主机外观图

机型名：V9
上市时间：2012 年 9 月

产品定义

产品概述

整机外形	PDA	**通信制式**	WCDMA单模单卡		
SIM卡槽数量	单卡槽	**整机长宽厚尺寸**	133.9X67.3X10.8	**整机重量(含电池)**	163g
硬件平台	Nvidia AP33 Infineon XMM626				

硬件规格

类　型	**项目**	**描　述**
显示屏	尺寸(英寸)	4.5″
	分辨率	540*960
	材质	TFT
	色彩数	16M
	连接方式	ZIF
	触摸	电容触摸
	多点触摸	多点
前摄像头	像素	30万
	变焦类型	定焦FF
	连接方式	SMT
后摄像头	像素	500万
	变焦类型	自动变焦AF
	连接方式	B-T-B
电池	电池容量	1800mAh
	电池类型	锂离子
声 音	耳机立体声	Yes
	免提	支持
	喇叭	支持

	喇叭尺寸规格	单喇叭
存 储	T卡卡槽	不支持
	T卡最大容量	32GB
	ROM	4GB
	RAM	1GB
按 键	主键盘板类型	与触屏集成
	触感按键	支持
	按键LED数量	1
	按键LED颜色	白
FM	FM天线	不支持
	FM外放	不支持
无线通信	蓝牙	支持蓝牙2.0
	NFC	不支持
	GPS	支持
	WiFi	支持802.11g/b/n
灯 光	闪光灯	单LED
	手电筒	不支持
	七彩灯	不支持
	紫外验钞灯	不支持
TV	模拟电视	不支持
	数字电视	不支持
	TV-OUT	不支持
传感器	环境光传感器	支持
	接近传感器	支持
	重力传感器	支持

传感器	加速度传感器	支持
	E-compass	支持
	陀螺仪	不支持
接　口	耳机接口	3.5mm耳机
	充电接口	Micro-USB
	USB接口	Micro-USB
	HDMI/MHL接口	不支持

