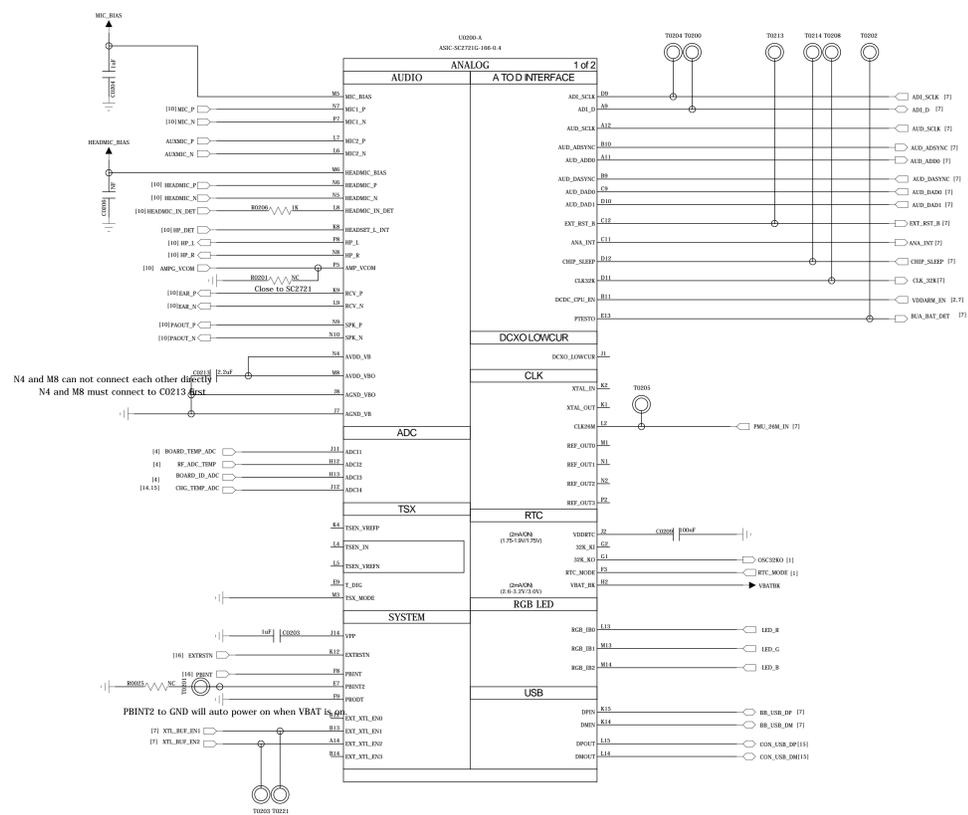


REVISION RECORD			
REV	REV NO.	APPROVED	DATE

# PMU\_ANALOG



N4 and M8 can not connect each other directly  
N4 and M8 must connect to C0213 first

# BKBT



# RTC



RTC MODE			
HIGH	32K-LESS	LOW	32K Crystal

RTC Mode	Type	R0202	R0205	X0200	C0201	C0202	R0203	R0204
32K Crystal Option	OR	NF	NF	Crystal	8.2pF	8.2pF	OR	NF
32K-less	Default	NF	OR	NF	NF	NF	NF	10K

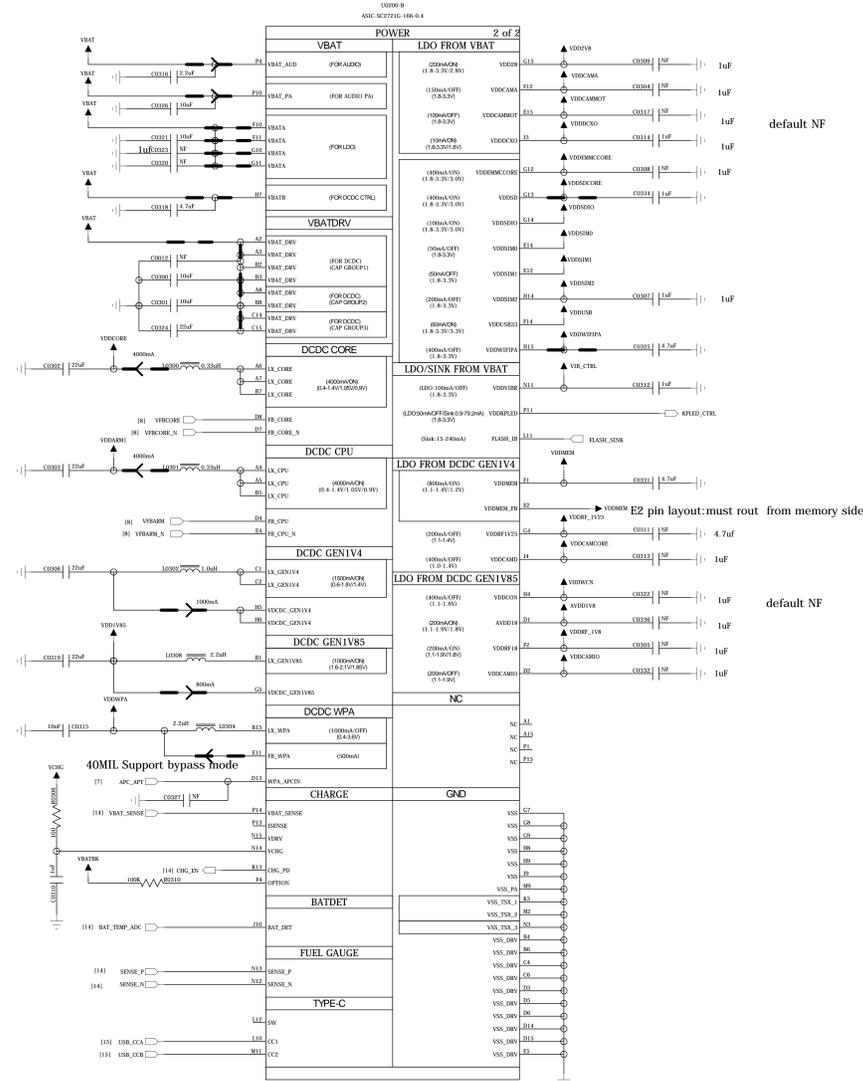
Note: 32K-less only use in TSX mode. 32K crystal is only use in TCXO mode.

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

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LT#	ECO NO.	APPROVED	DATE

# PMU\_POWER

INPUT	Description
VBAT_AUD	VBAT power input for audio
VBAT_PA	VBAT power input for audio speaker PA
VBATA	VBAT power input for LDO
VBATB	VBAT power input for KP_LED,VIB,VBATBK,Flash LED
VBATC	VBAT power input for LDO
VBAT_DRV	VBAT power input for DCDC



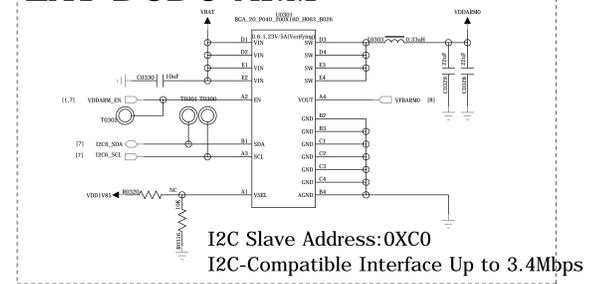
## SC2721 DCDC output

Input Power	Power Name	Output Voltage (V)	Output Current	Default Voltage	Default
VBAT	DCDCCPU	0.4-1.4/1.05/0.9	4000mA	0.9V	ON
	DCDCCORE	0.4-1.4/1.05/0.9	4000mA	0.9V	ON
	DCDCGENIV4	0.6-1.8	1500mA	1.4V	ON
	DCDCGENIV85	1.6-2.1	1000mA	1.85V	ON
	DCDCWPA	0.4-3.6	1000mA		OFF

## SC2721 LDO output

Input Power	Power Name	Output Voltage (V)	Output Current	Default Voltage	Default
LDO from VBAT	VDDCAMA	1.8-3.3	150mA	2.8V	OFF
	VDDCMMOT	1.8-3.3	100mA	2.8V	OFF
	VDDSIM0	1.8-3.3	50mA	1.8V	OFF
	VDDSIM1	1.8-3.3	50mA	1.8V	OFF
	VDDSIM2	1.8-3.3	200mA	1.8V	OFF
	VDD28	1.8-3.3	200mA	2.8V	ON
	VDDEMMCCORE	1.8-3.3	400mA	3.0V	ON
	VDDSDCORE	1.8-3.3	400mA	3.0V	ON
	VDDSDIO	1.8-3.3	100mA	3.0V	ON
	VBATBK	2.6-3.2	2mA	3.0V	ON
	VDDVIB	1.8-3.3	100mA	3.3V	OFF
	VDDKPLED	1.8-3.3	LDO:50mA/Sink:0.9-79.2mA		
	VDDWIFIPA	1.8-3.3	400mA	3.3V	OFF
	VDDDCXO	1.8-3.3	10mA	1.8V	ON
	VDDUSB33	1.8-3.3	60mA	3.3V	ON
LDO from DCDC GENIV4	VDDCAMD	1.0-1.4	400mA		OFF
	VDDRF1V25	1.1-1.4	200mA		OFF
LDO from DCDC GENIV85	VDD_MEM	1.1-1.4	800mA	1.2V	ON
	VDDCAMIO	1.1-1.9	200mA		OFF
	AVDD18	1.1-1.9	200mA	1.8V	ON
	VDDRF18	1.1-1.9	200mA	1.8V	ON
	VDD_CON	1.1-1.6	400mA		OFF

## EXT DCDC ARM



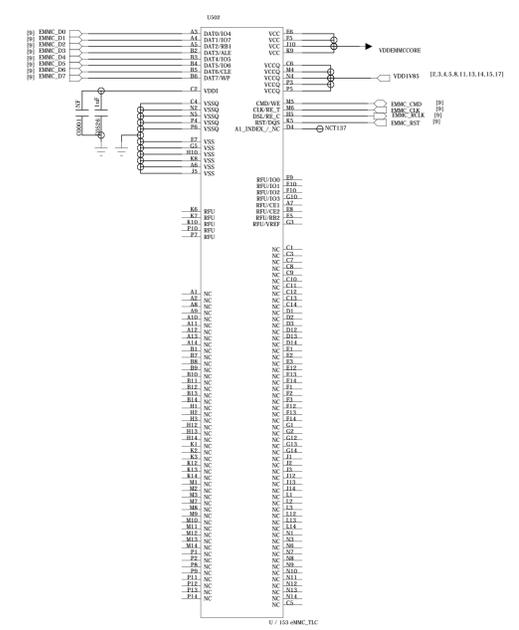
I2C Slave Address:0XC0  
I2C-Compatible Interface Up to 3.4Mbps

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DOCUMENT NO.:			
DESIGNED:	DATED:	DEPARTMENT:	Hardware DEPT.
REQ:	DATED:	COMPANY:	Spreadtrum communications, Inc.
APPROVED:	DATED:	CONFIDENTIAL AND PROPRIETARY	

