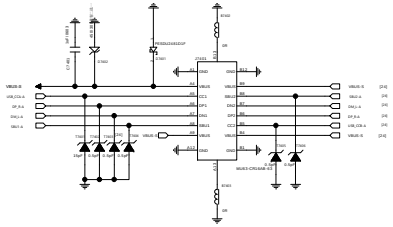
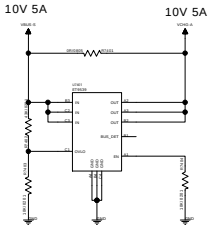


OVP

10V 5A 10V 5A



VIBRATOR