拆装机注意事项

一、拆卸注意事项：

1.拆卸 FPC 组件时避免由于暴力拆卸造成主板或 FPC 组件破损。

2.在拆显示屏的时候注意需要前后四周加热二分钟，温度 120℃

3.主板上防静电胶带较多，安装时保证原位置焊盘不能裸露，以免造成静电损伤。

4.具有极性的元件在组装时要注意方向，不要装反。

5．拆卸完显示屏必须清理前壳，显示屏的泡棉胶，如果前壳要重复使用必须更换泡棉胶

6.泡棉胶料号：TYC7812A271008

二、所需工具：

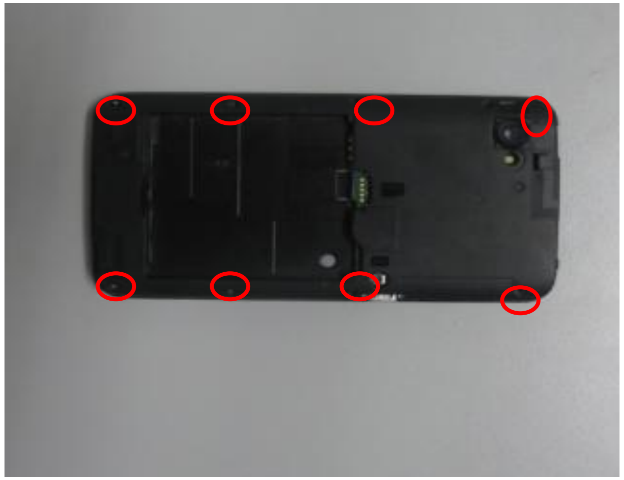
拨片、撬棍、塑料镊子、金属镊子、螺丝刀、手术刀

电烙铁

二、步骤：

1.）从左侧下方缺口处打开电池盖

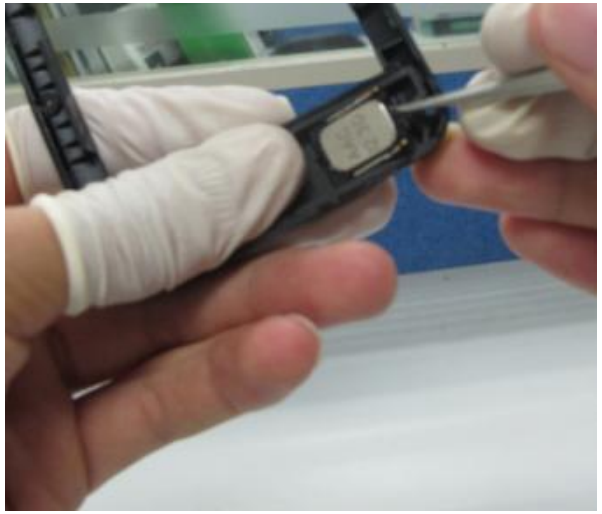
2.) 取下电池



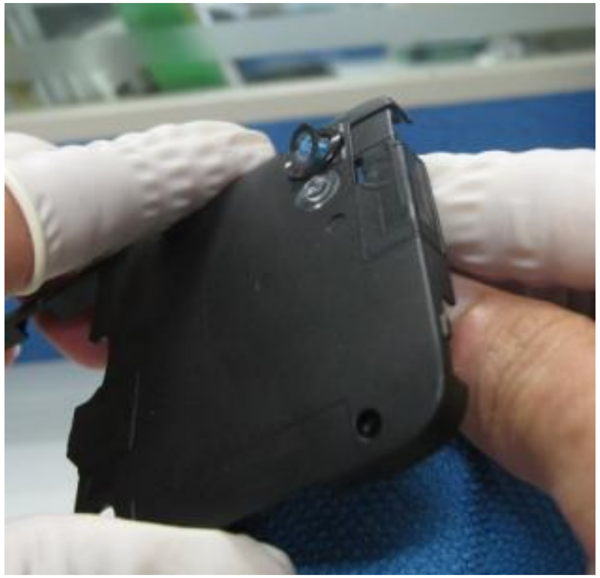
3.）拧下 8 颗螺钉

4.）从顶部拆下后壳组件

5）拆开后壳的效果图（妥善保管卡槽卡片装机务必装回原为 ）

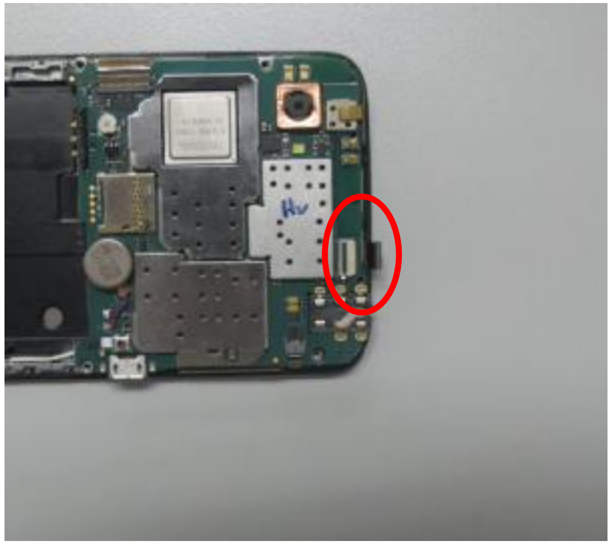


6）用镊子拆下扬声器组件。

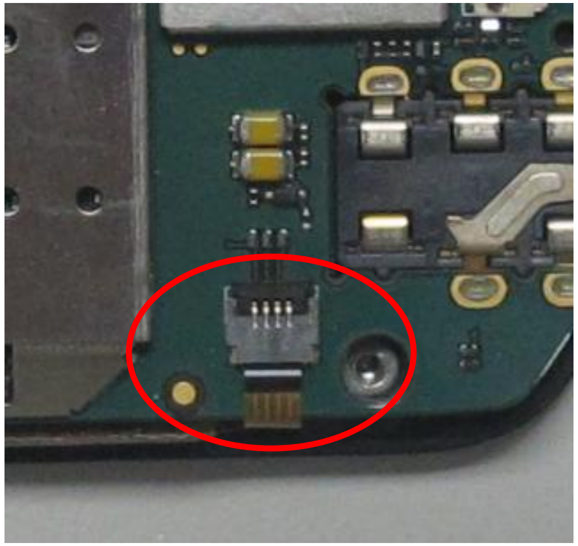


7）用塑料镊子+无尘布慢慢顶起摄像头镜片，然后取下镜片

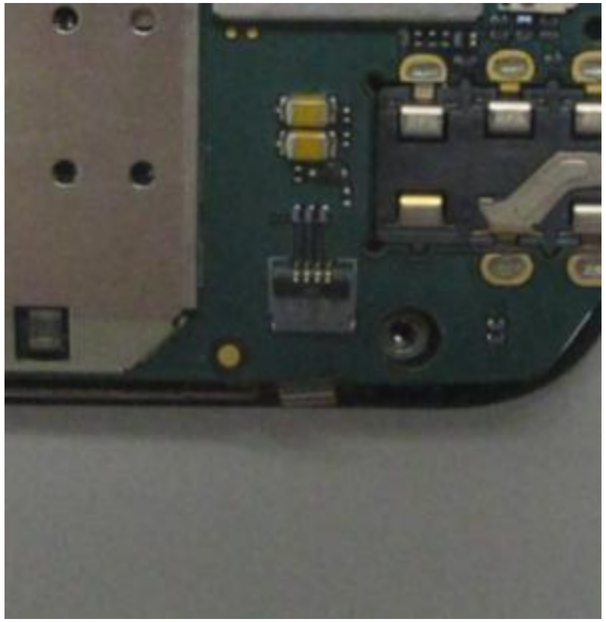
9）打开触摸屏 FPC 接口压片



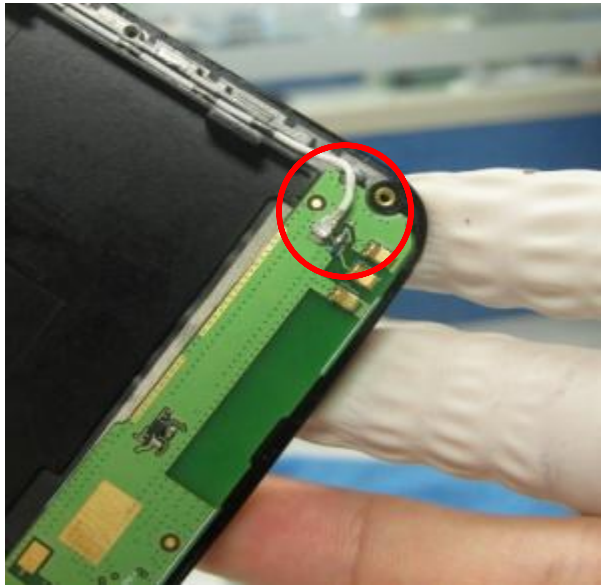
10）取出触摸屏 FPC。



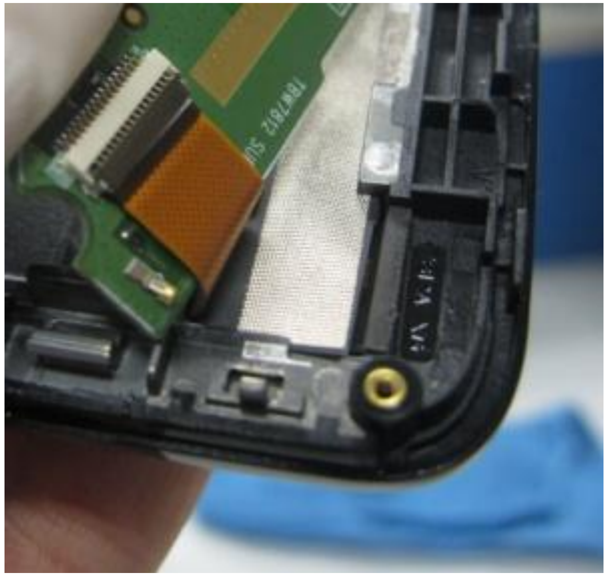
11）打开音量键 FPC 接口压片



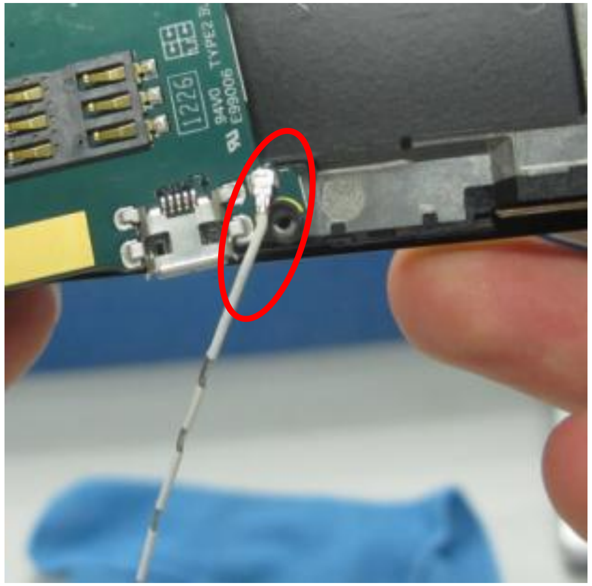
12）从接口内取出音量键 FPC



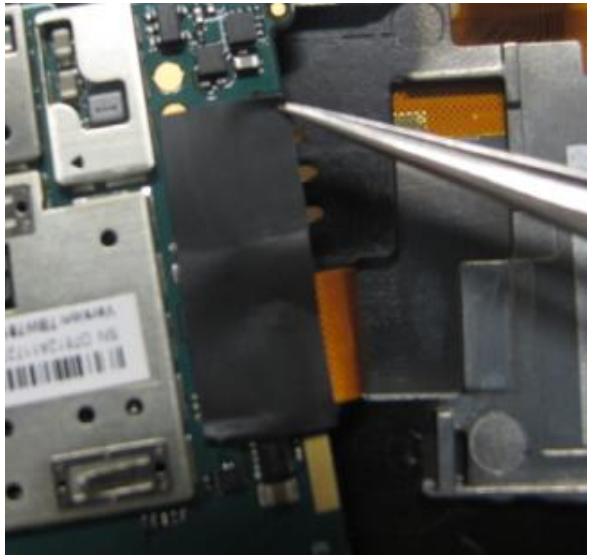
13. ）拆下 cable 线（副板端）



14.）取下主板 FPC（副板端）



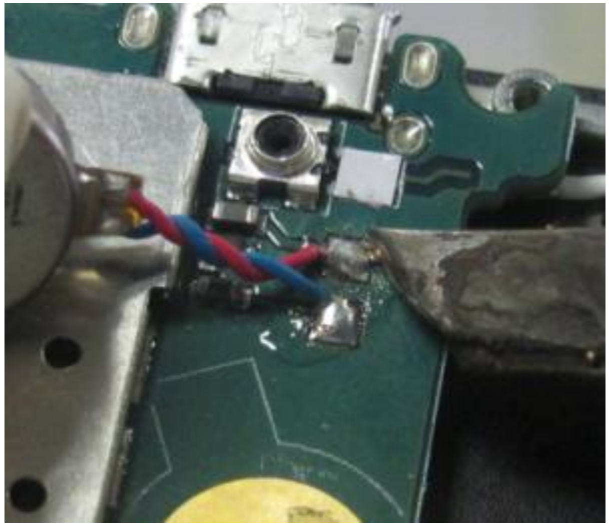
15.）拆下 cable 线（主板端）



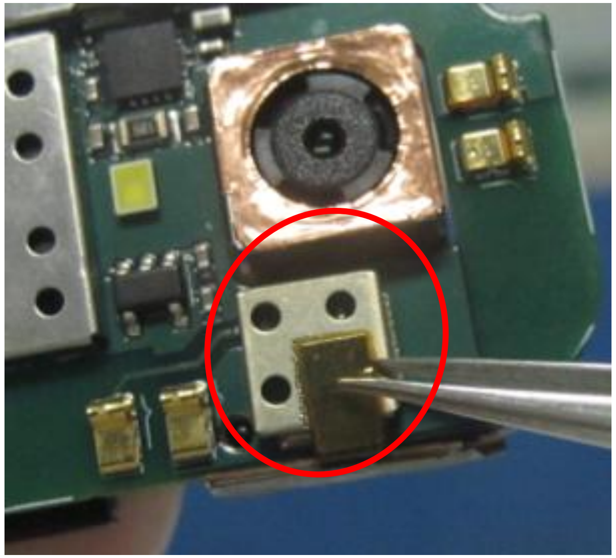
16.）用镊子撕下主 fpc 连接器固定黑膜

17.）拆下主板 FPC（主板端）

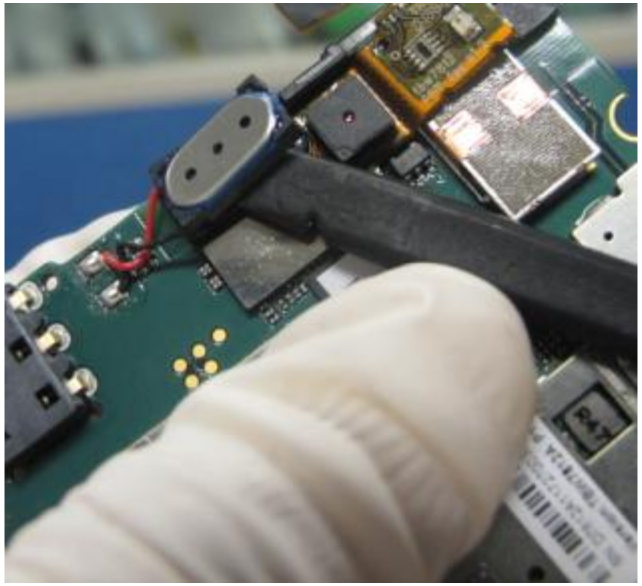
18.）用手术刀撬起马达



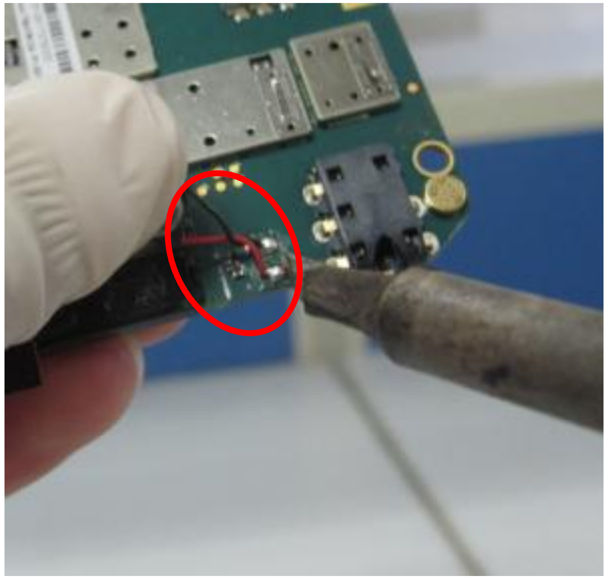
19.）焊下马达



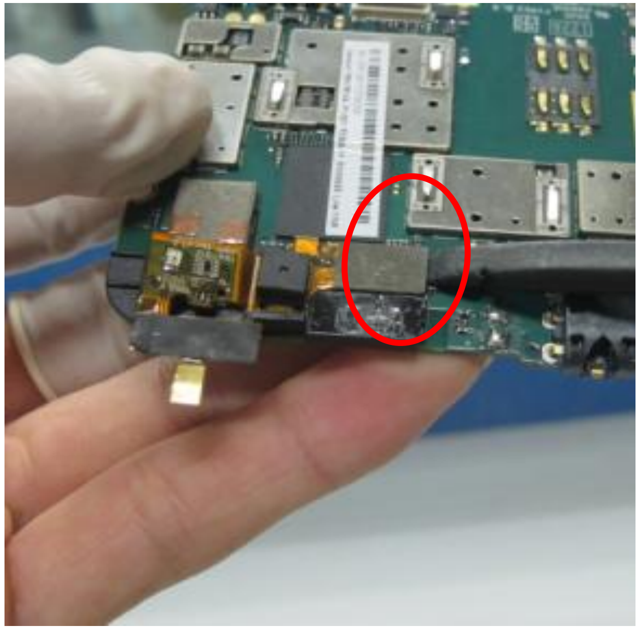