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LT#	REV#	APPROVED	DATE

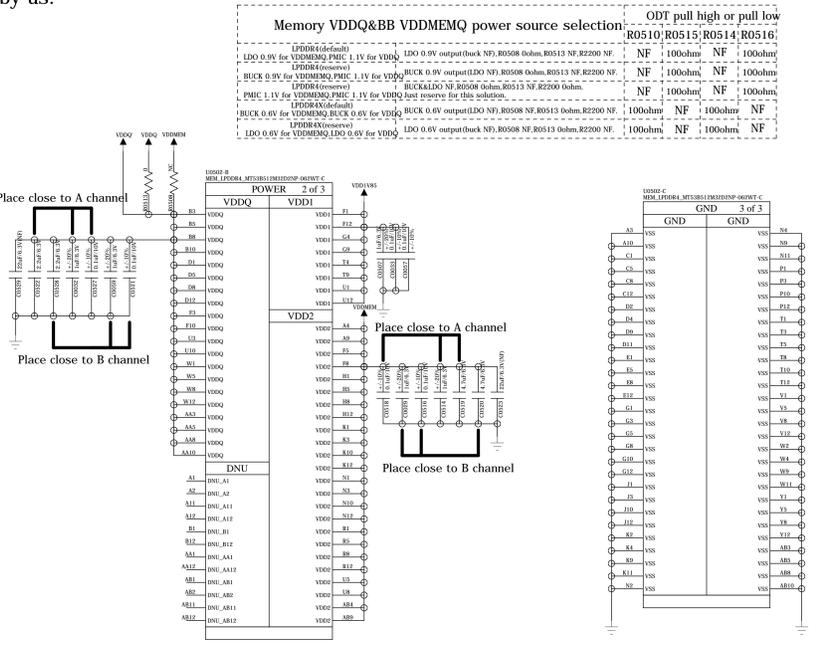
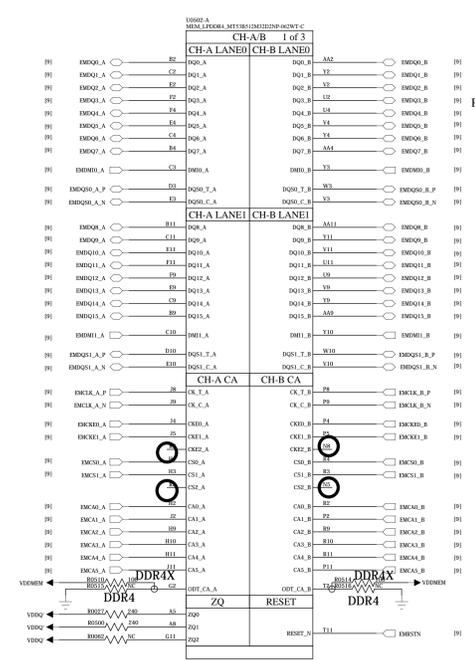
# V1.0 CHANGED 0825

## eMMC+LPDDR3

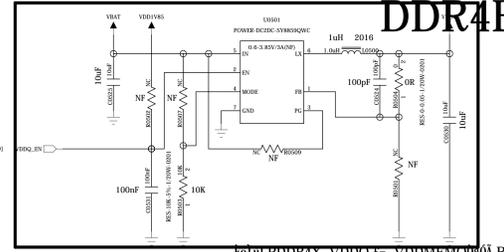


## Discrete LPDDR4(default)/Discrete LPDDR4X(backup)

Please refer to QVL table to select LPDDR4(X) was verified by us.



## Buck default for VDDQ of LPDDR4X



BUCK 0.6V output for BB VDDMEMQ and Memory VDDQ(LPDDR4X Default):											
C0525	R0518	R0502	C0531	R0507	R0503	R0509	L0500	C0524	C0530	R0504	U0501
10UF	0ohm	NF	0.1UF	NF	10K	NF	1uH	100pF	10uF	0ohm	NF
BUCK 0.9V output for BB VDDMEMQ(LPDDR4 reserve):											
C0525	R0518	R0502	C0531	R0507	R0503	R0509	L0500	C0524	C0530	R0504	U0501
10UF	0ohm	NF	0.1UF	NF	10K	NF	1uH	100pF	10uF	60K 1%	120K 1%

R0504 value is half of R0501 to set output voltage as 0.9V.

## Discrete to EMCP

- 1f-memory, 254ball EMCP-pinmux
- 2f-VDDQ 0.6V DCDC
- 3f-memory
- 4f-ODT, 100A
- 5f-Board ID0

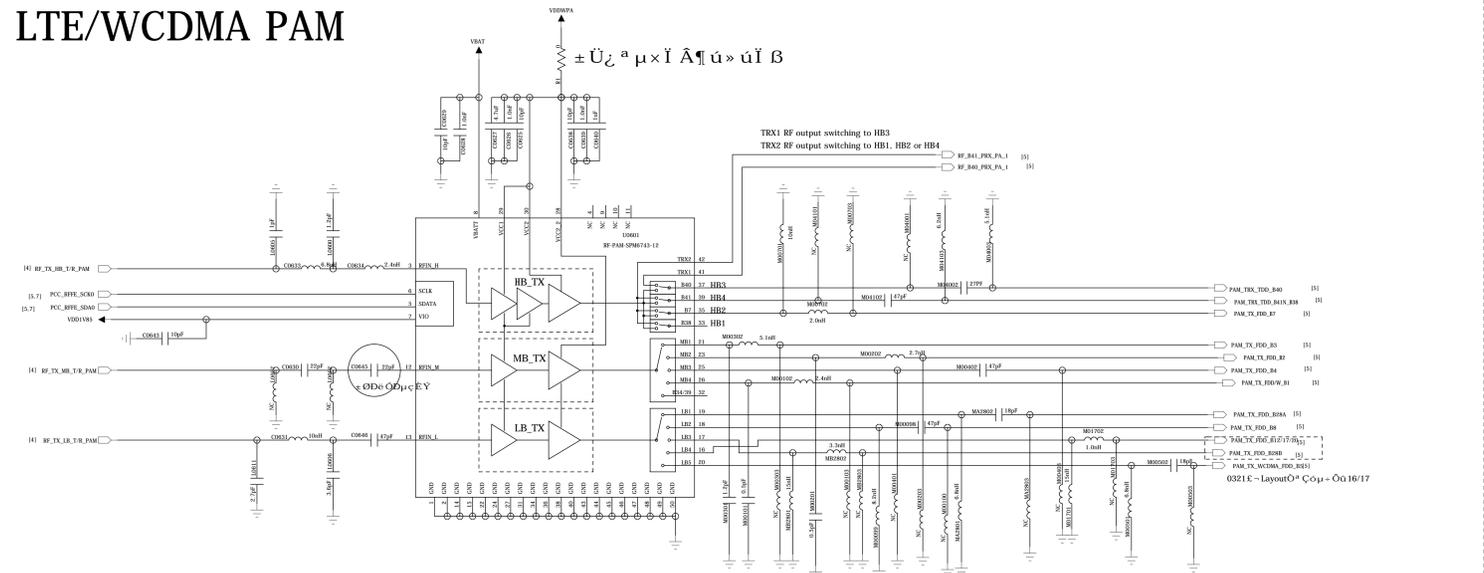
SPM\_SC9863A\_SCH\_V0.1.1\_discrete\_LPDDR4(X)\_0201.sch

4X 0.6V DCDC

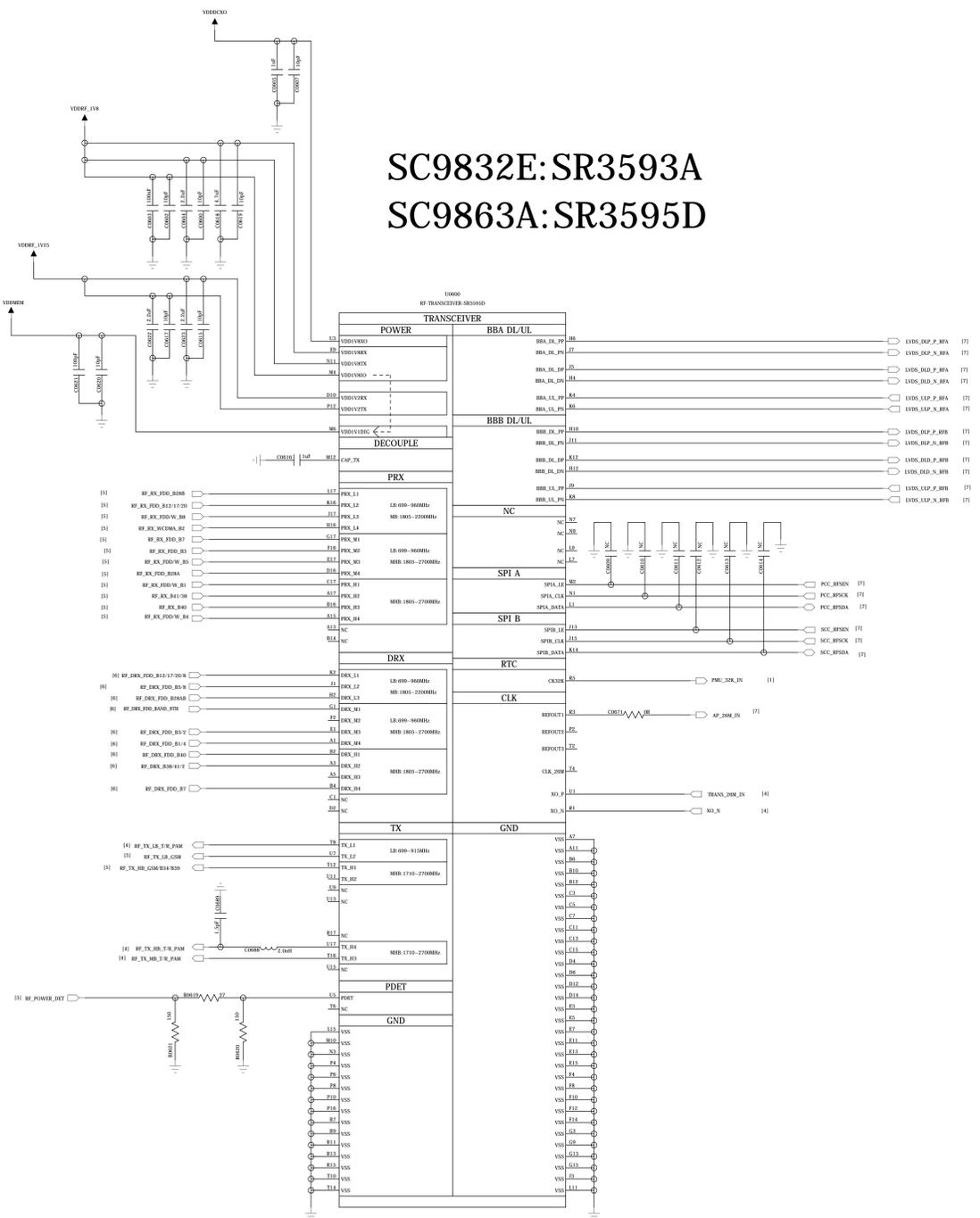
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DOCUMENT NO.:			
DESIGNER:	DATE:	DEPARTMENT:	Hardware DEPT.
EQA:	DATE:	COMPANY:	Spreadtrum communications, Inc.
APPROVED:	DATE:	CONFIDENTIAL AND PROPRIETARY	

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REV	ECO NO.	APPROVED	DATE

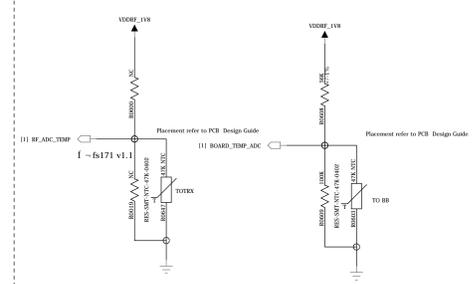
# LTE/WCDMA PAM



# SC9832E:SR3593A SC9863A:SR3595D

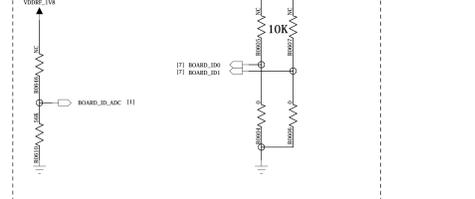


## NTC

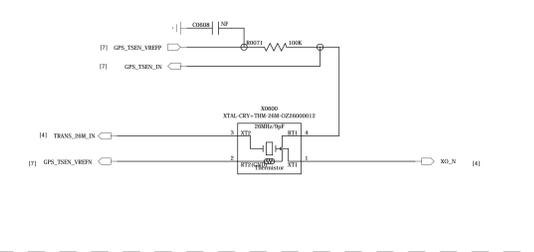


Clock Mode	BoardID0
TSX	0
TCXO +32K	1
LPDDR Type	BoardID1
LPDDR3	0
LPDDR4X	1
BoardID2 Backup	

## Band info

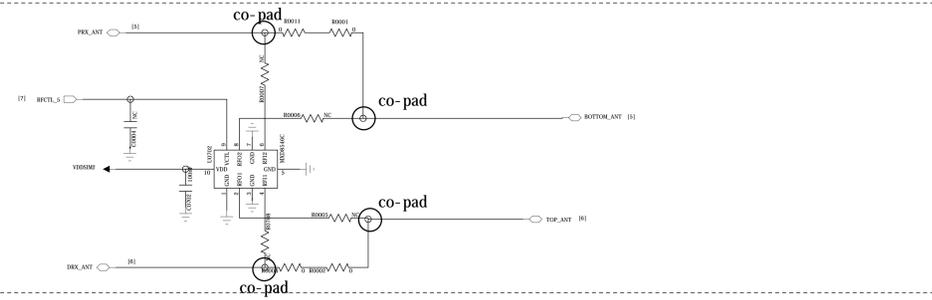
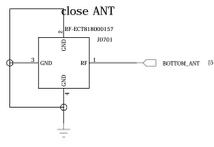


## V5.0

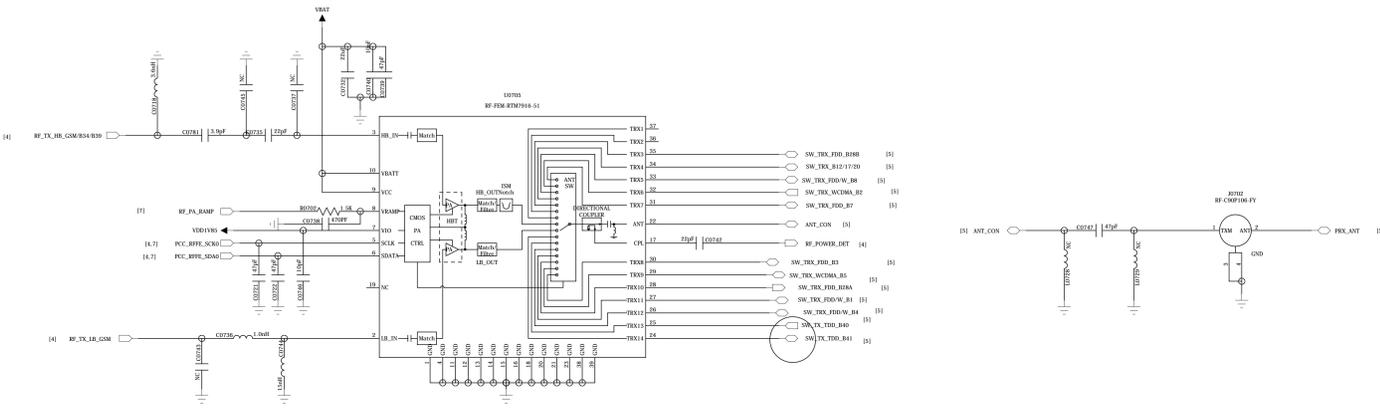


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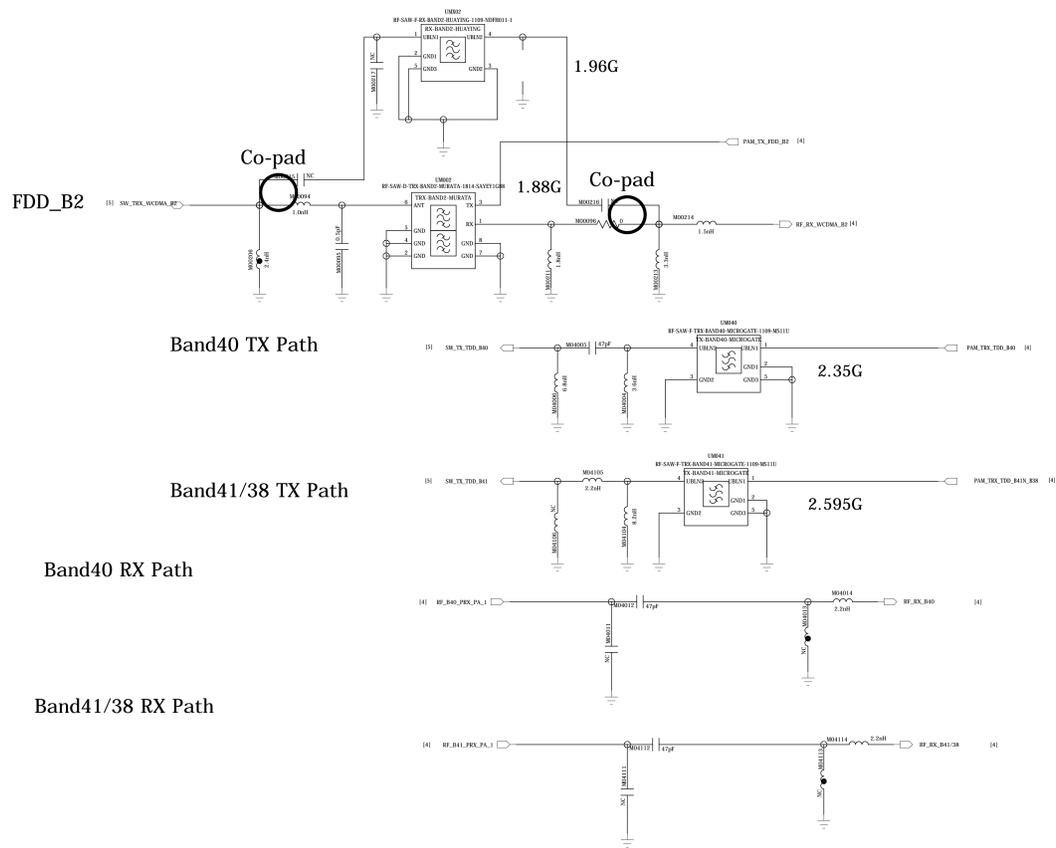
# Primary Antenna