20.）用镊子拆下前置摄像头组件



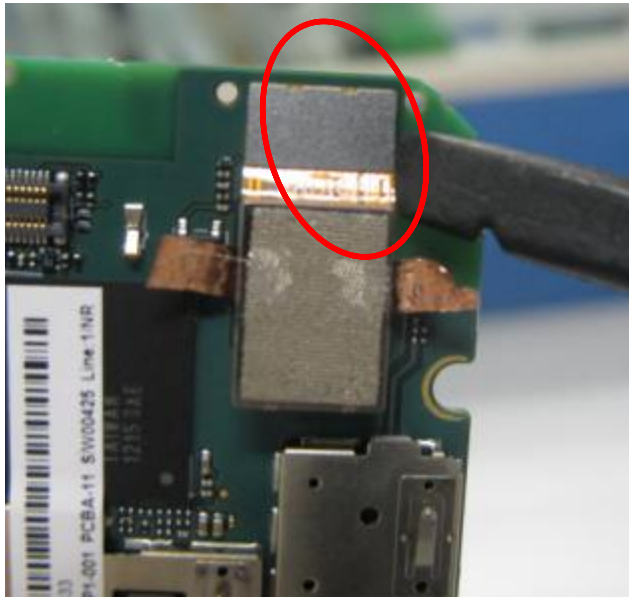
23.）用塑料镊子跷起受话器组件



24.）焊下受话器组件



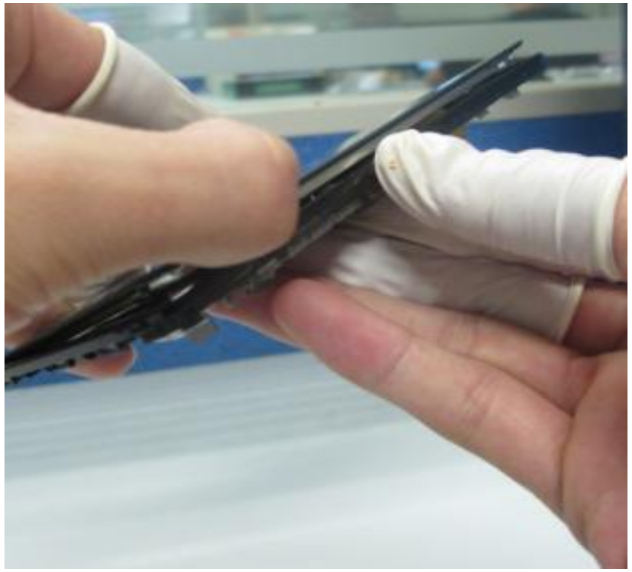
25.）用塑料镊子拆下前摄像头组件



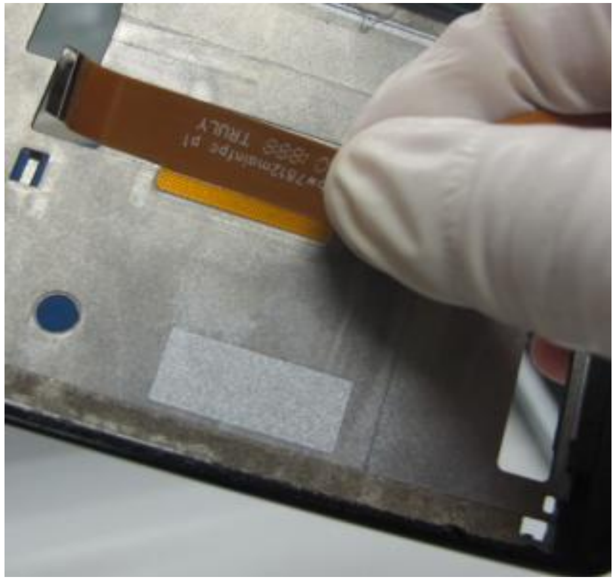
26.）取下摄像头

26）前壳组件与主板分开的效果图

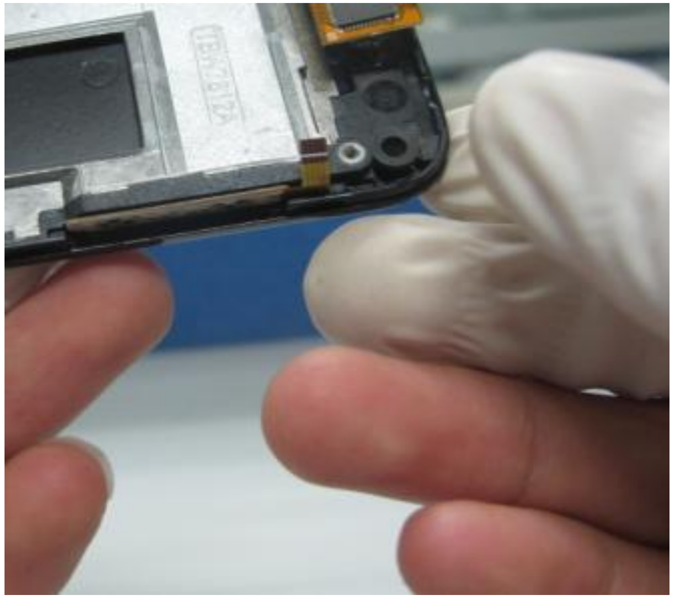
27. ）取下临近感应器避光罩，（注意装机务必装回否则打电话黑屏



28）拆卸显示屏前后需预热，时间需要二分钟，温度120℃



29 ）撕下主 FPC



30 ）拆下前壳音量键组件

31 ）显示屏与前壳分开的效果图

32.）全家福

特殊物料识别

名称：显示屏

描述：LCD+电容屏组件为一体，不可分离

料号：TYC045TL009179T

名称：前壳组件

料号：TYC7812A010008

名称：后壳组件

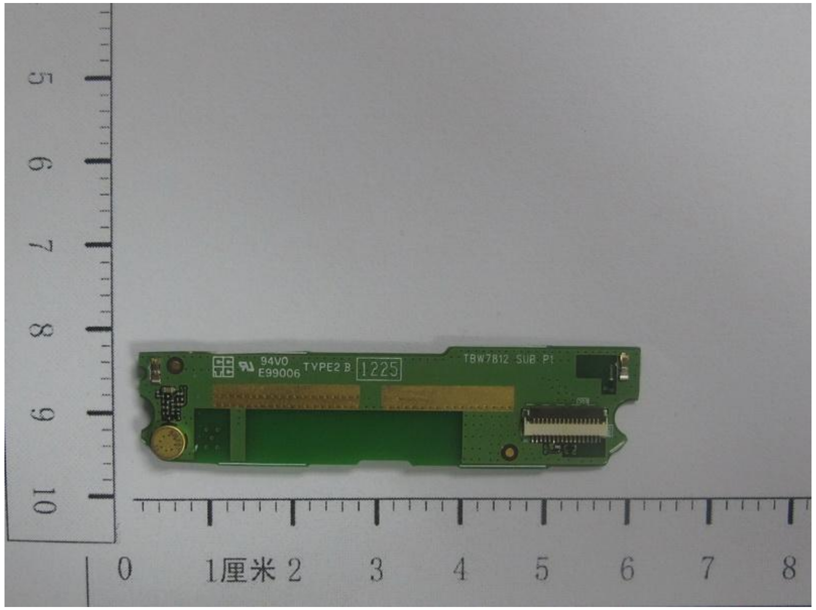
描述：后壳组件包括 WIFI 天线、GPS 天线、主天线

料号：TYC7812A020008

名称：电池盖

描述：电池盖包含电源键、音量键

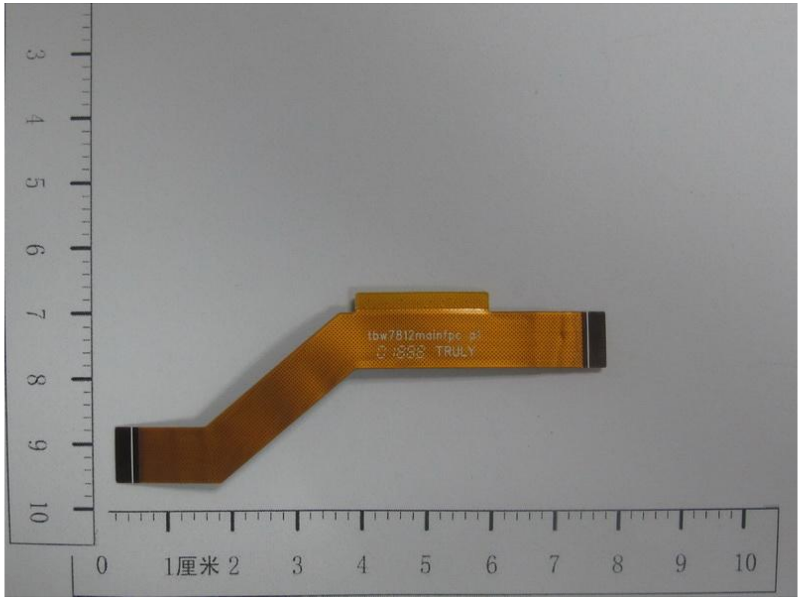
料号：TYC7812A050308



名称：副板

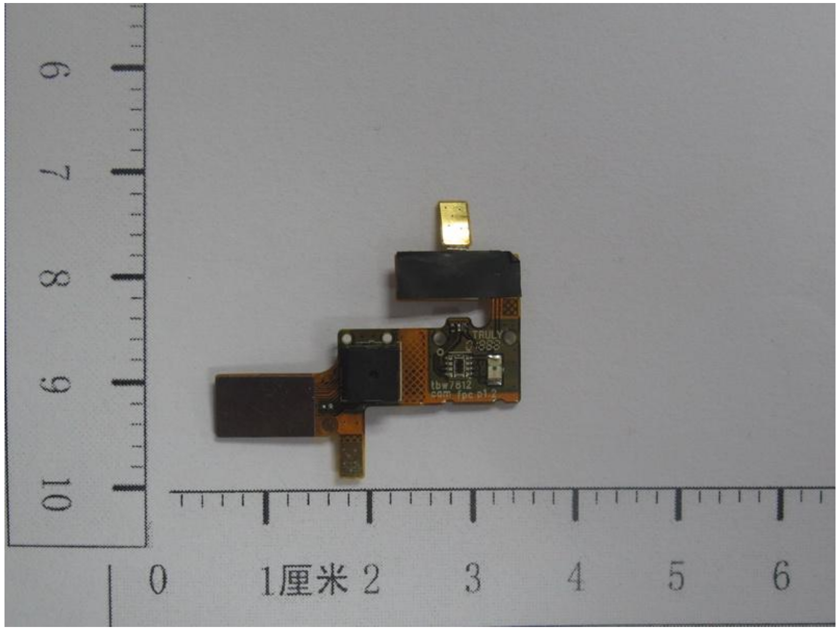
描述：副板包含 MIC 组件

料号：TYC781280410110



名称：主 FPC

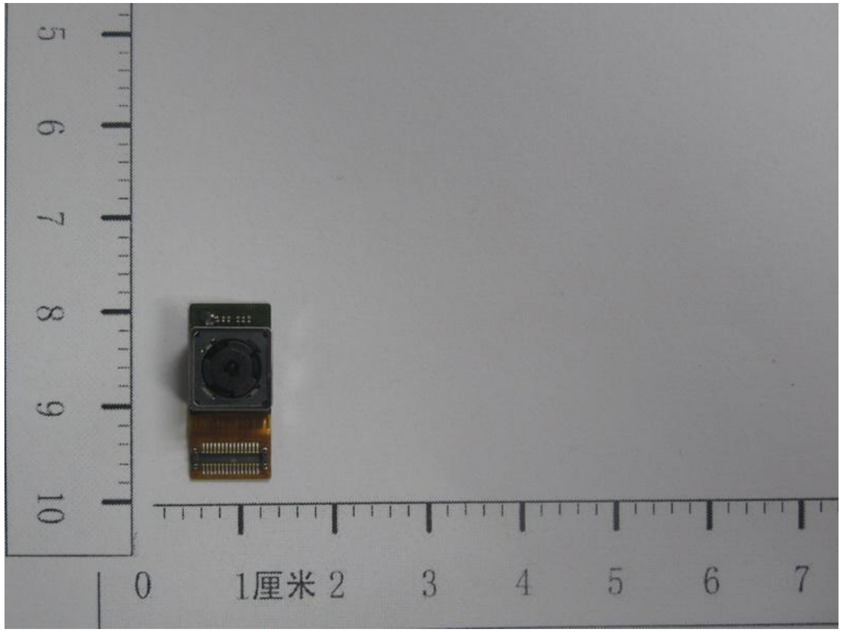
料号：TY0220126T



名称：前摄像头组件

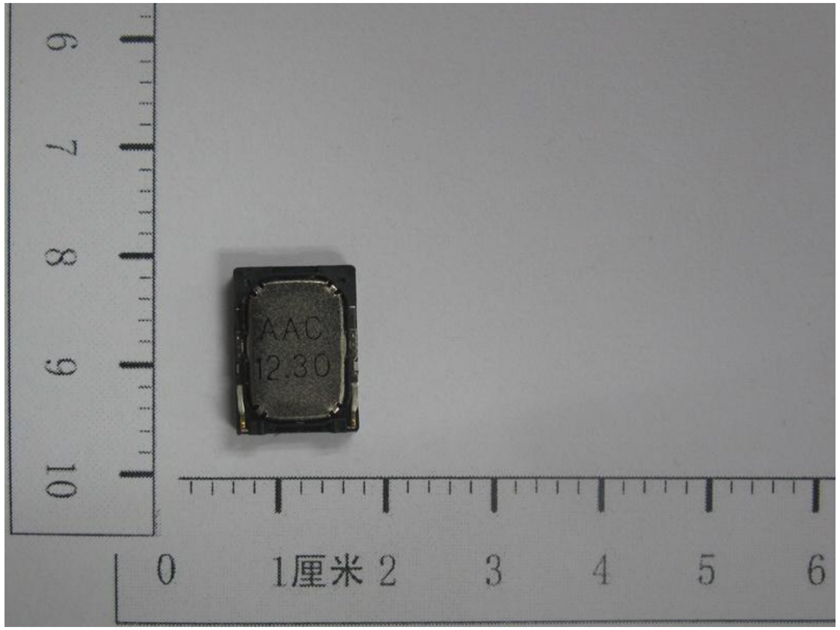
描述：前摄像头组件包含临近传感器、光线传感器、前摄像头

料号：TYC781280420511



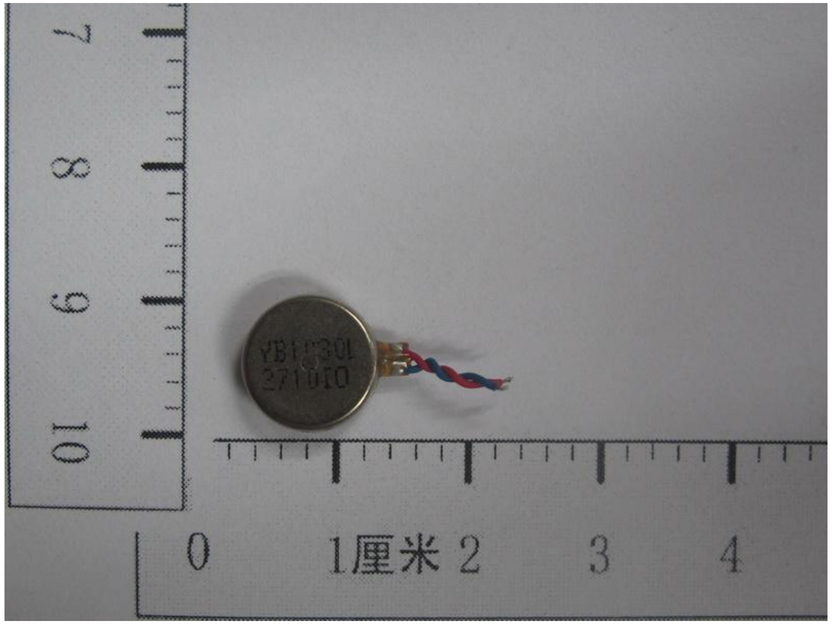
名称：后摄像头

料号：TYC500BA11189S



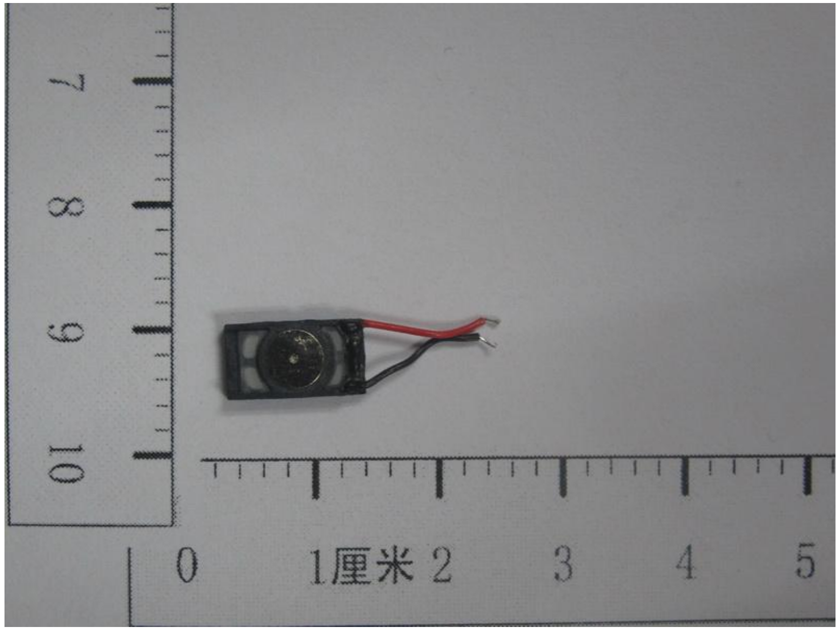
名称：扬声器

料号：TYC7802A1200K8



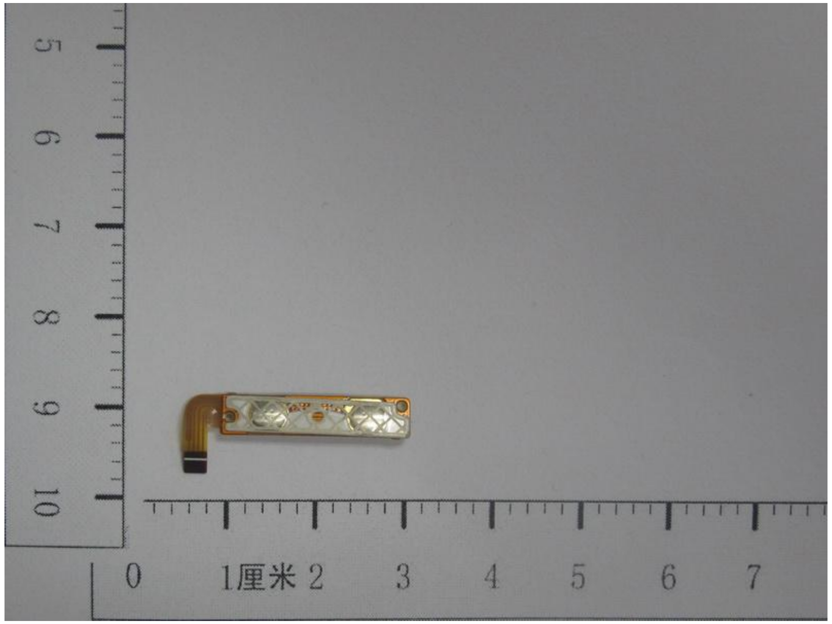
名称：马达

料号：TYC2217A1500



名称：受话器

料号：TYC5913B1300K8

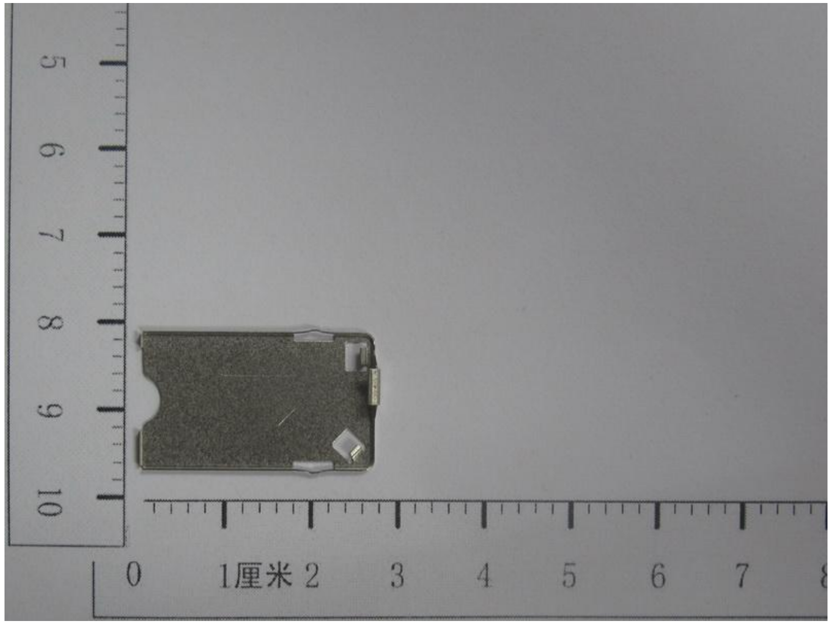


名称：音量键 FPC 组件

料号：TYC7812A1800T

名称：cable 线