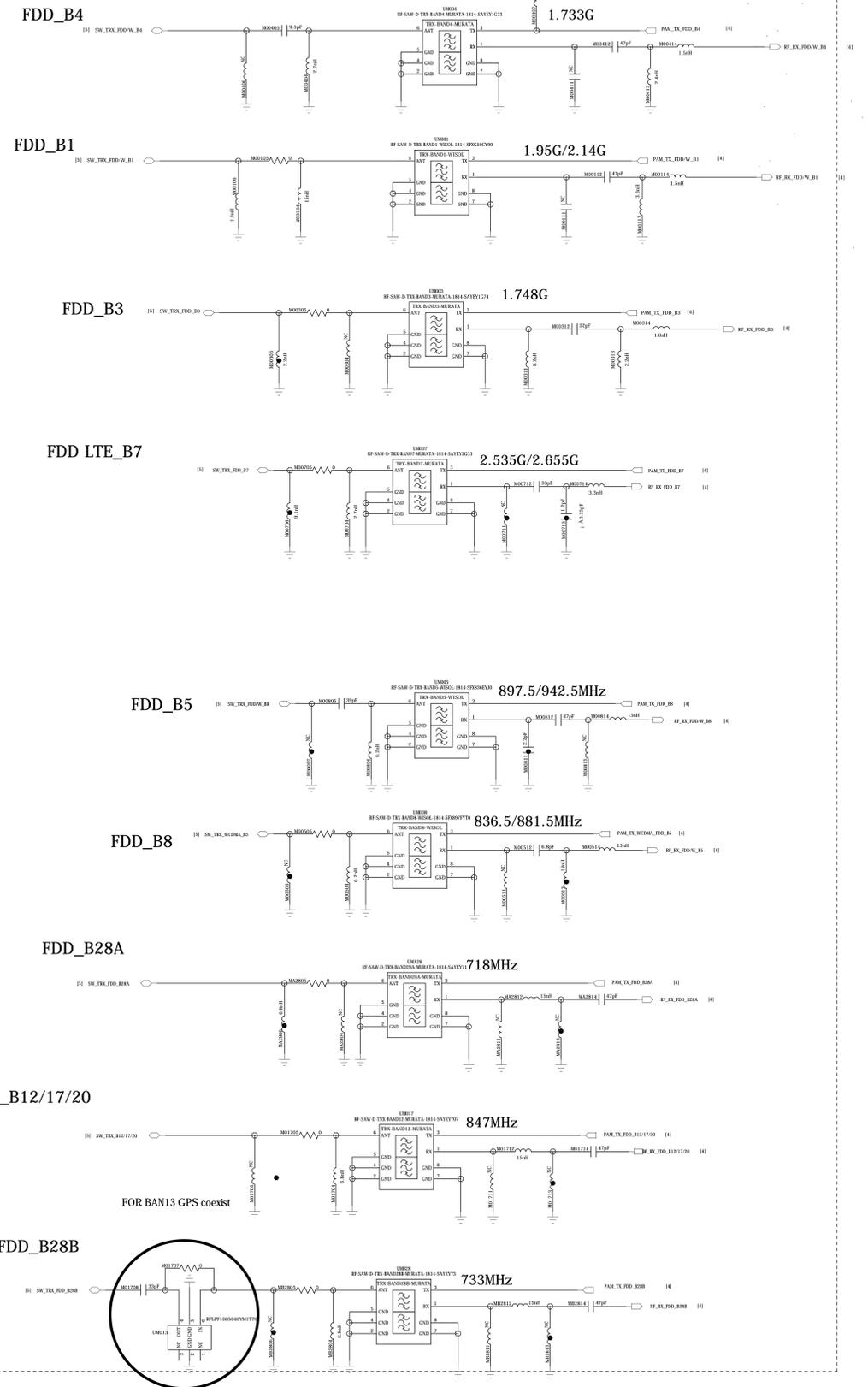
# TDS/TDD B34\_B39/GSM PA + Switch



# TDD LTE Parts



# PRIMARY TRX Path

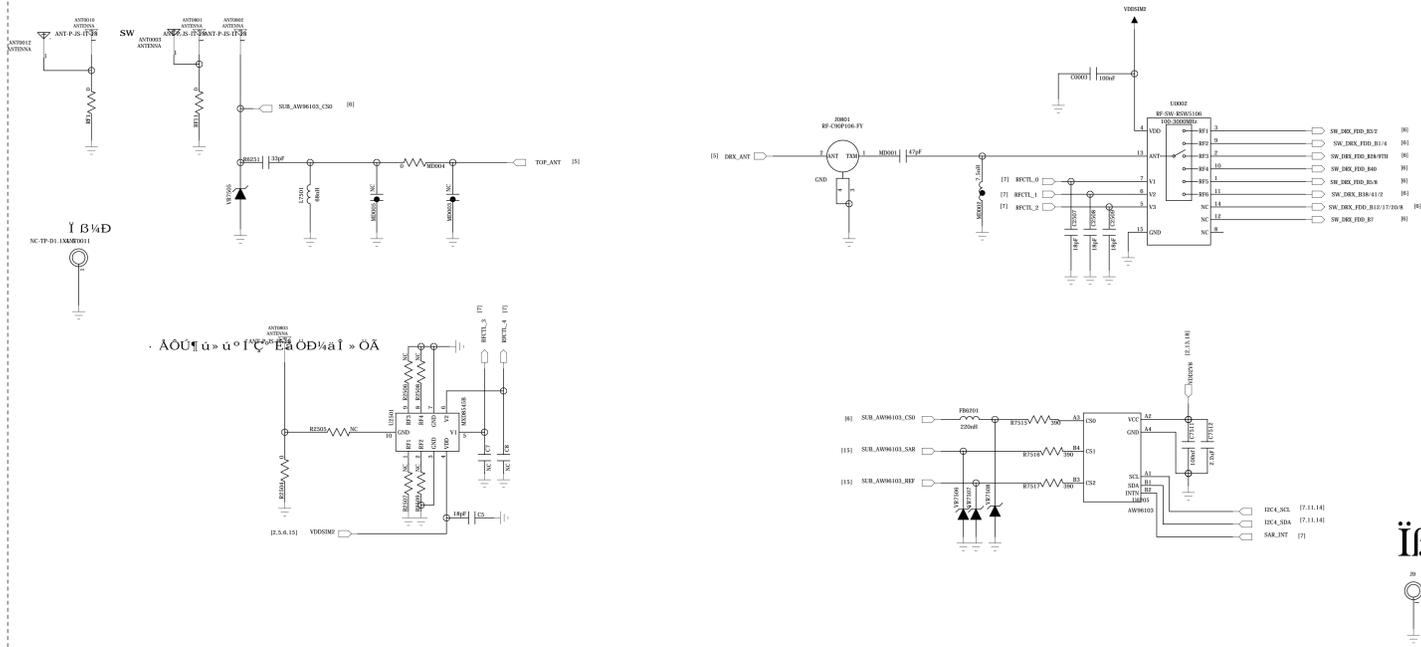


REVISION RECORD			
LTR	REV NO	APPROVED	DATE

TITLE & REV.			
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DESIGNER:	DATE:	DEPARTMENT:	
EQ:	DATE:	COMPANY:	
APPROVED:	DATE:		
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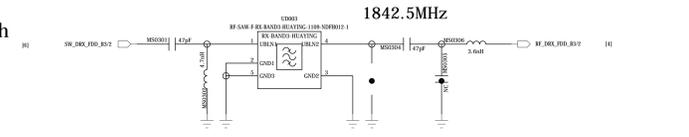
REVISION RECORD		
LTR	REV. NO.	DATE

## Diversity LTE LMB Path

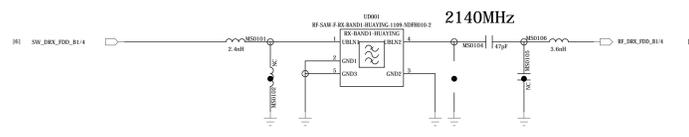


## Diversity LTE RX Path

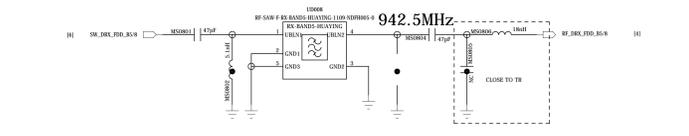
FDD\_B3\_Diversity RX path



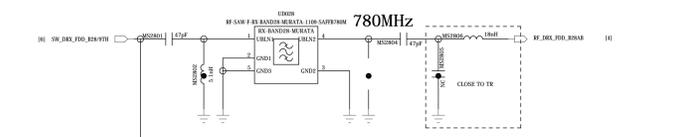
FDD\_B1/4\_Diversity Rx path



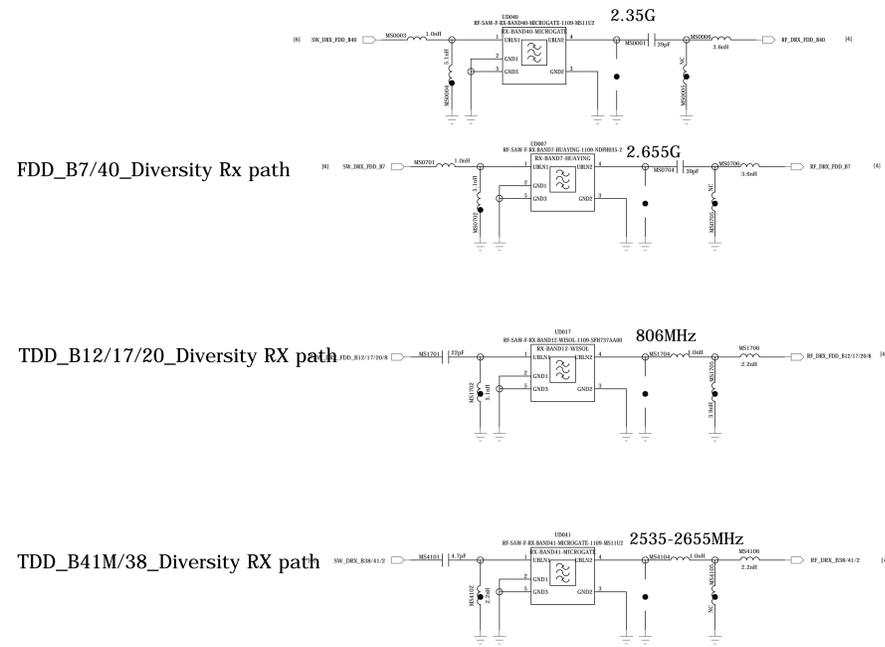
FDD\_B5/8\_Diversity Rx path



FDD\_B28AB\_Diversity Rx path



## Diversity HB Antenna

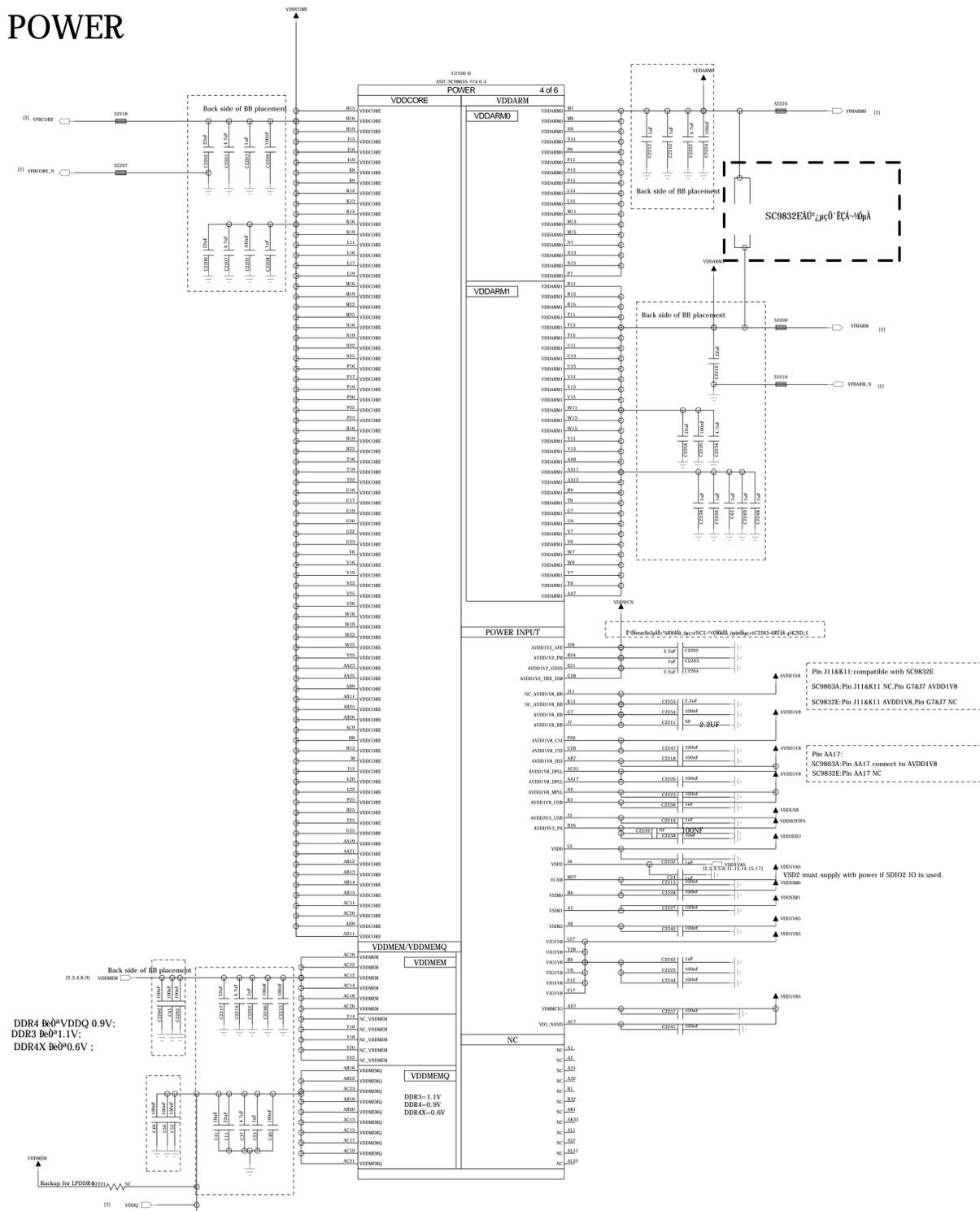


TITLE & REV.		
DOCUMENT NO.		
DESIGNER:	DATE:	DEPARTMENT: Hardware DEPT.
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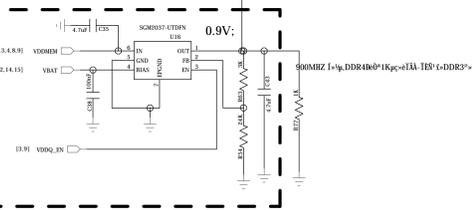