料号：TYC7812A200056

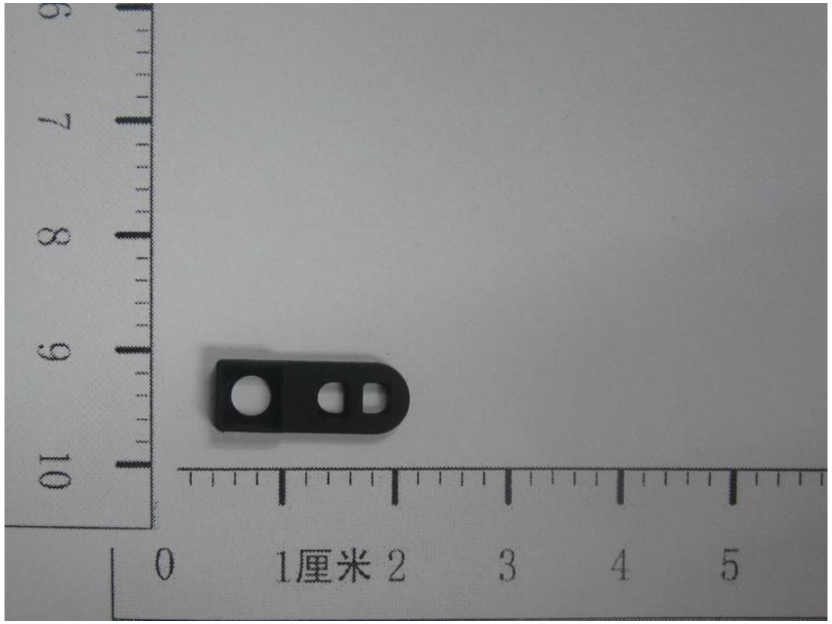


名称：sim 卡托盘

料号：TYC7812A2800P2

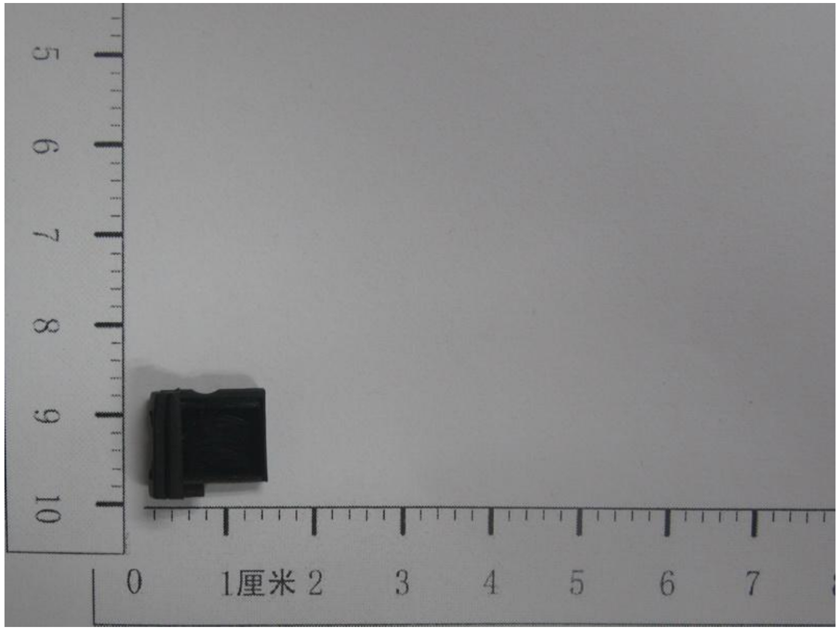
名称：前摄像头支架组件

料号：TYC7812A280108



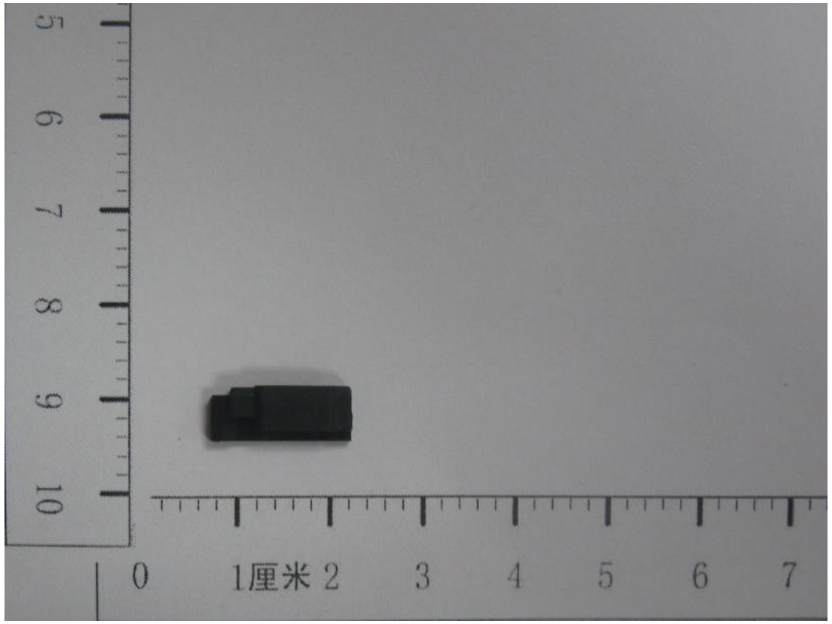
名称：距离传感器硅胶套

料号：TYC7812A230250



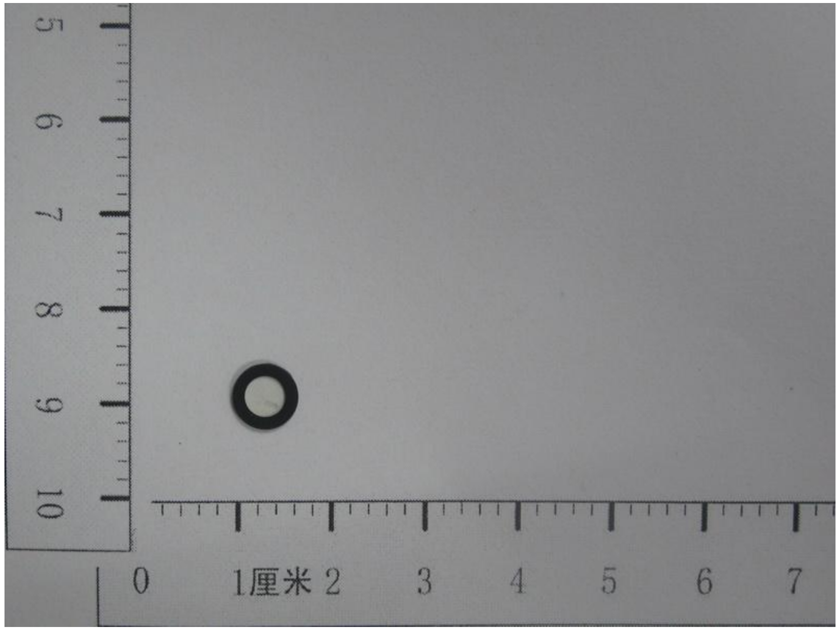
名称：耳机座硅胶套

料号：TYC7812A230050



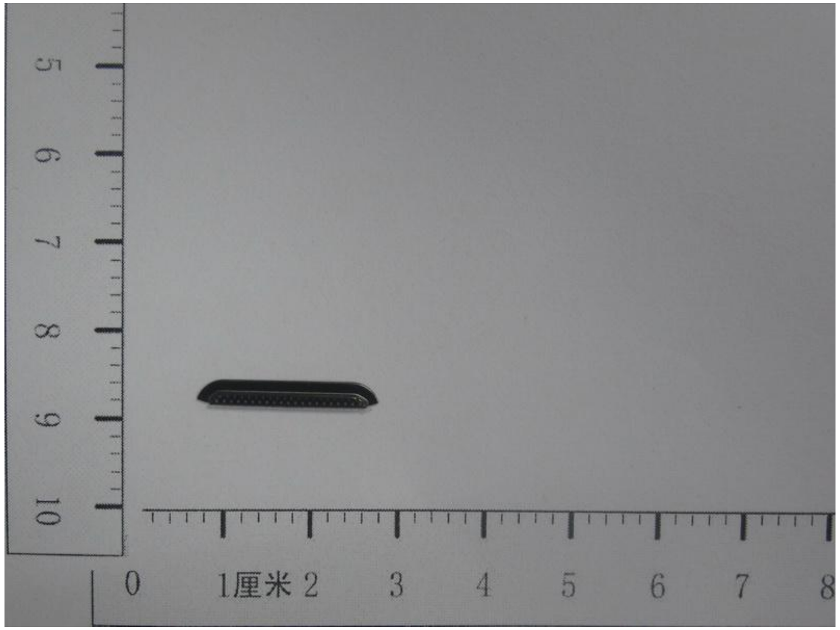
名称：usb 硅胶套

料号：TYC7812A230150



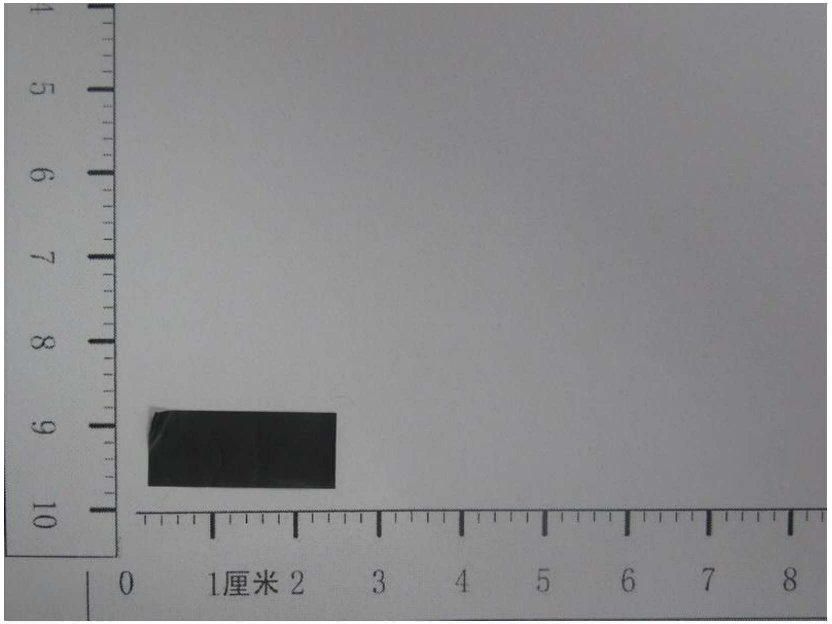
名称：后摄像头镜片

料号：TYC7808A070421



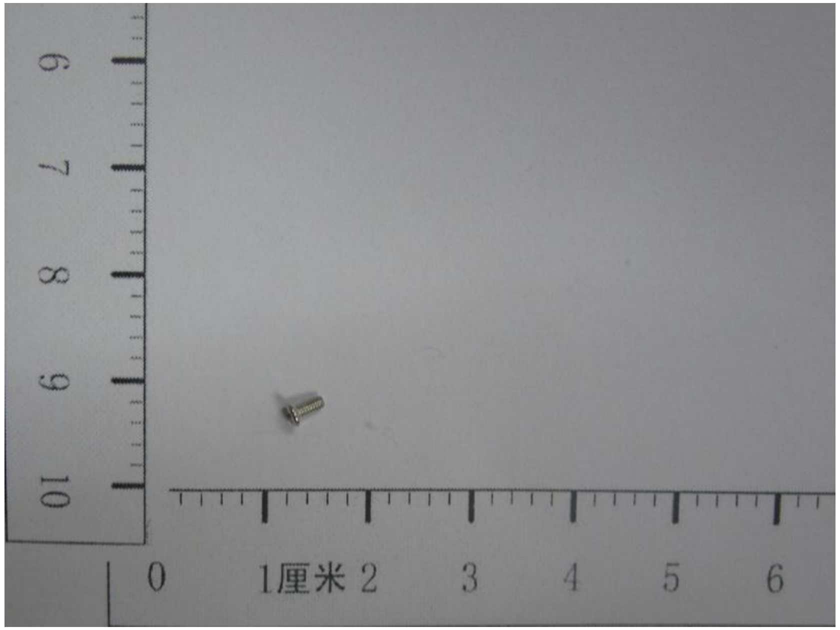
名称：听筒装饰件组件

料号：TYC7812A070184



名称：lcd 器件保护黑膜

料号：TYC7812A222036



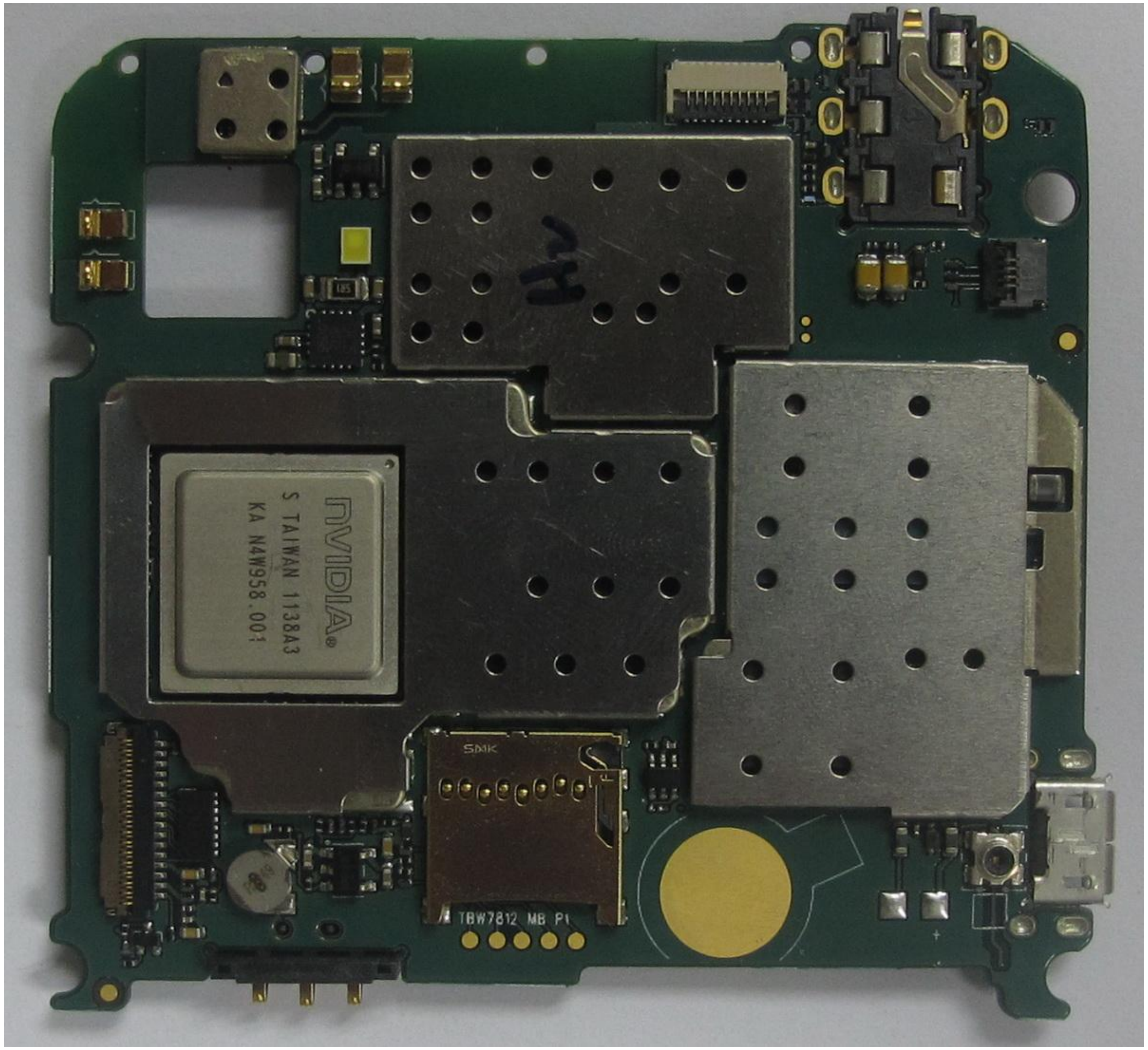
名称：螺钉

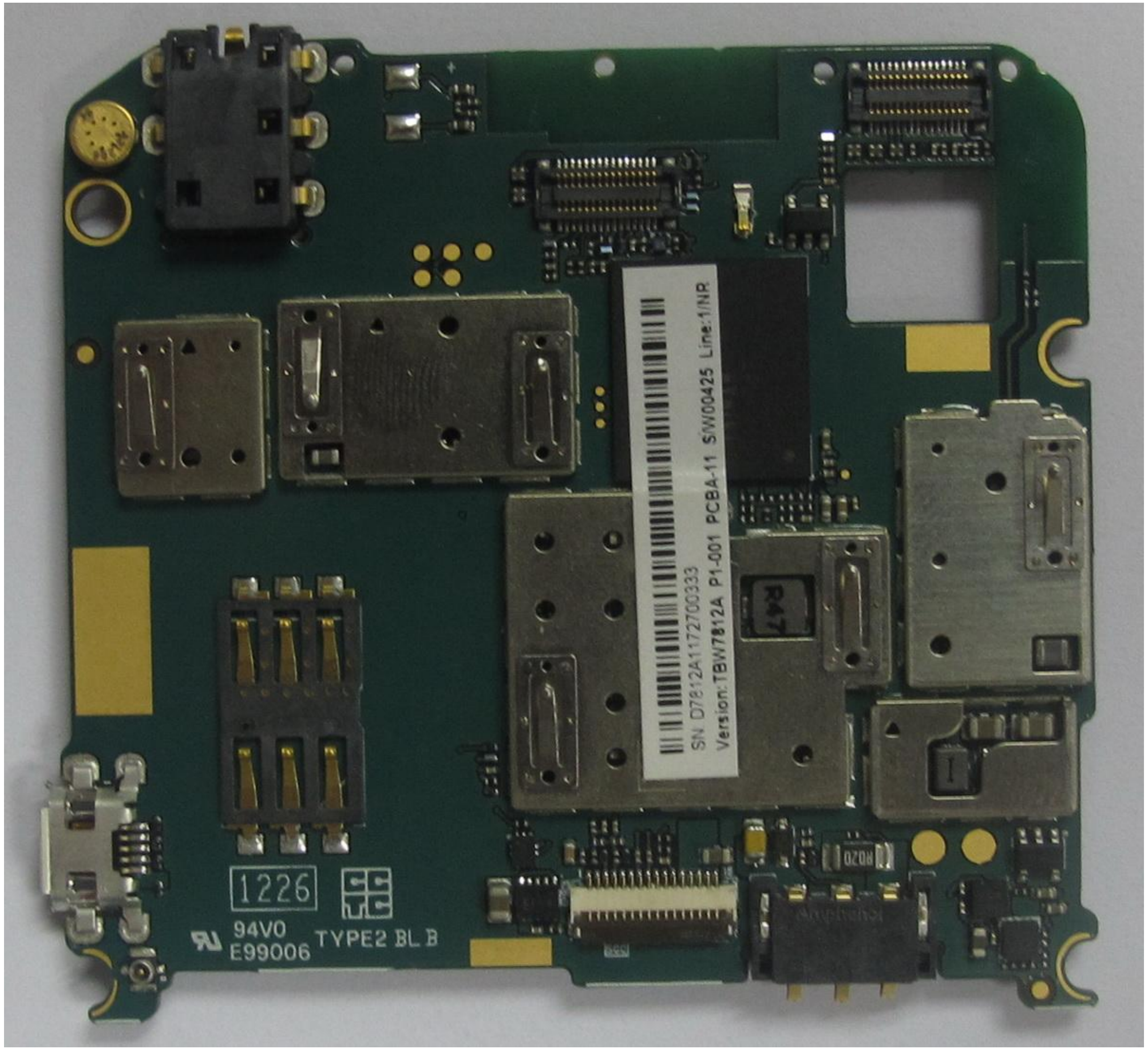
描述：M1.4*3.0*2.5*0.5

料号：TYC620A1900

主板外观图

TBW7812 MB P1

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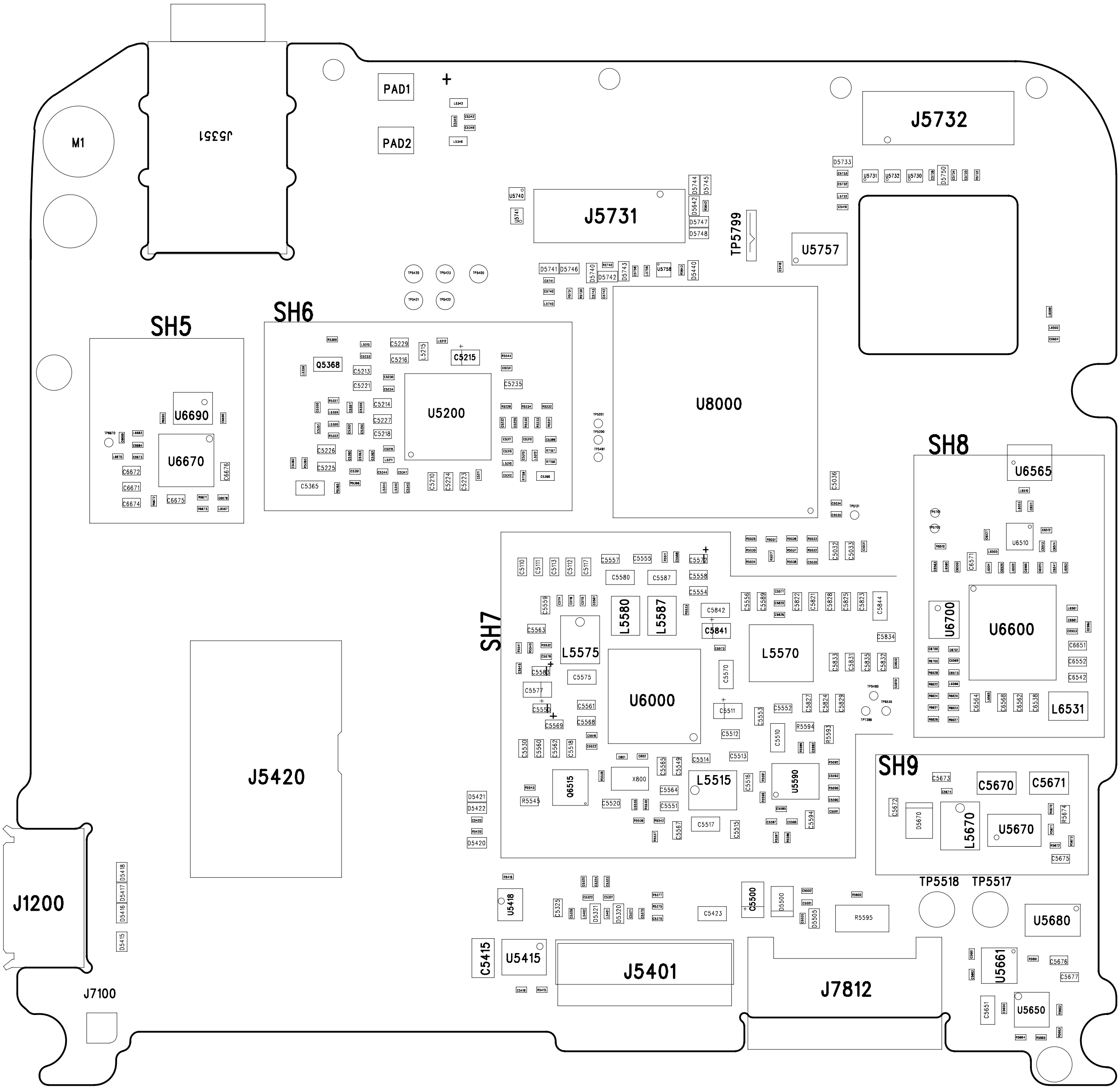
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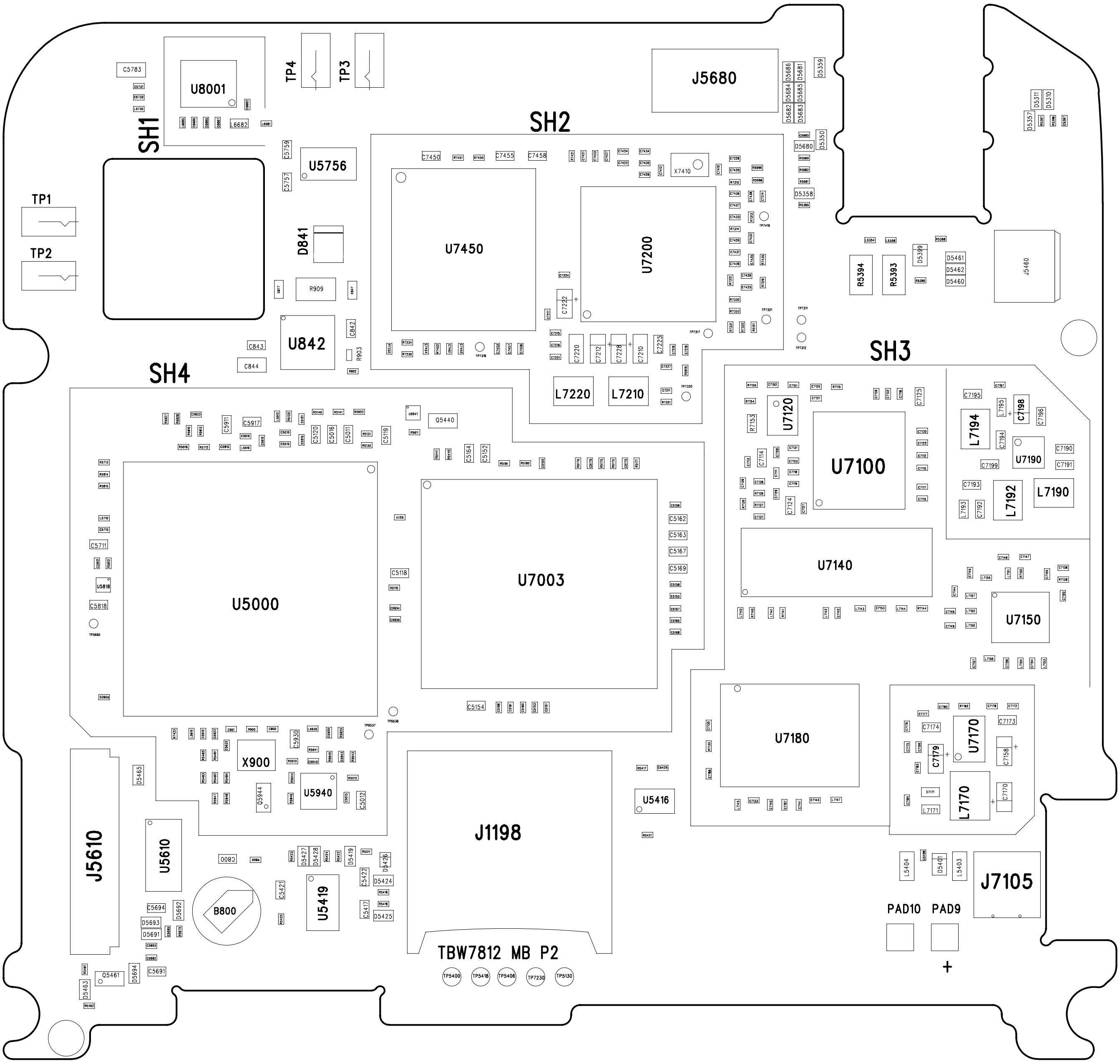
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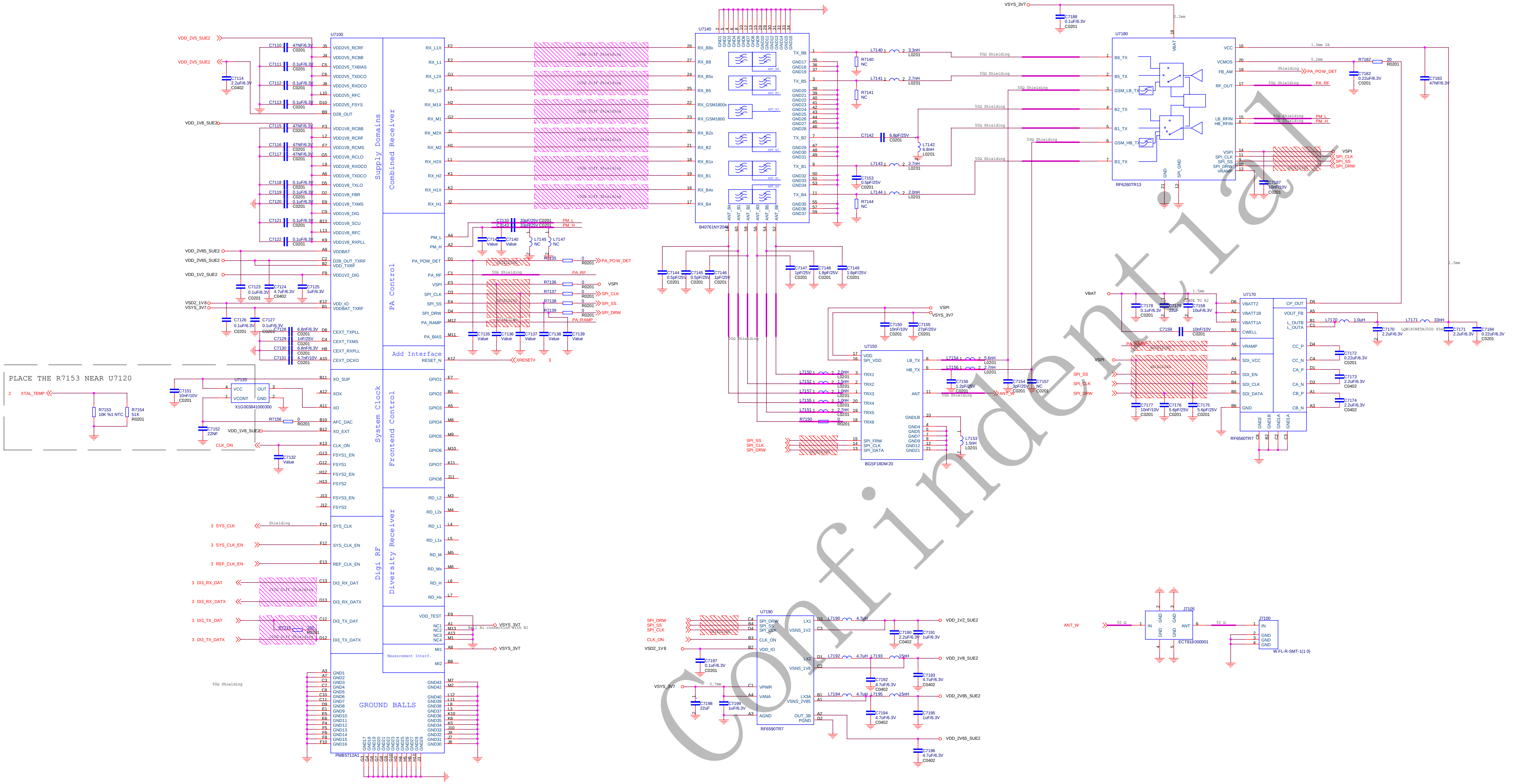
C5012
J1198
U5416
D5465
J5610
U5610
C800
B800
C5694
D5692
D5693
D5691
Q5461
D5694
C5691
D5463
D5427
D5428
D5419
C5421
U5419
C5422
D5426
D5424
C5417
D5425
TBW7812 MB P2
TP5400
TP5418
TP5406
TP7230
TP5130
L5404
D5401
L5403
J7105
PAD10
PAD9
+



北京天宇朗通通信设备股份有限公司

Title
RF_ENGINE

Size A1
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K-Touch V9
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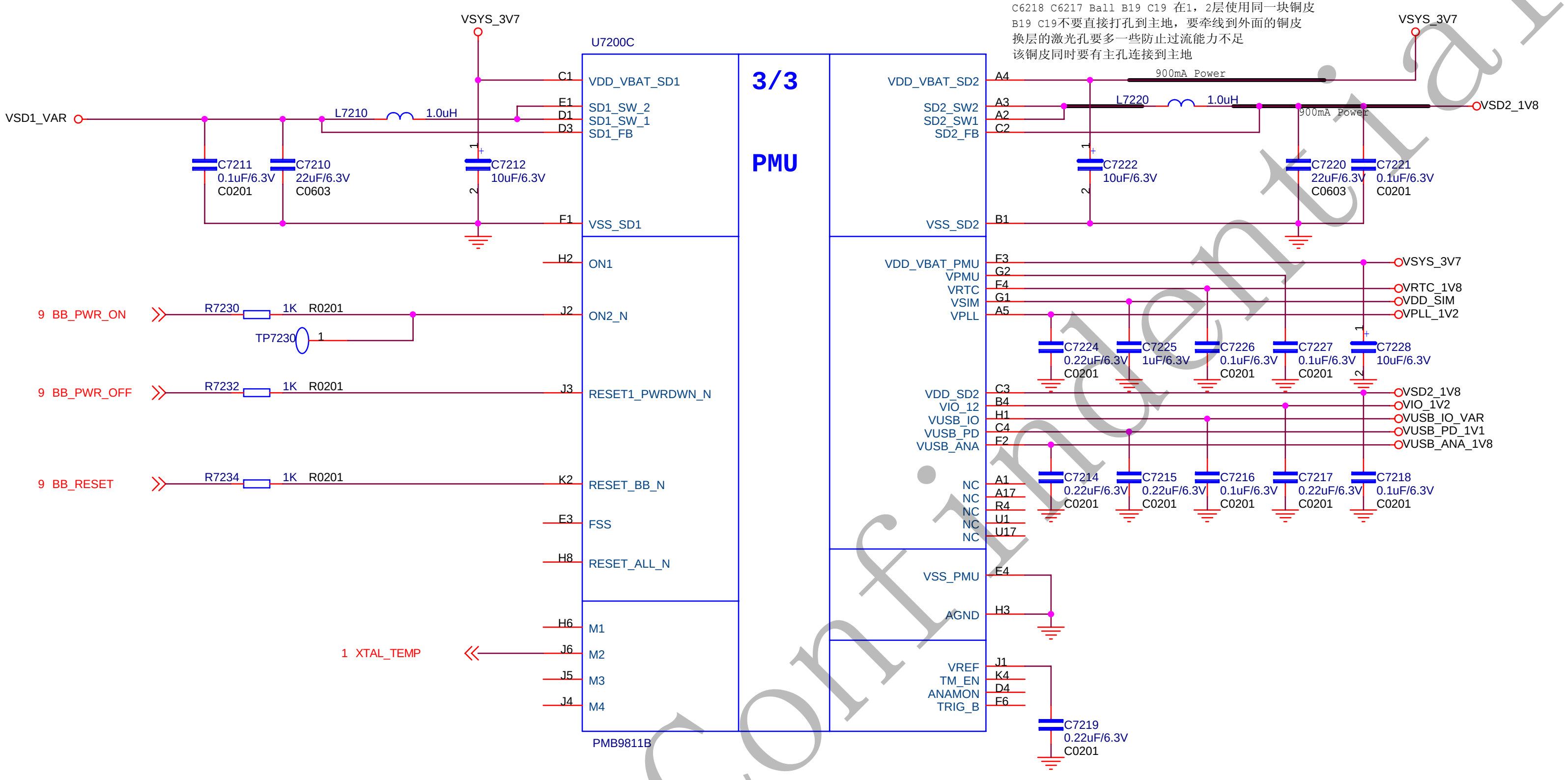
POWER_NET	VOLTAGE
VSD_1	0.9V~1.8V(20mV steps)
VSD_1V8	1.8V
VANA1	1.3V
VANA2	2.5V
VPMU	1.3V
VRTC	2.3V
VMIPI	1.2V
VPLL	1.35V
VRF1	2.85V
VRF2	2.85V
VSIM	1.8V/2.85V
VUSB	1.5V/2.85V/3.1V



C6218 C6217 Ball B19 C19 在1，2层使用同一块铜皮
B19 C19不要直接打孔到主地，要牵线到外面的铜皮
换层的激光孔要多一些防止过流能力不足
该铜皮同时要有主孔连接到主地

北京天宇朗通通信设备股份有限公司

Title
PMU

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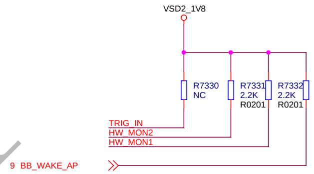
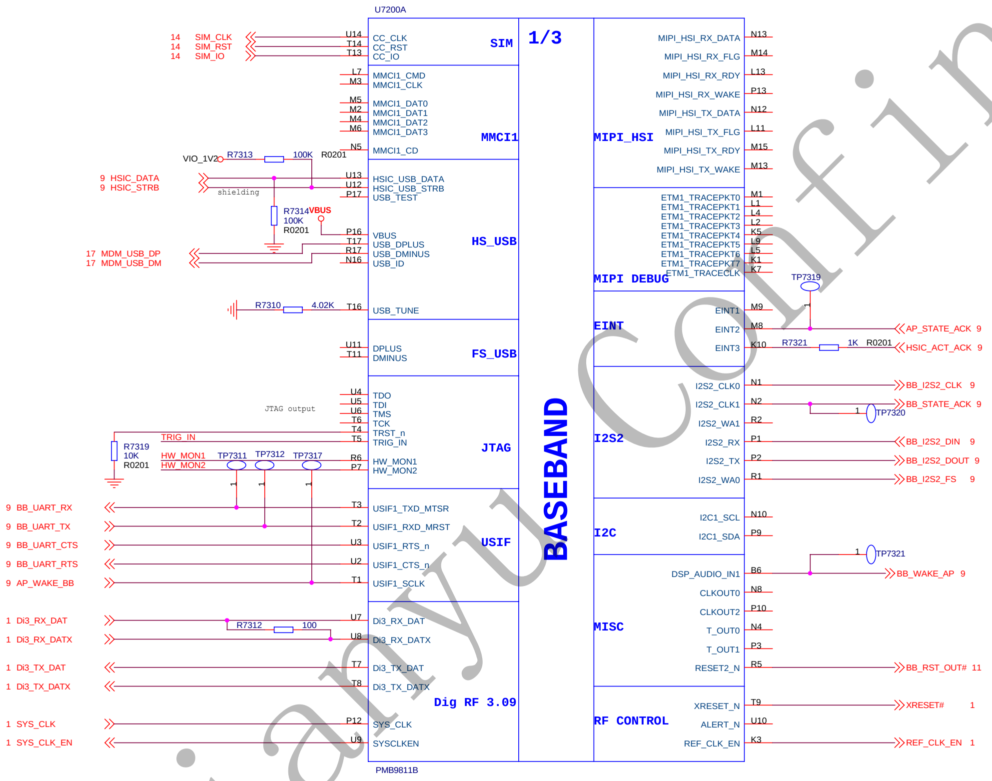
Boot Configuration
(only valid if no boot config eFuses are set!)

Boot Config	DSP_ AUDIO_IN1 HWCFG[3]	MON1 HWCFG[2]	MON2 HWCFG[1]	TRIG_IN HWCFG[0]	Boot Config Description
1	0	0	0	1	16-bit AD muxed NOR Flash
2	0	0	1	0	16-bit AAD muxed NOR Flash
4	0	1	0	0	16-bit muxed DDR NOR Flash
5	0	1	0	1	8-bit NAND Flash
6	0	1	1	0	16-bit NAND Flash
7	0	1	1	1	16-bit muxed Data burst Flash
9	1	0	0	1	eMMC - connected to MMCI2
12	1	1	0	0	16-bit muxed (DDR) SDRAM
14	1	1	1	0	Flashless boot
15	1	1	1	1	External boot directly from Flash via EBU (no ARM11 Boot ROM involved)





北京天宇朗通通信设备股份有限公司

Title	BaseBand	
Size A2	Document Number K-Touch V9	Rev
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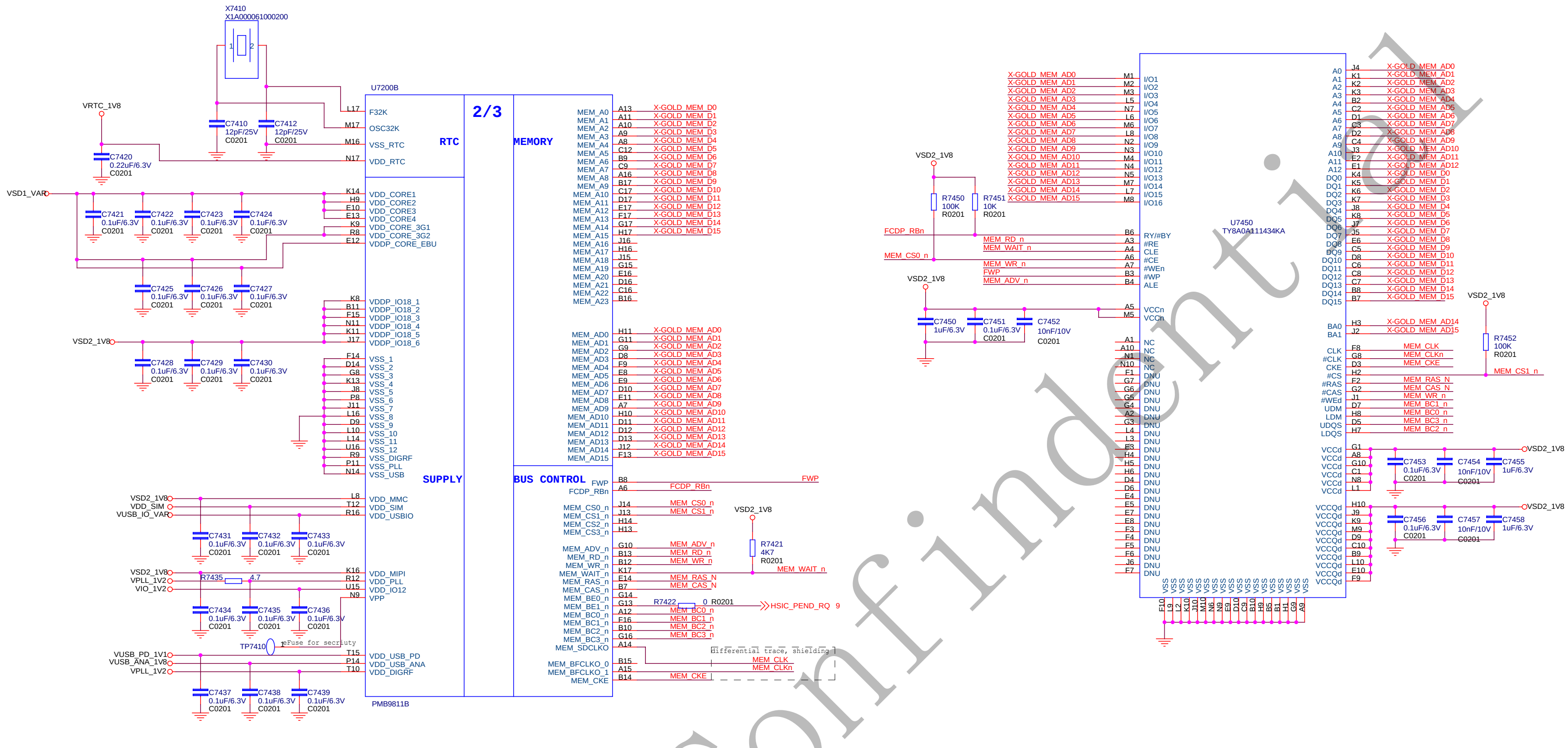

北京天宇朗通通信设备股份有限公司

Title	Memory / Power Domain	
Size A2	Document Number K-Touch V9	Rev
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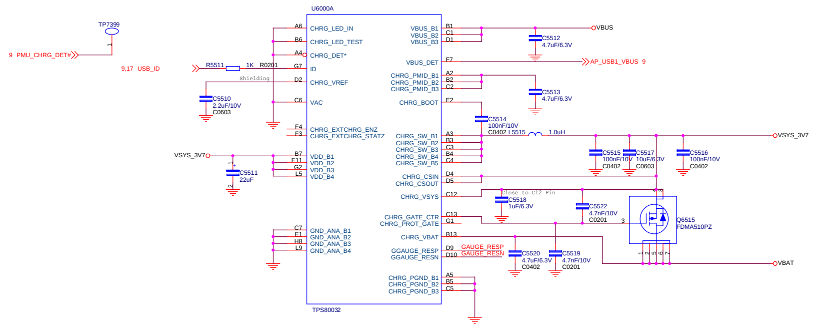
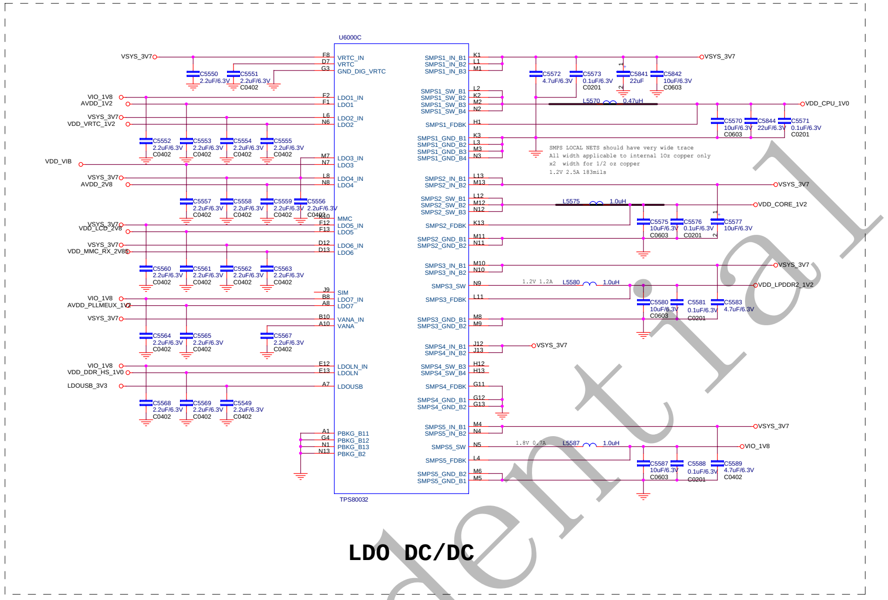
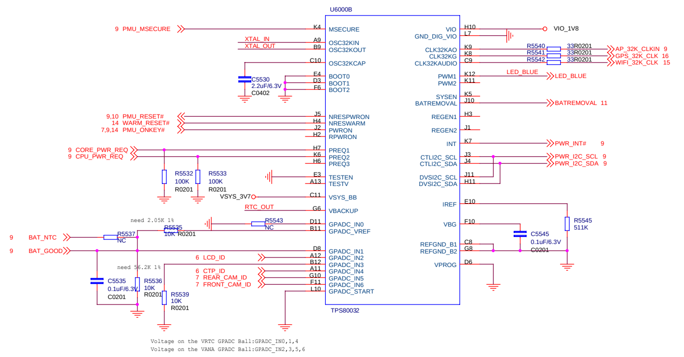