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REV	ECO NO	APPROVED	DATE

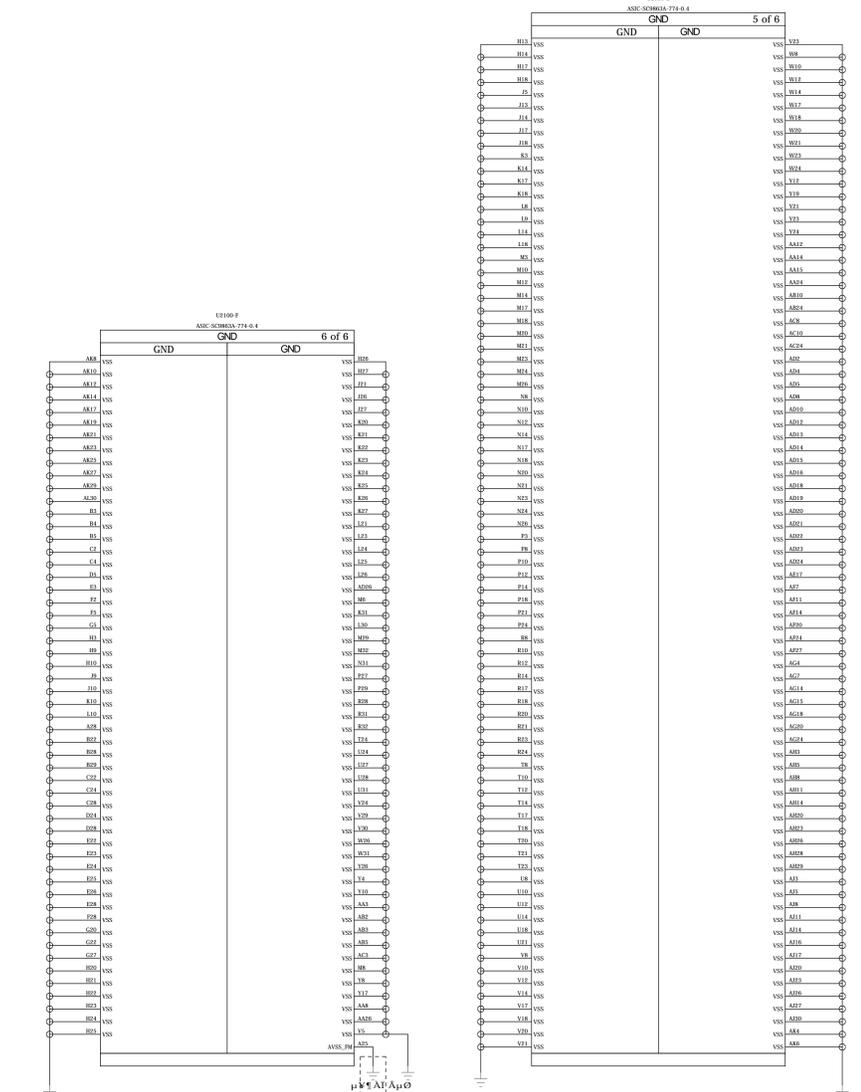
# POWER



DDR4 Be0\*VDDQ 0.9V;  
 DDR3 Be0\*1.1V;  
 DDR4X Be0\*0.6V ;



# GND



TITLE & REV:			
DOCUMENT NO.:			
DESIGNER:	DATE:	DEPARTMENT:	Hardware DEPT.
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LT#	ECO NO.	APPROVED	DATE

# V5.5 CHANGE to ddr4 0616

## MEMORY

10200 B  
4357-000001-014 01.4

MEMORY Order by LP3 (LP3/LP4x/D.LP4) 2 of 6			
DATA LANE 0		CMD CTRL ADDR	
(1) EMDQ11.A	MEM1	EMDQ11.A	EMDQ11.A
(1) EMDQ11.B	MEM1	EMDQ11.B	EMDQ11.B
(1) EMDQ11.C	MEM1	EMDQ11.C	EMDQ11.C
(1) EMDQ11.D	MEM1	EMDQ11.D	EMDQ11.D
(1) EMDQ11.E	MEM1	EMDQ11.E	EMDQ11.E
(1) EMDQ11.F	MEM1	EMDQ11.F	EMDQ11.F
(1) EMDQ11.G	MEM1	EMDQ11.G	EMDQ11.G
(1) EMDQ11.H	MEM1	EMDQ11.H	EMDQ11.H
(1) EMDQ11.I	MEM1	EMDQ11.I	EMDQ11.I
(1) EMDQ11.J	MEM1	EMDQ11.J	EMDQ11.J
(1) EMDQ11.K	MEM1	EMDQ11.K	EMDQ11.K
(1) EMDQ11.L	MEM1	EMDQ11.L	EMDQ11.L
(1) EMDQ11.M	MEM1	EMDQ11.M	EMDQ11.M
(1) EMDQ11.N	MEM1	EMDQ11.N	EMDQ11.N
(1) EMDQ11.O	MEM1	EMDQ11.O	EMDQ11.O
(1) EMDQ11.P	MEM1	EMDQ11.P	EMDQ11.P
(1) EMDQ11.Q	MEM1	EMDQ11.Q	EMDQ11.Q
(1) EMDQ11.R	MEM1	EMDQ11.R	EMDQ11.R
(1) EMDQ11.S	MEM1	EMDQ11.S	EMDQ11.S
(1) EMDQ11.T	MEM1	EMDQ11.T	EMDQ11.T
(1) EMDQ11.U	MEM1	EMDQ11.U	EMDQ11.U
(1) EMDQ11.V	MEM1	EMDQ11.V	EMDQ11.V
(1) EMDQ11.W	MEM1	EMDQ11.W	EMDQ11.W
(1) EMDQ11.X	MEM1	EMDQ11.X	EMDQ11.X
(1) EMDQ11.Y	MEM1	EMDQ11.Y	EMDQ11.Y
(1) EMDQ11.Z	MEM1	EMDQ11.Z	EMDQ11.Z
(1) EMDQ12.A	MEM2	EMDQ12.A	EMDQ12.A
(1) EMDQ12.B	MEM2	EMDQ12.B	EMDQ12.B
(1) EMDQ12.C	MEM2	EMDQ12.C	EMDQ12.C
(1) EMDQ12.D	MEM2	EMDQ12.D	EMDQ12.D
(1) EMDQ12.E	MEM2	EMDQ12.E	EMDQ12.E
(1) EMDQ12.F	MEM2	EMDQ12.F	EMDQ12.F
(1) EMDQ12.G	MEM2	EMDQ12.G	EMDQ12.G
(1) EMDQ12.H	MEM2	EMDQ12.H	EMDQ12.H
(1) EMDQ12.I	MEM2	EMDQ12.I	EMDQ12.I
(1) EMDQ12.J	MEM2	EMDQ12.J	EMDQ12.J
(1) EMDQ12.K	MEM2	EMDQ12.K	EMDQ12.K
(1) EMDQ12.L	MEM2	EMDQ12.L	EMDQ12.L
(1) EMDQ12.M	MEM2	EMDQ12.M	EMDQ12.M
(1) EMDQ12.N	MEM2	EMDQ12.N	EMDQ12.N
(1) EMDQ12.O	MEM2	EMDQ12.O	EMDQ12.O
(1) EMDQ12.P	MEM2	EMDQ12.P	EMDQ12.P
(1) EMDQ12.Q	MEM2	EMDQ12.Q	EMDQ12.Q
(1) EMDQ12.R	MEM2	EMDQ12.R	EMDQ12.R
(1) EMDQ12.S	MEM2	EMDQ12.S	EMDQ12.S
(1) EMDQ12.T	MEM2	EMDQ12.T	EMDQ12.T
(1) EMDQ12.U	MEM2	EMDQ12.U	EMDQ12.U
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(1) EMDQ12.Z	MEM2	EMDQ12.Z	EMDQ12.Z
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(1) EMDQ13.C	MEM3	EMDQ13.C	EMDQ13.C
(1) EMDQ13.D	MEM3	EMDQ13.D	EMDQ13.D
(1) EMDQ13.E	MEM3	EMDQ13.E	EMDQ13.E
(1) EMDQ13.F	MEM3	EMDQ13.F	EMDQ13.F
(1) EMDQ13.G	MEM3	EMDQ13.G	EMDQ13.G
(1) EMDQ13.H	MEM3	EMDQ13.H	EMDQ13.H
(1) EMDQ13.I	MEM3	EMDQ13.I	EMDQ13.I
(1) EMDQ13.J	MEM3	EMDQ13.J	EMDQ13.J
(1) EMDQ13.K	MEM3	EMDQ13.K	EMDQ13.K
(1) EMDQ13.L	MEM3	EMDQ13.L	EMDQ13.L
(1) EMDQ13.M	MEM3	EMDQ13.M	EMDQ13.M
(1) EMDQ13.N	MEM3	EMDQ13.N	EMDQ13.N
(1) EMDQ13.O	MEM3	EMDQ13.O	EMDQ13.O
(1) EMDQ13.P	MEM3	EMDQ13.P	EMDQ13.P
(1) EMDQ13.Q	MEM3	EMDQ13.Q	EMDQ13.Q
(1) EMDQ13.R	MEM3	EMDQ13.R	EMDQ13.R
(1) EMDQ13.S	MEM3	EMDQ13.S	EMDQ13.S
(1) EMDQ13.T	MEM3	EMDQ13.T	EMDQ13.T
(1) EMDQ13.U	MEM3	EMDQ13.U	EMDQ13.U
(1) EMDQ13.V	MEM3	EMDQ13.V	EMDQ13.V
(1) EMDQ13.W	MEM3	EMDQ13.W	EMDQ13.W
(1) EMDQ13.X	MEM3	EMDQ13.X	EMDQ13.X
(1) EMDQ13.Y	MEM3	EMDQ13.Y	EMDQ13.Y
(1) EMDQ13.Z	MEM3	EMDQ13.Z	EMDQ13.Z
(1) EMDQ14.A	MEM4	EMDQ14.A	EMDQ14.A
(1) EMDQ14.B	MEM4	EMDQ14.B	EMDQ14.B
(1) EMDQ14.C	MEM4	EMDQ14.C	EMDQ14.C
(1) EMDQ14.D	MEM4	EMDQ14.D	EMDQ14.D
(1) EMDQ14.E	MEM4	EMDQ14.E	EMDQ14.E
(1) EMDQ14.F	MEM4	EMDQ14.F	EMDQ14.F
(1) EMDQ14.G	MEM4	EMDQ14.G	EMDQ14.G
(1) EMDQ14.H	MEM4	EMDQ14.H	EMDQ14.H
(1) EMDQ14.I	MEM4	EMDQ14.I	EMDQ14.I
(1) EMDQ14.J	MEM4	EMDQ14.J	EMDQ14.J
(1) EMDQ14.K	MEM4	EMDQ14.K	EMDQ14.K
(1) EMDQ14.L	MEM4	EMDQ14.L	EMDQ14.L
(1) EMDQ14.M	MEM4	EMDQ14.M	EMDQ14.M
(1) EMDQ14.N	MEM4	EMDQ14.N	EMDQ14.N
(1) EMDQ14.O	MEM4	EMDQ14.O	EMDQ14.O
(1) EMDQ14.P	MEM4	EMDQ14.P	EMDQ14.P
(1) EMDQ14.Q	MEM4	EMDQ14.Q	EMDQ14.Q
(1) EMDQ14.R	MEM4	EMDQ14.R	EMDQ14.R
(1) EMDQ14.S	MEM4	EMDQ14.S	EMDQ14.S
(1) EMDQ14.T	MEM4	EMDQ14.T	EMDQ14.T
(1) EMDQ14.U	MEM4	EMDQ14.U	EMDQ14.U
(1) EMDQ14.V	MEM4	EMDQ14.V	EMDQ14.V
(1) EMDQ14.W	MEM4	EMDQ14.W	EMDQ14.W
(1) EMDQ14.X	MEM4	EMDQ14.X	EMDQ14.X
(1) EMDQ14.Y	MEM4	EMDQ14.Y	EMDQ14.Y
(1) EMDQ14.Z	MEM4	EMDQ14.Z	EMDQ14.Z