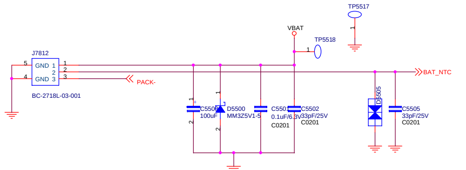
CHARGING



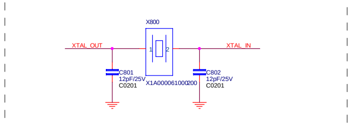
LDO DC/DC



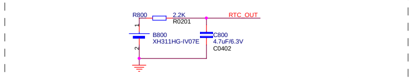
CONTROL



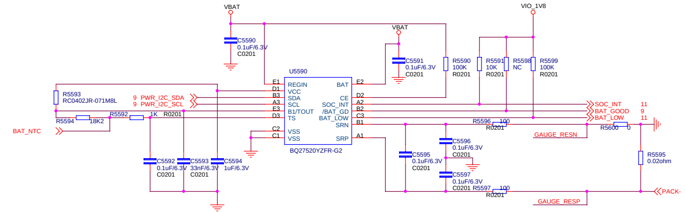
BATTERY CON



32K CRYSTAL



BACKUP BATTERY



FUEL GAUGE

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Title	AP30 PMU	
Size D	Document Number K-Touch V9	Rev
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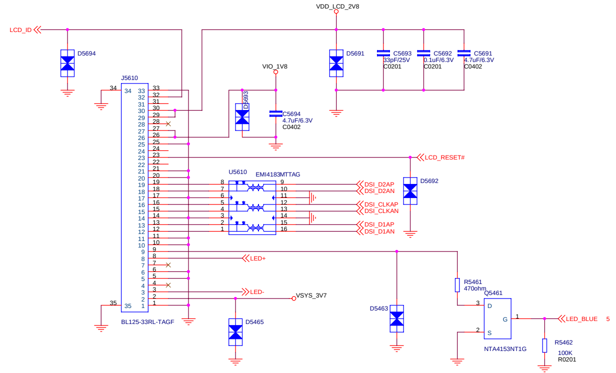
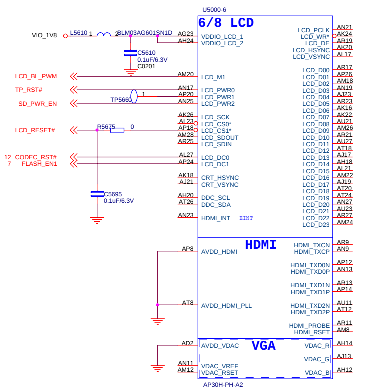
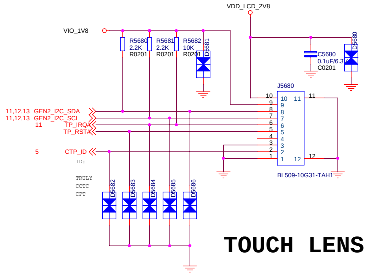
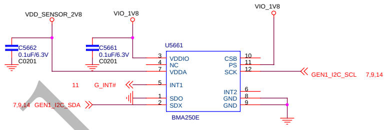




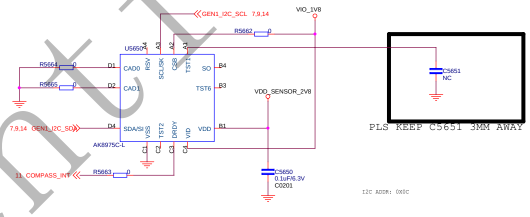
AP30 LCD INTERFACE



TOUCH LENS



G-SENSOR



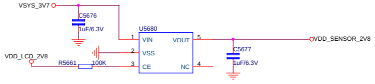
PLS KEEP C5651 3MM AWAY FROM U5650

I2C ADDR: 0X0C

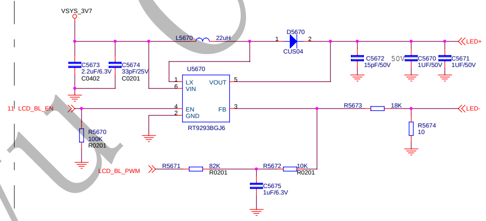
AK8975C:
 MOUNT R5662 R5563 R5564 R5565
 DO NOT MOUNT C5651

MMC3280:
 MOUNT C5651
 DO NOT MOUNT R5662 R5563
R5564 R5565

COMPASS



SENSOR POWER



所有的走线尽量不要走表层。
他的周围，下面也不要有敏感信号，比较脏

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Title AP30 LCD and Sensors		
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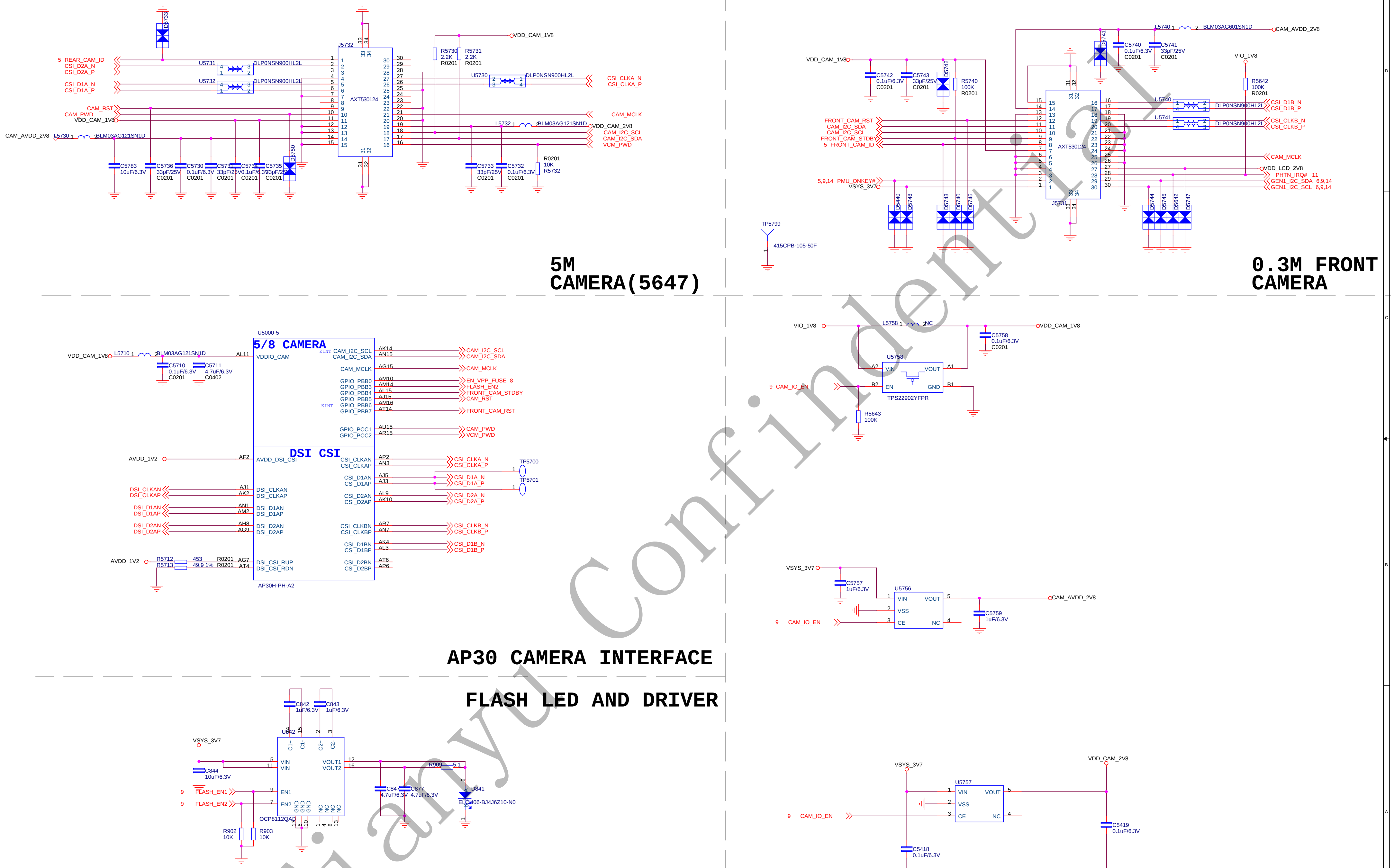

请注意，R908，R909和D841的两个PAD都尽量走表层，线要宽；如果不能走表层，也要多打盲孔，导热。
C842，C843，C847，C877请都靠近芯片处摆放

北京天宇朗通通信设备股份有限公司
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AP30 CAMERA
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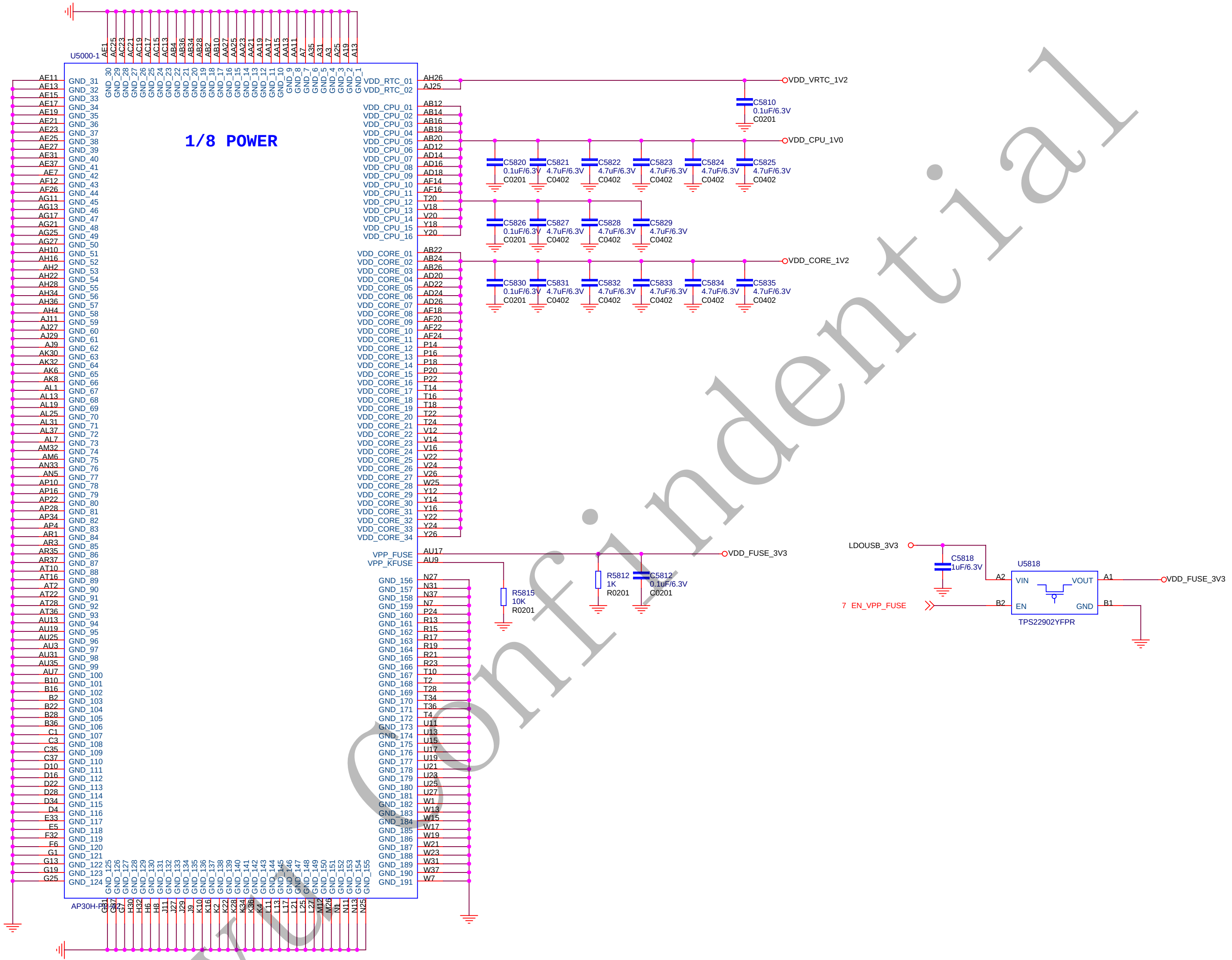

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Title
AP30 POWER

Size C
Document Number
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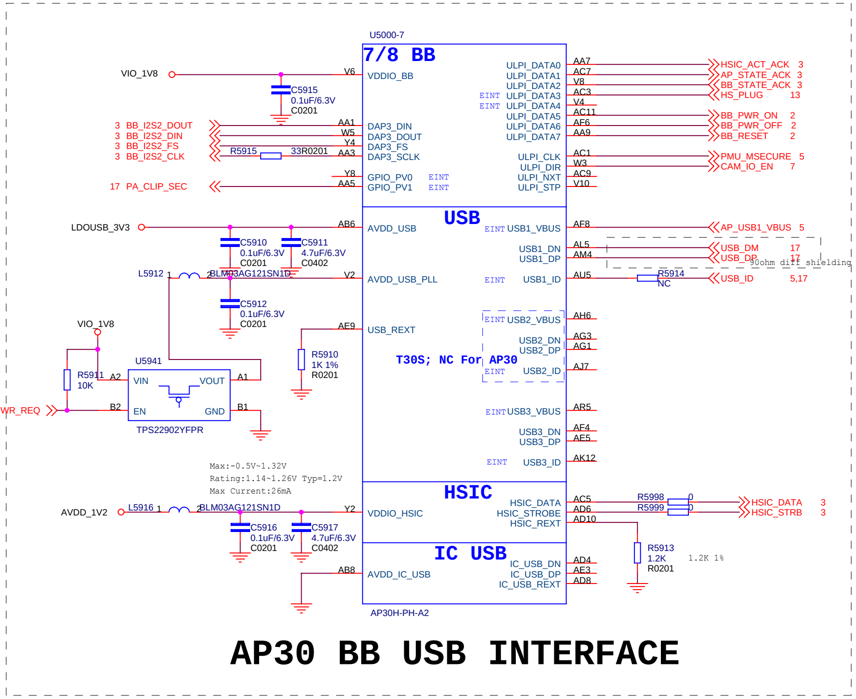
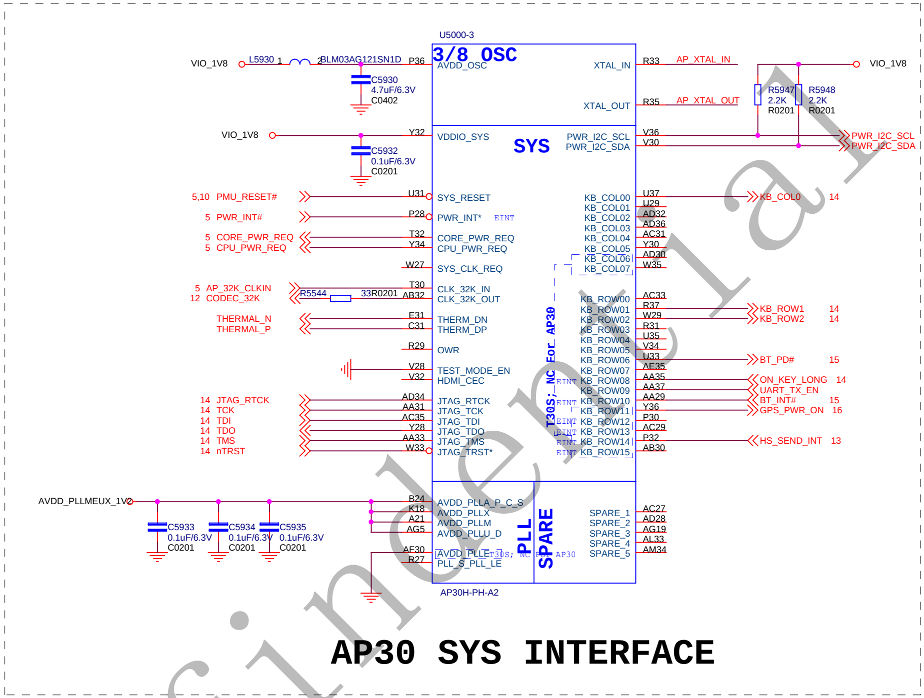
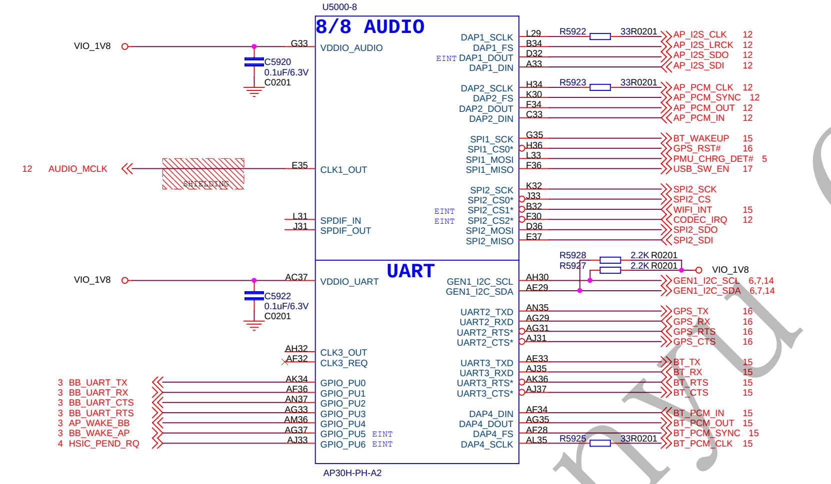


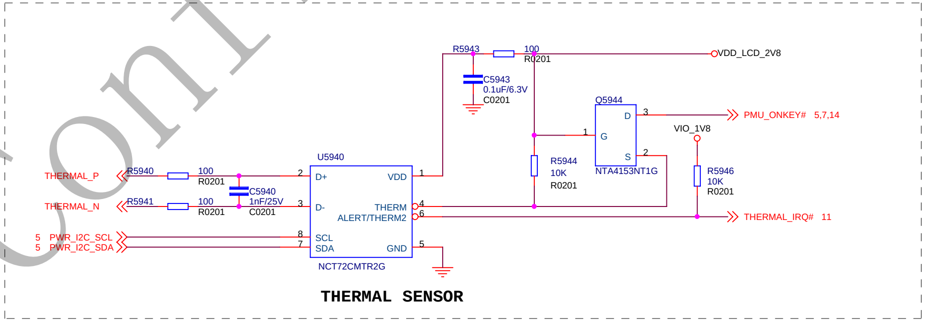
AP30 BB USB INTERFACE



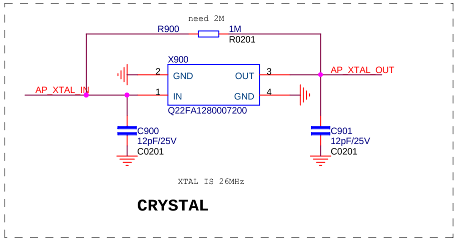
AP30 SYS INTERFACE



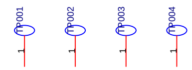
AP30 AUDIO UART INTERFACE



THERMAL SENSOR



CRYSTAL



北京天宇朗通通信设备股份有限公司

Title
AP30 GPIO

Size C
Document Number
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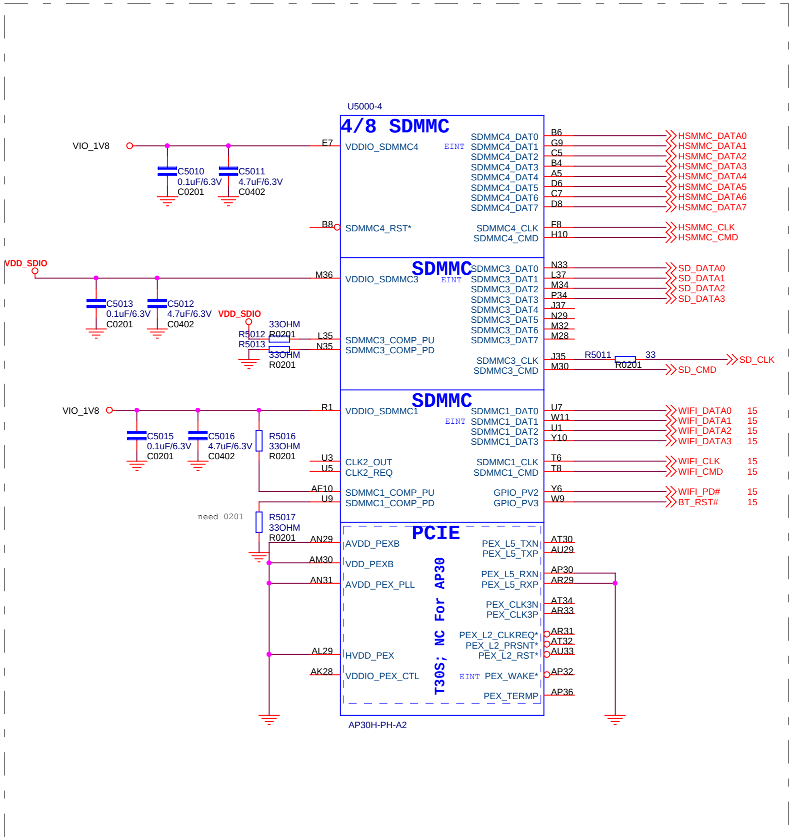
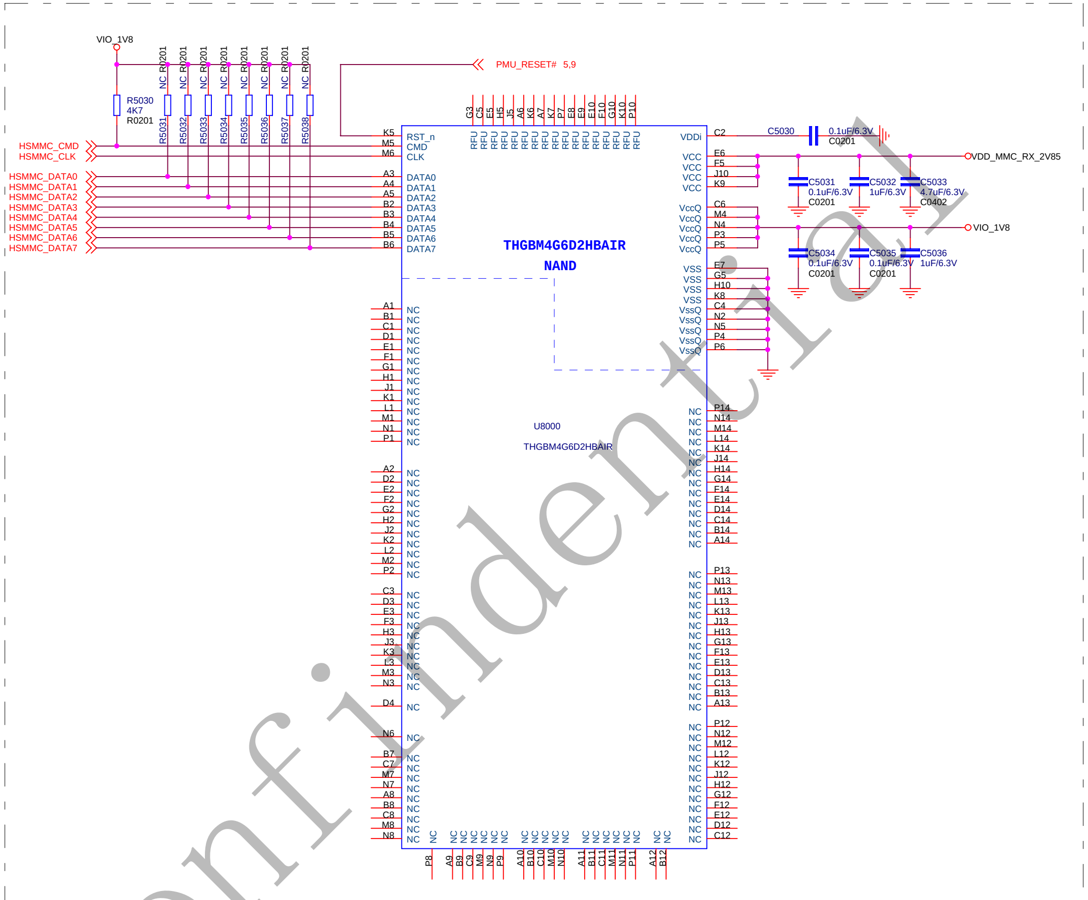


AP30 SDIO INTERFACE



eMMC

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Title AP30 SDIO eMMC		
Size C	Document Number K-Touch V9	Rev
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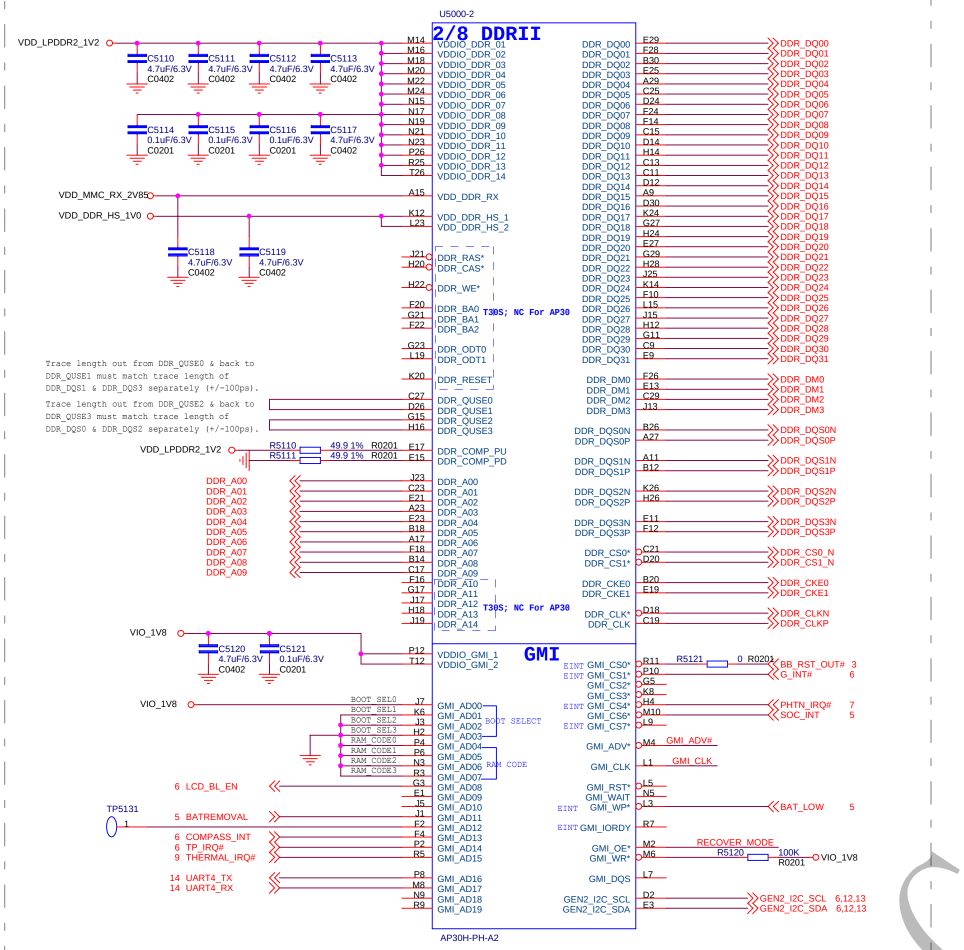
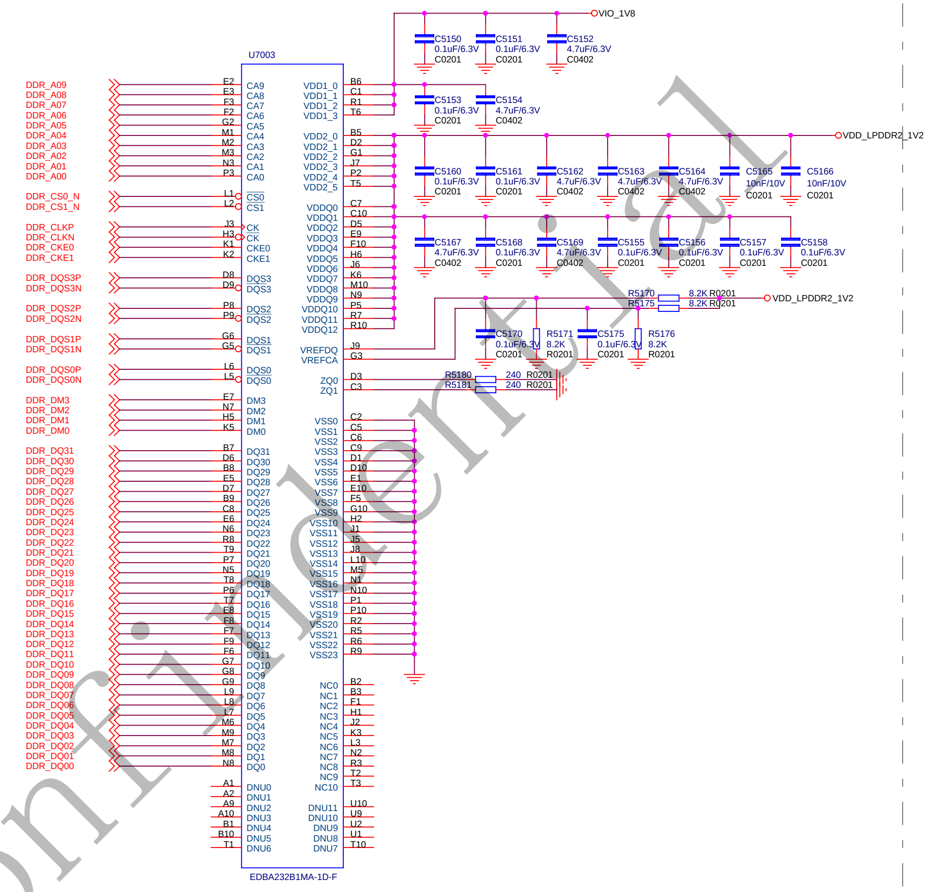


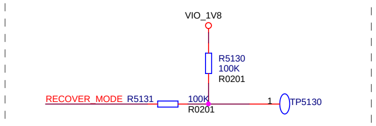
Trace length out from DDR_QUSE0 & back to DDR_QUSE1 must match trace length of DDR_DQS1 & DDR_DQS3 separately (+/-100ps).

Trace length out from DDR_QUSE2 & back to DDR_QUSE3 must match trace length of DDR_DQS0 & DDR_DQS2 separately (+/-100ps).

AP30 GMI DDR INTERFACE

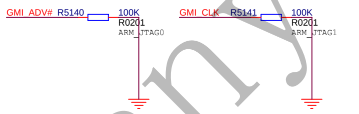


DDR



RECOVER_MODE = 0 USB RECOVERY MODE
= 1 BOOT FROM SECONDARY DEVICE

AP RECOVER MODE



ARM_JTAG[1:0]

2'b00 = SERIAL JTAG CHAIN CPU (ARM7) and COP (Coresight DAP)
2'b11 = Bypass ARM JTAG disabled
2'b01 = Coresight DAP only JTAG
2'b10 = ARM7 only JTAG

JTAG Strapping

J9999	
暗码	明码

SN二维条码

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Title
AP30 DDR
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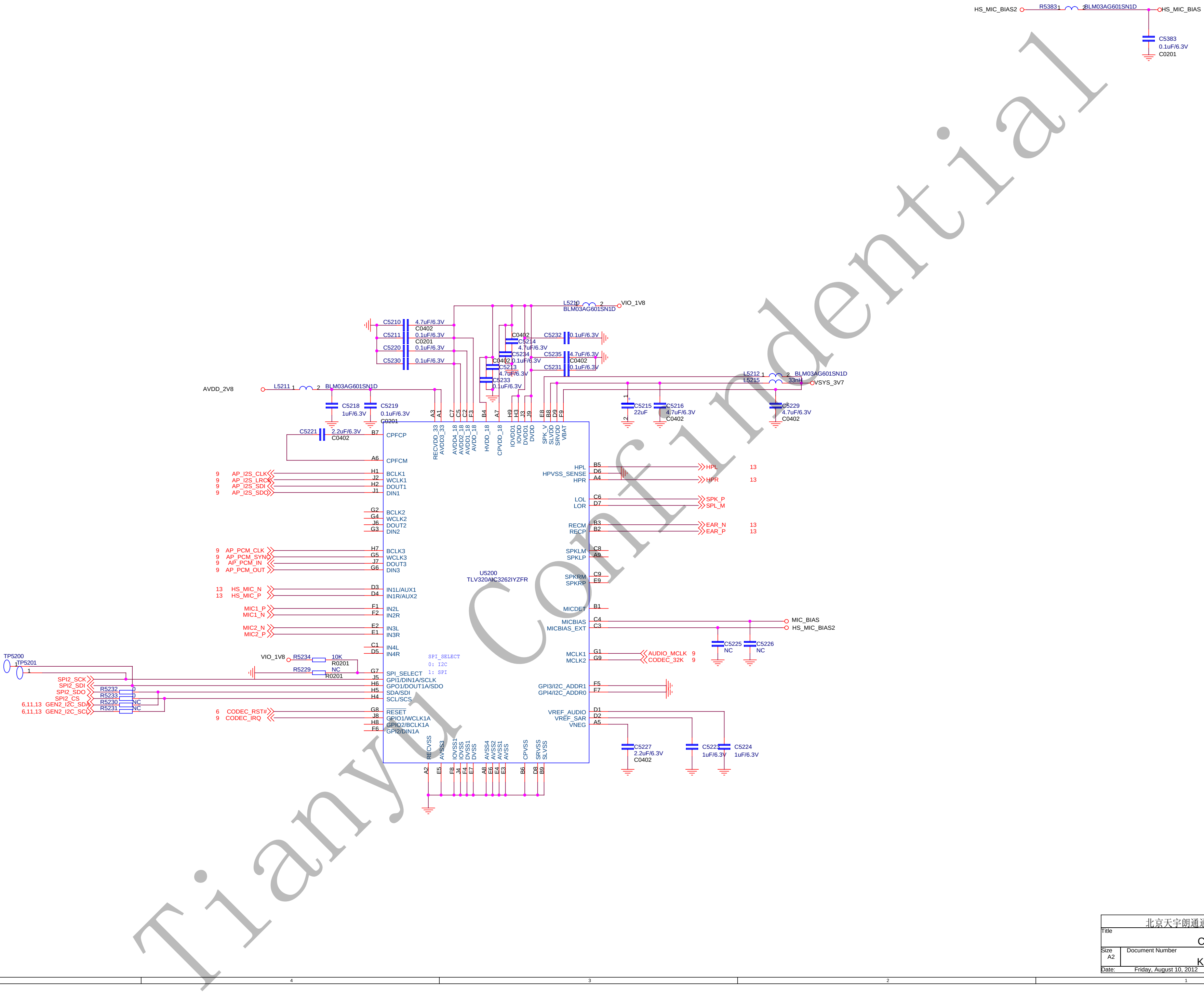