NOTE: using alternate to change order by LP4x

V5.5 CHANGE

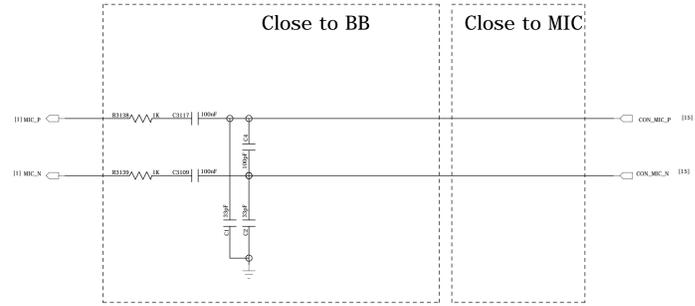
V5.5

DESIGNER:		DATE:		DEPARTMENT:	
REQ:		DATE:		Hardware DEPT.	
APPROVED:		DATE:		COMPANY:	
				Spreadtrum communications, Inc.	
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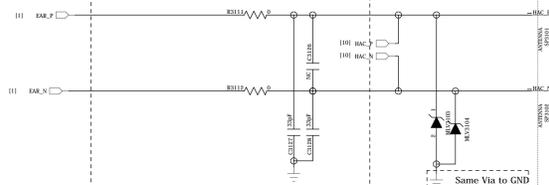
# MAIN MIC

## MEMS only



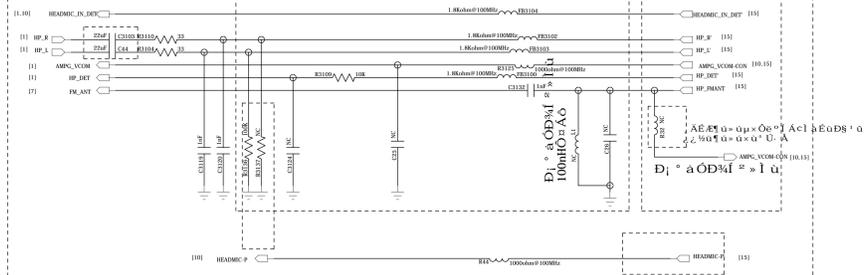
# RECEIVER

Close to Receiver



# 3.5mm Ear Jack

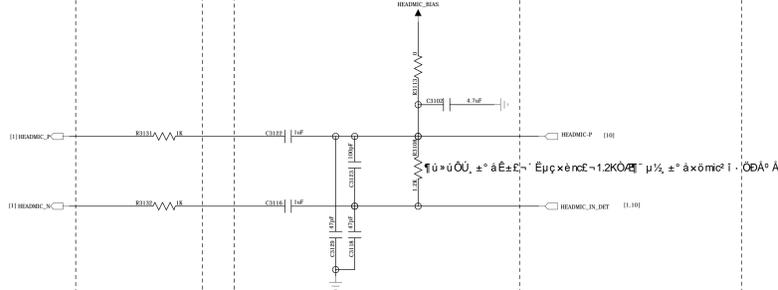
Close to Ear Jack



# HEAD MIC

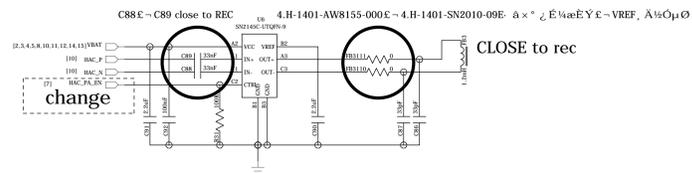
Close to BB

Close to MIC

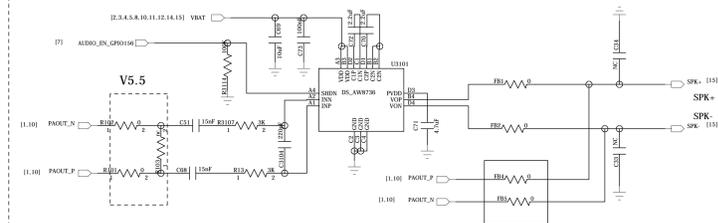


C3102 For improve headset TX T-MOS

# HAC



# SPEAKER

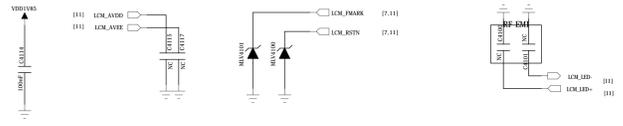
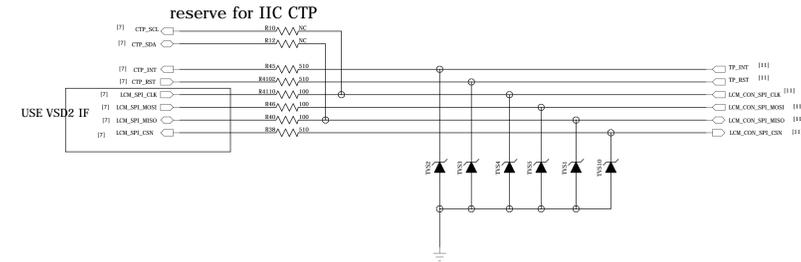
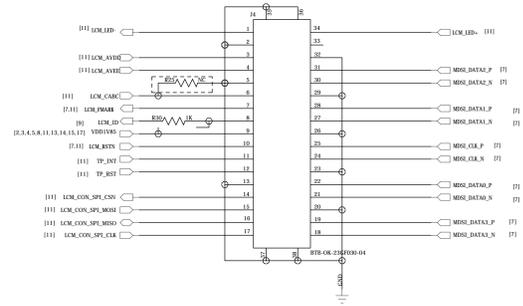


close to pmu

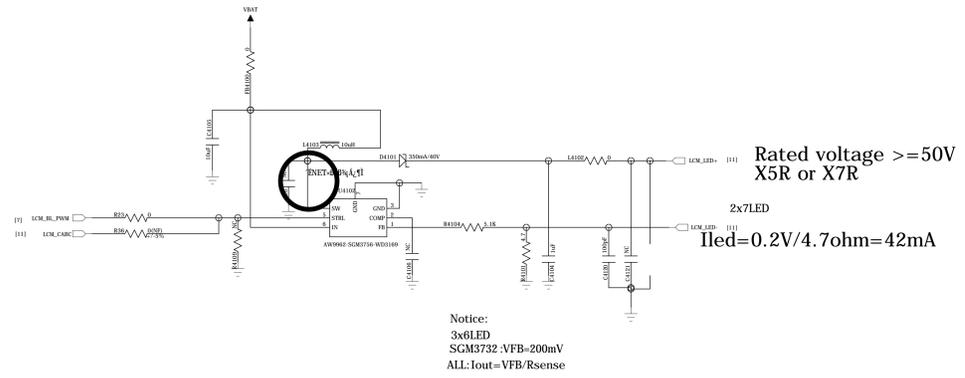
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EQA:	DATED:	COMPANY:	Spreadtrum communications, Inc.
APPROVED:	DATED:	CONFIDENTIAL AND PROPRIETARY	

REVISION RECORD			
LTR	ECO NO.	APPROVED	DATE

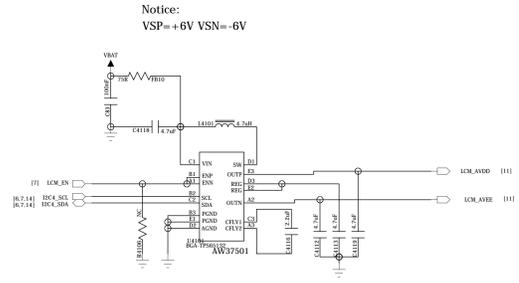
# 6.517" LCM(MIPI)



## Back Light Driver

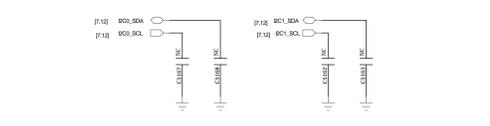
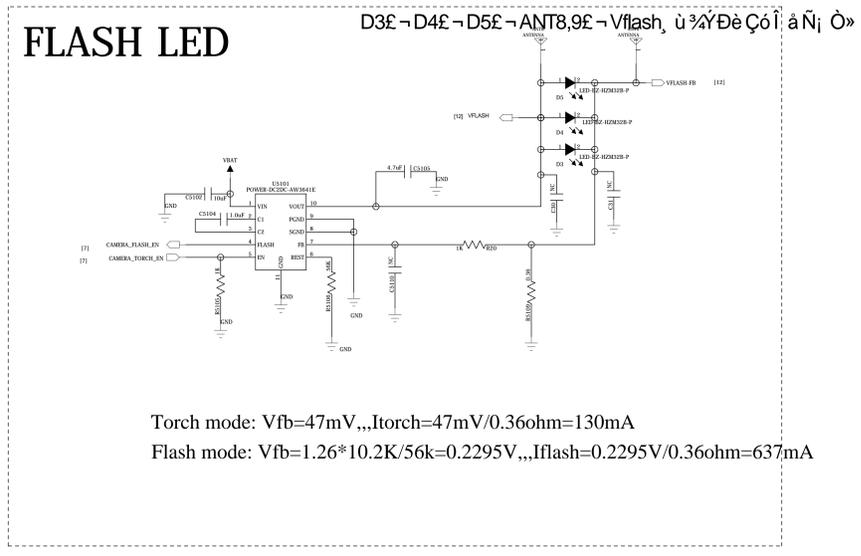
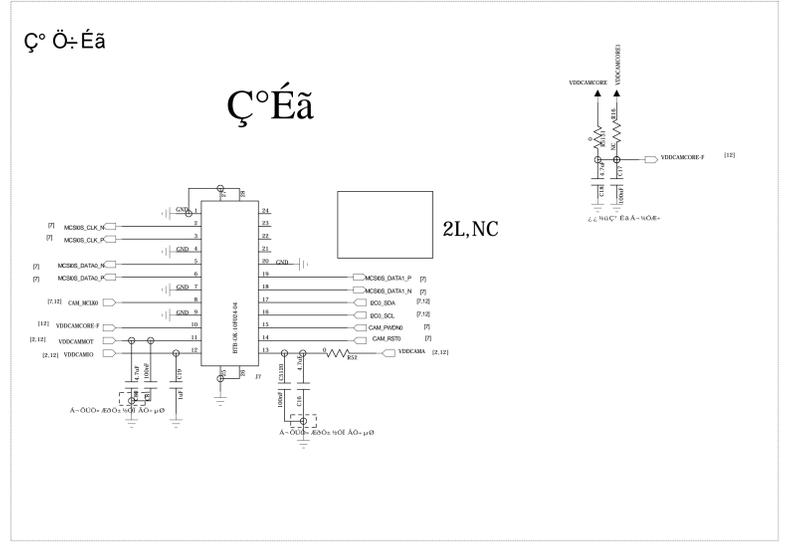
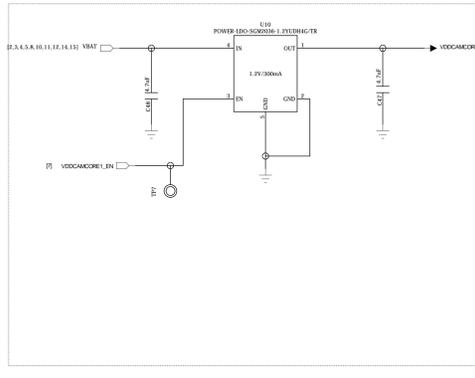
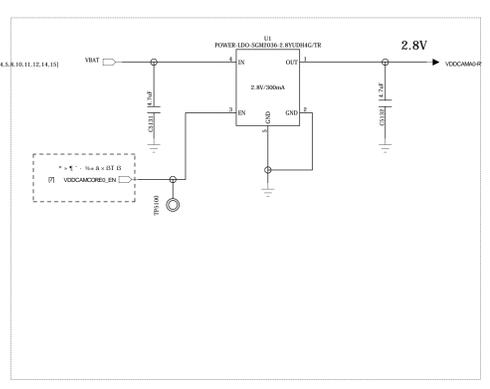
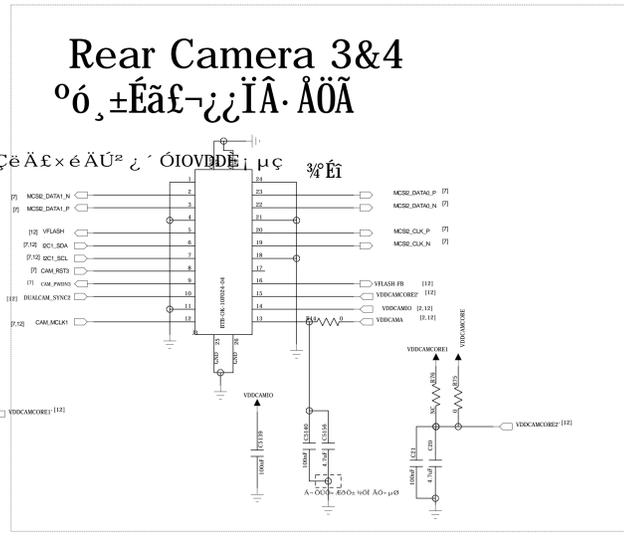
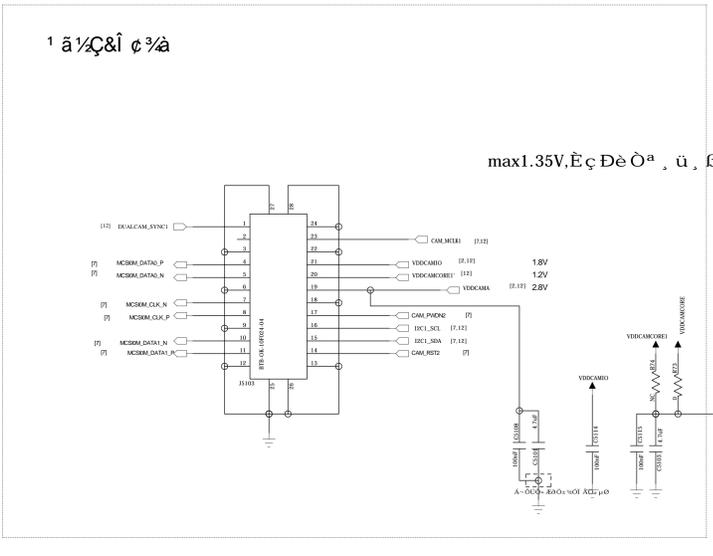
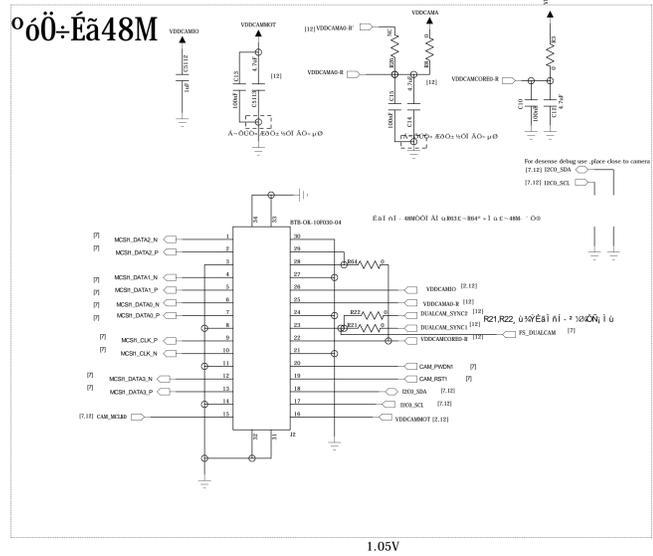


## Source Driver



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EDA:	DATE:	COMPANY:
APPROVED:	DATE:	Spreadtrum communications, Inc.
CONFIDENTIAL AND PROPRIETARY		

REVISION RECORD			
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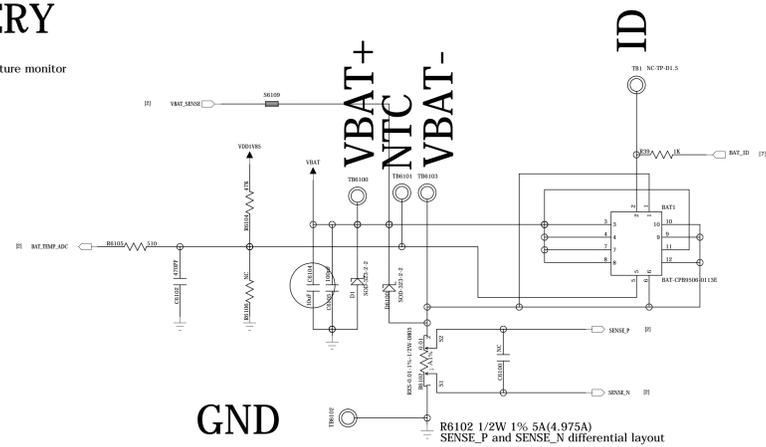
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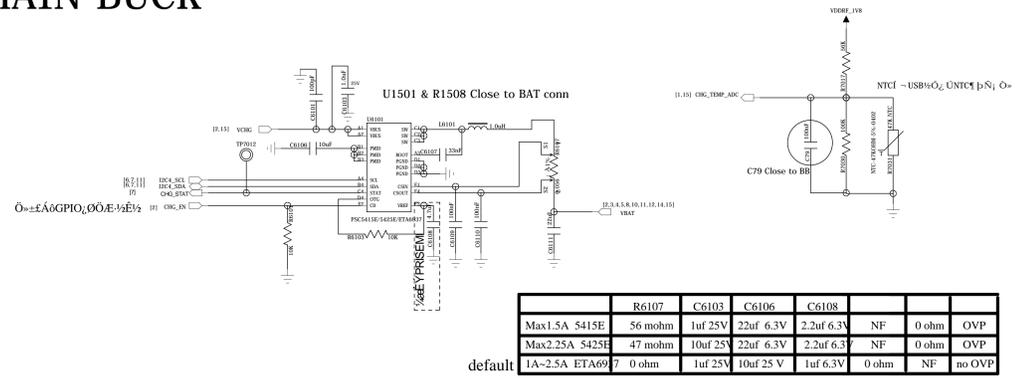
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# BATTERY

Battery temperature monitor



# CHARGE MAIN BUCK



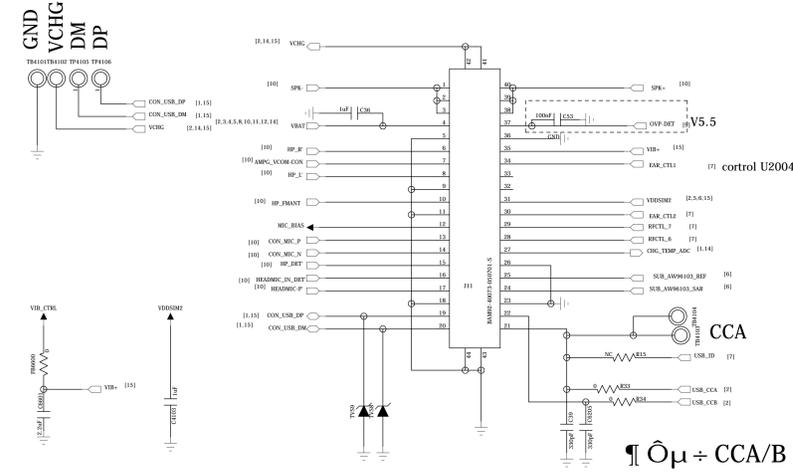
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Hardware DEPT.  
Spreadtrum communications, Inc.

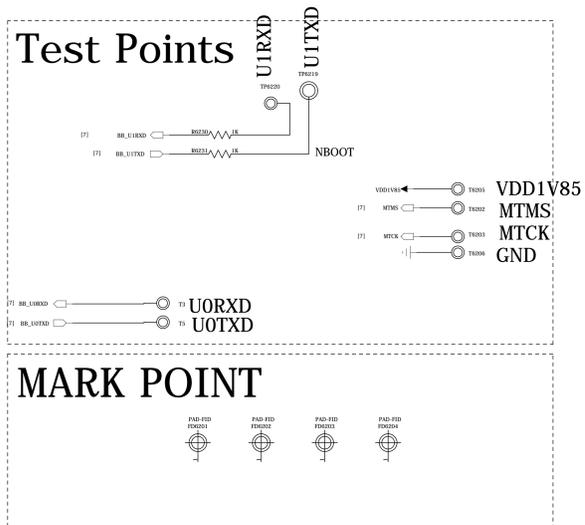
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# KB Connector



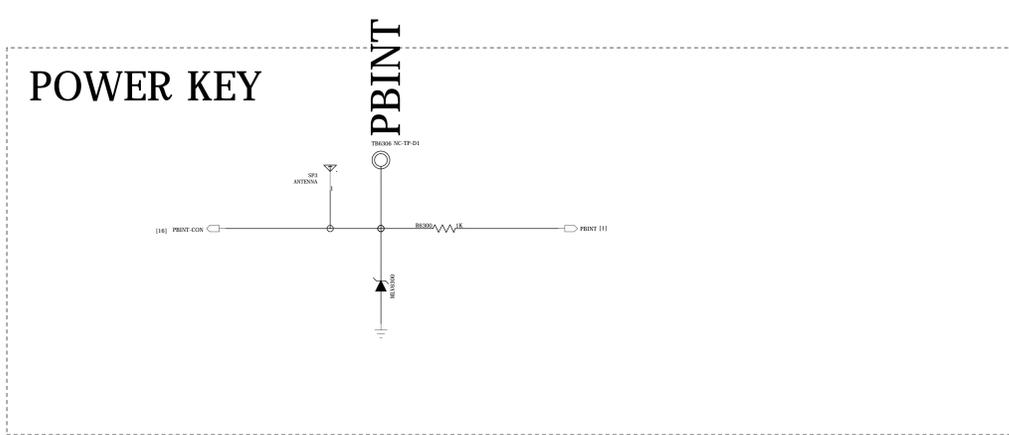
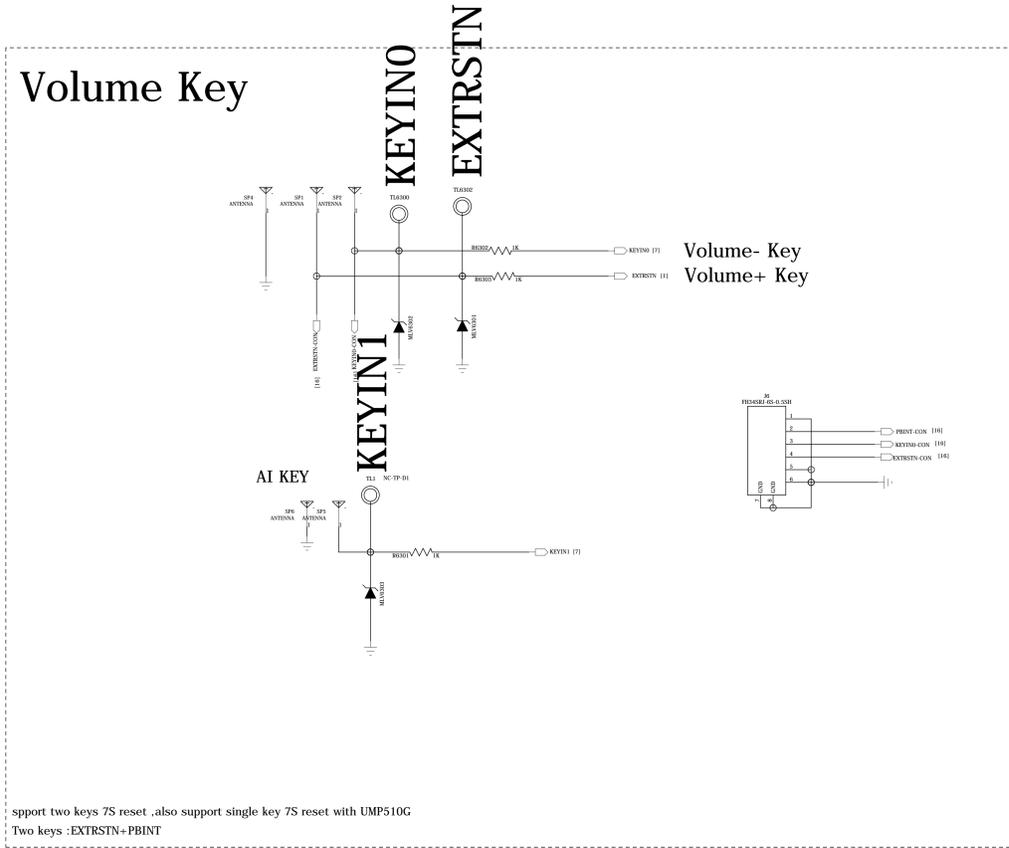
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Strapping pin



TITLE & REV:		
DOCUMENT NO.:		
DESIGNER:	DATE:	DEPARTMENT:
		Hardware DEPT.
QA:	DATE:	COMPANY:
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APPROVED:	DATE:	CONFIDENTIAL AND PROPRIETARY

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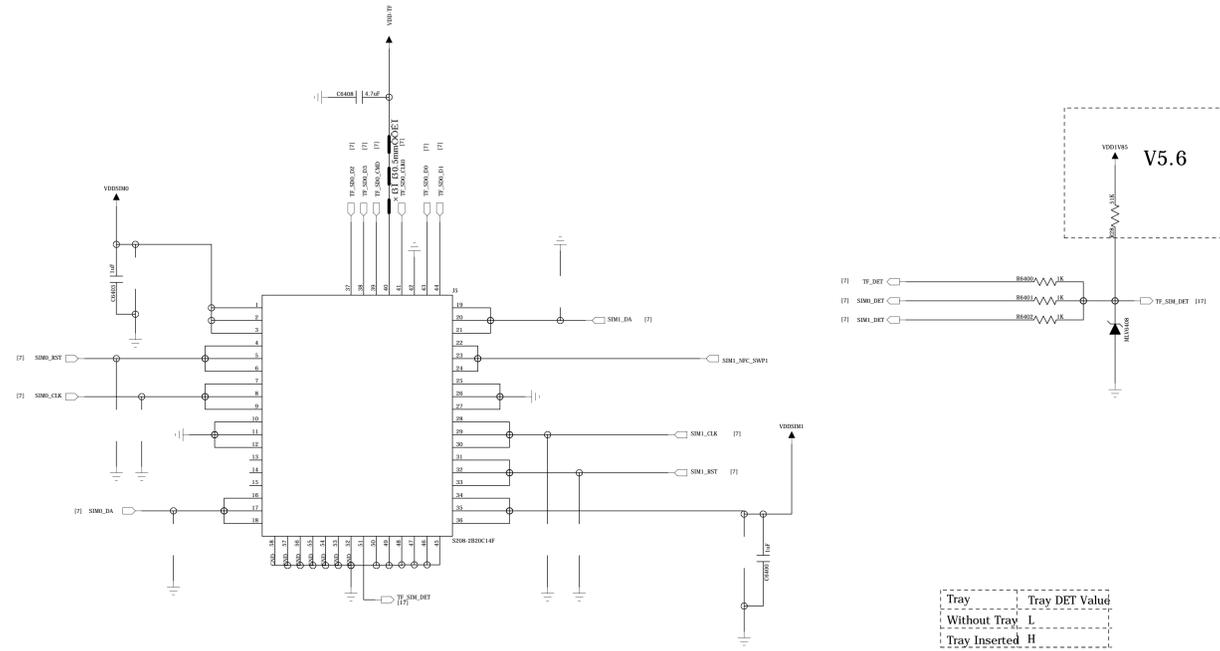
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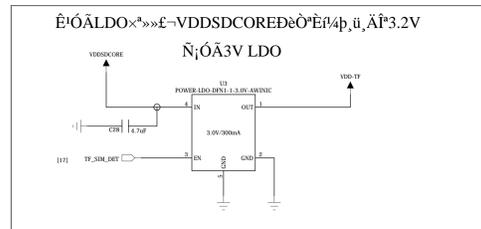
Hardware DEPT.  
Spreadtrum communications, Inc.

REVISION RECORD			
LT#	ECO NO.	APPROVED:	DATE:

# SIM0 & SIM1 & T\_Flash



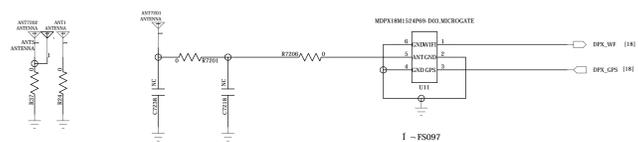
## V5.5ADD



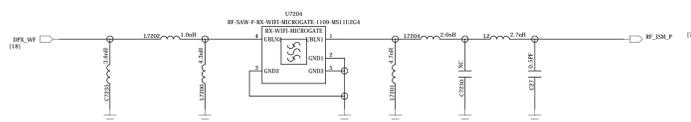
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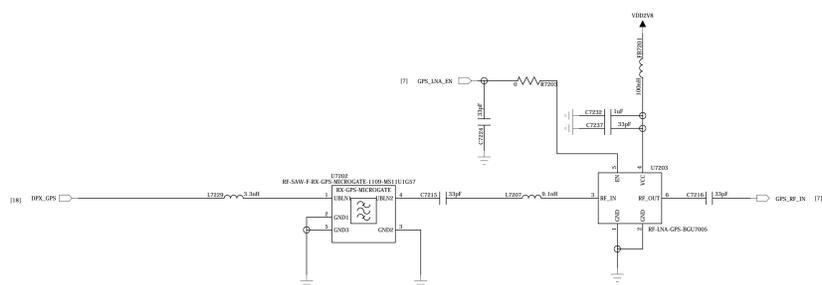
# WIFI&BT ANT



# WIFI/BT SAW



# GNSS SAW LNA

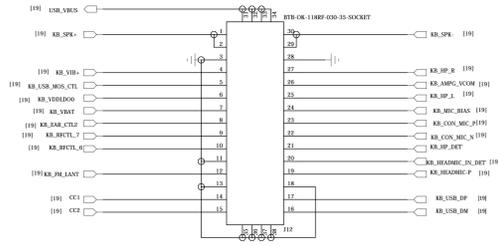


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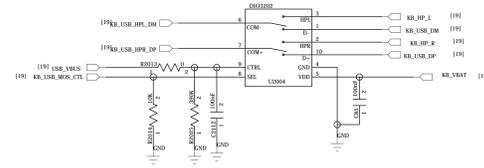
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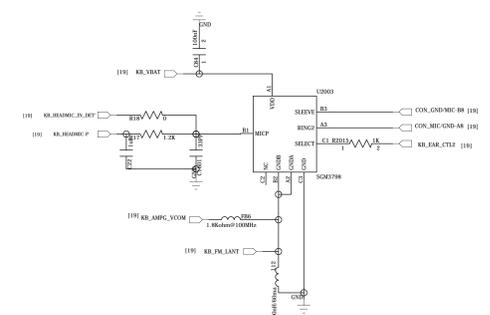
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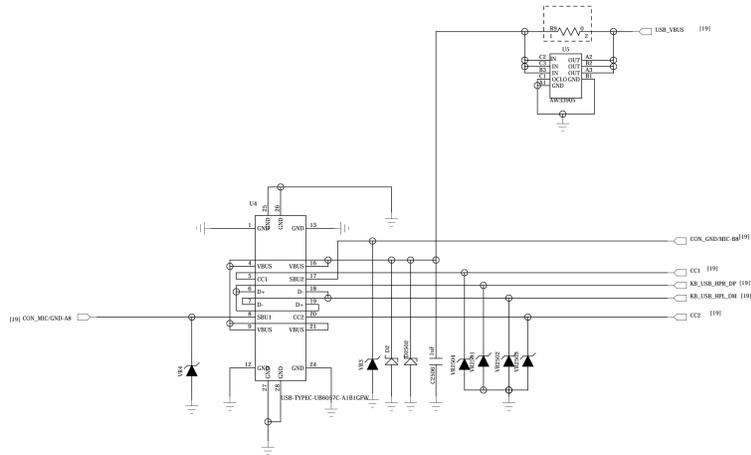
### Audio & USB Switch



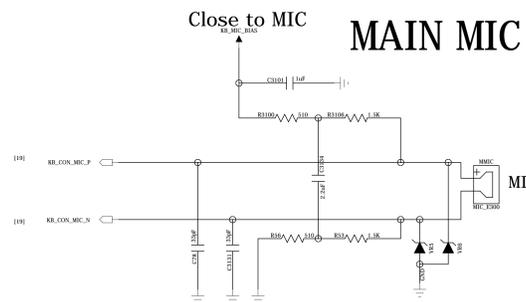
### MIC & GND Switch



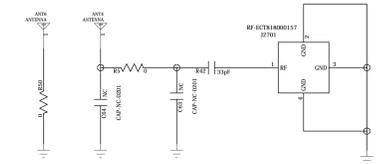
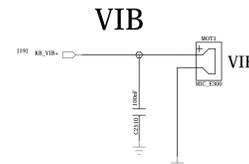
### TYPE\_C\_Connector



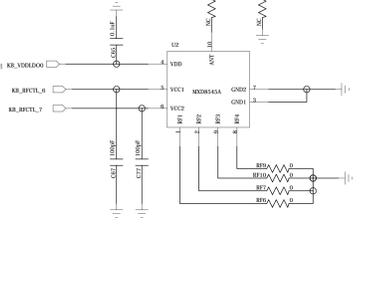
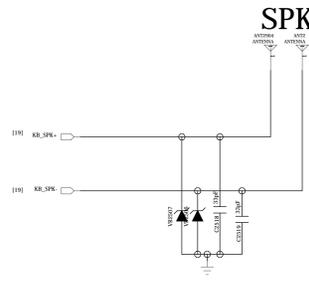
### Close to MIC MAIN MIC



### VIB



### SPK



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TITLE: <Title>

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