北京天宇朗通通信设备股份有限公司

Title
CODEC

Size A2
Document Number
K-Touch V9
Rev

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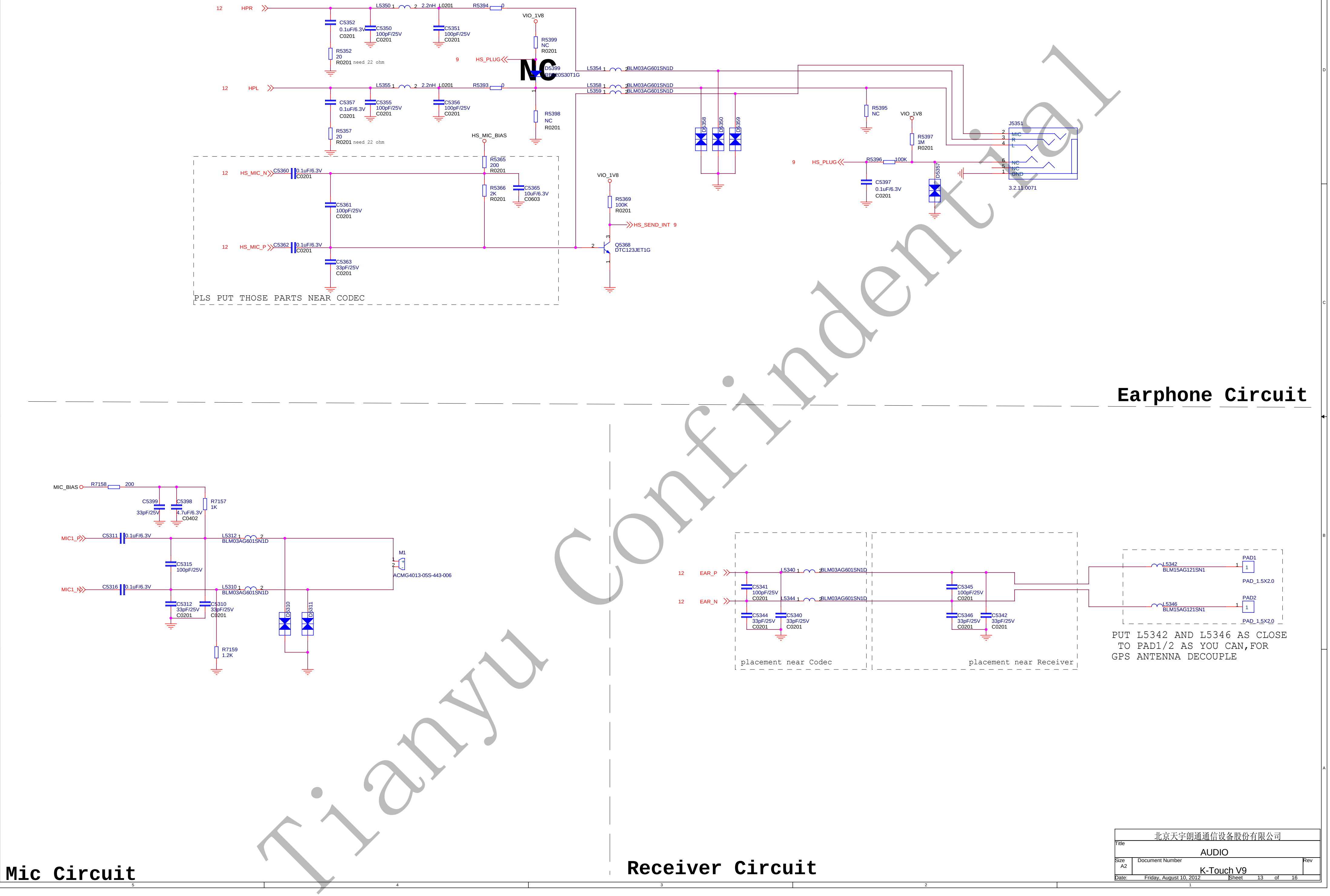

北京天宇朗通通信设备股份有限公司

Title	AUDIO
Size A2	Document Number K-Touch V9
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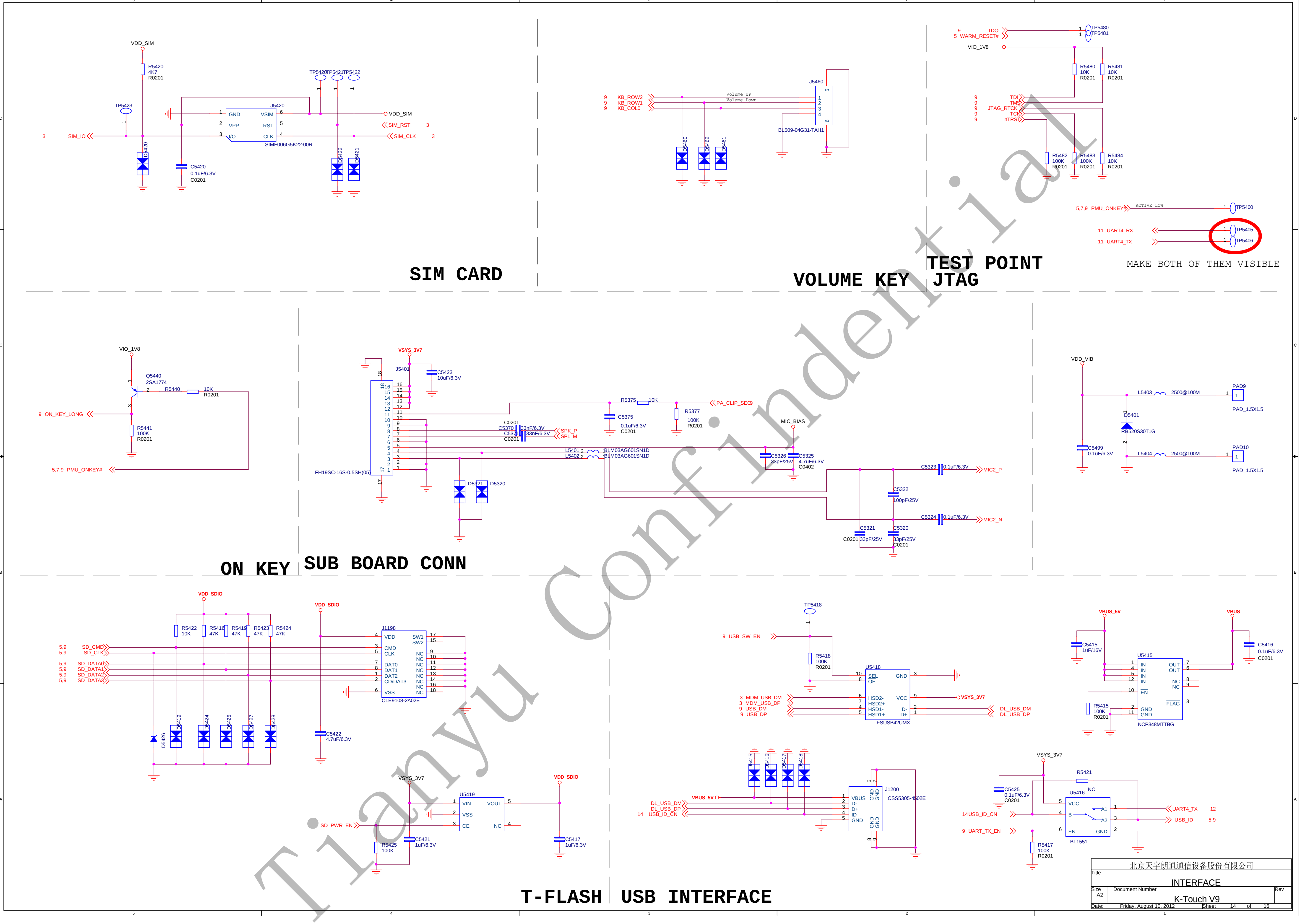

北京天宇朗通通信设备股份有限公司

Title
INTERFACE

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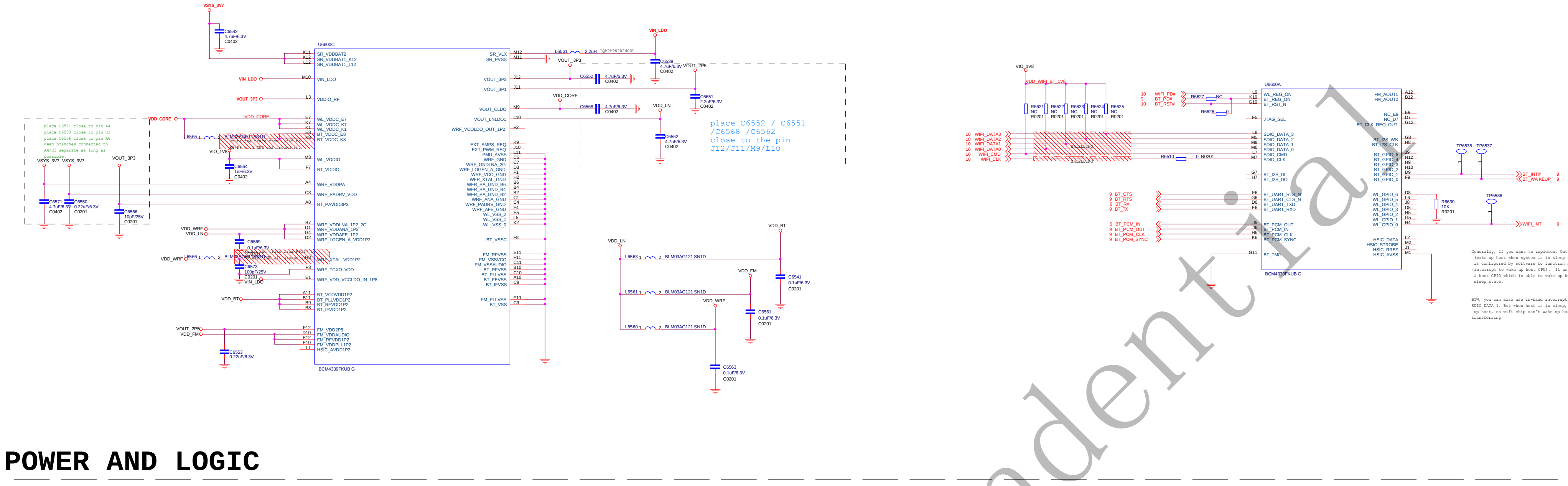
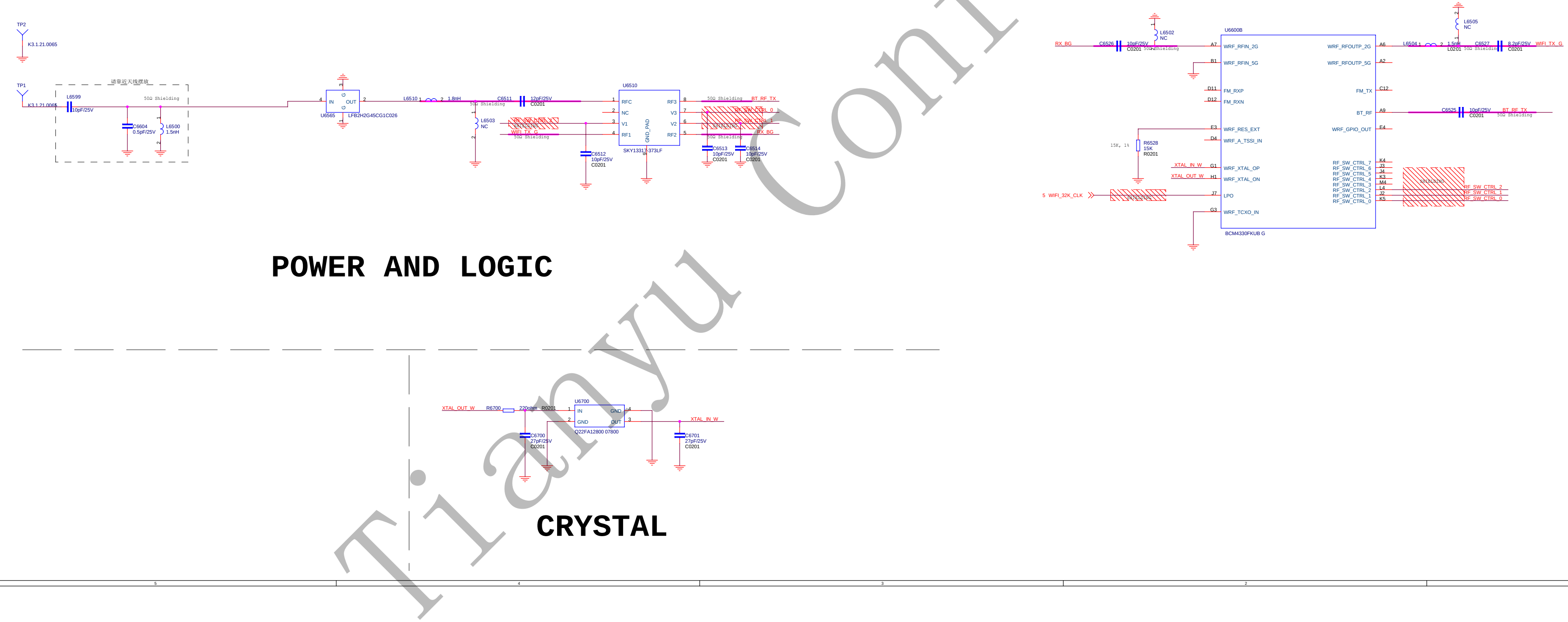


Generally, If you want to implement Out-Of-Band interrupt (wake up host when system is in sleep state), WL_GPIO_0 is configured by software to function as HOST_WAKE (interrupt to wake up host CPU). It usually be connected to a host GPIO which is able to wake up host when it is in sleep state.

BTW, you can also use in-band interrupt, which is SDIO_DATA_1. But when host is in sleep, you can't wake up host, so wifi chip can't wake up host for packets transferring



北京天宇朗通通信设备股份有限公司

Title	WIFI and BT	
Size A1	Document Number K-Touch V9	Rev
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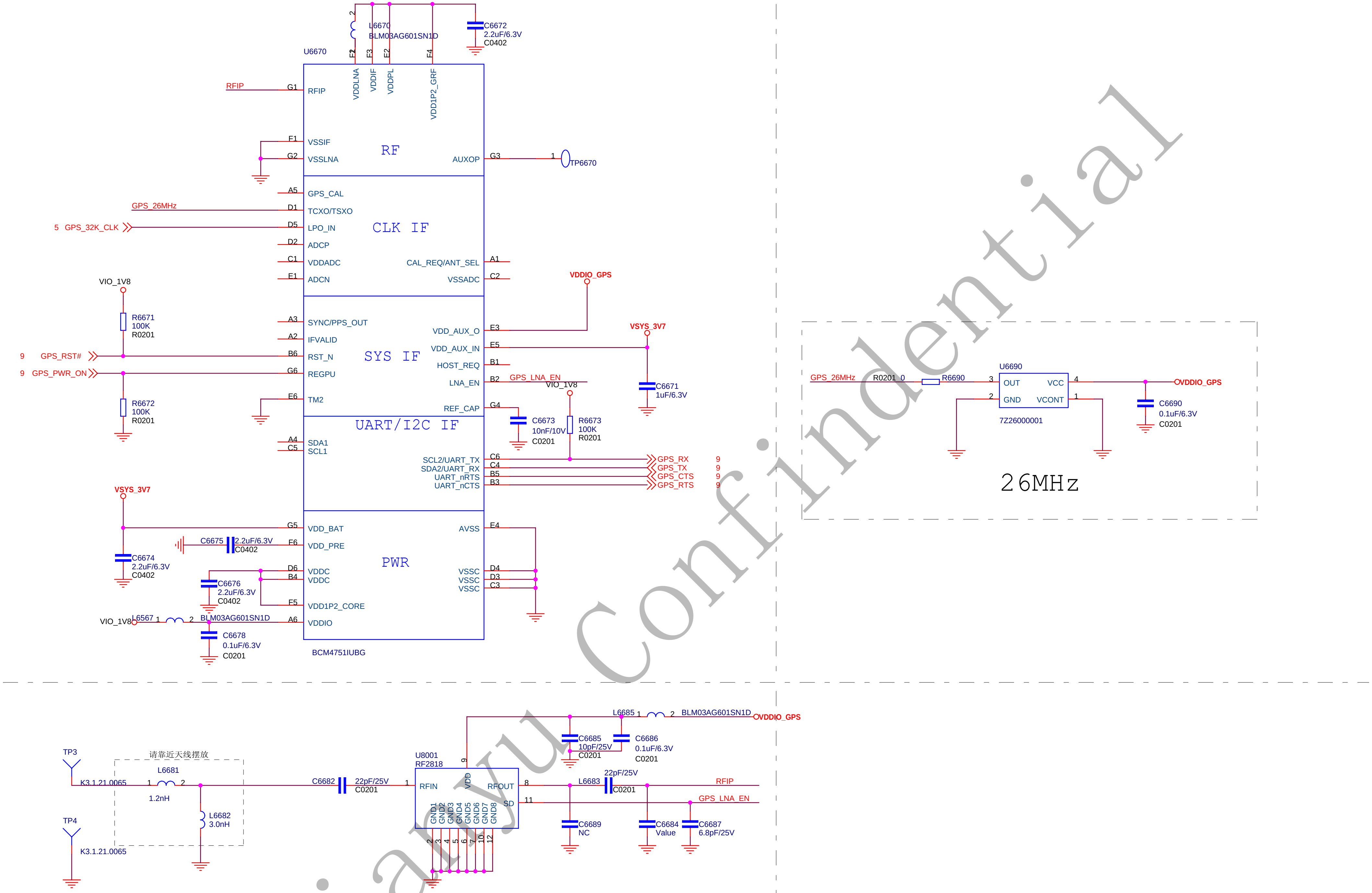

GPS LNA and SAW

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Title	GPS	
Size A3	Document Number K-Touch V9	Rev
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TBW7811 P1 Revision History

0227
- 由“TBW7810_401_100_0227_update”修改
- 删除马达电路
- 删除一个模拟MIC的部分电路，其余部分放到小板连接器旁
- 删除AUDIO PA电路
- 增加16PIN的小板连接器
- 修改LCD连接器，由RGB改为MIPI
- 更换T-Flash卡座
- 更换USB座

0228
- 更改了GPS用TCXO

0229
- 更新了CHIP天线的库
- 修改了主MIC

0301
- 增加R5911

0307
- 修改LCD连接器，TP连接器，LCD filter，电池连接器极性。

0314
- 删除VBUS测试点

0315
- R5545改成R0402封装
- 修改WIFI

GPS天线匹配（不改PCB）

0316
去掉WIFI天线的一个π型匹配。
C5415换为高度矮的料。

0320
换R5674的料（不改PCB）
增加R5722

0321
换TP6682的料

0322
更新J1198的库，NC的引脚接地

0515
仅仅为了CTA修改了每页的页脚，原理部分没有任何变化。

0516
R5535,R5536改为10K;
HS_MIC_BIAS连接HS_MIC_BIAS2(R5383,L5383);
add TP5520,TP5521;
TP供电改为VDD_LCD_2V8;
增加U5416及其周边;
删除U5000.AB30的BAT_GOOD网络;
C5844 改为22uF，0805;
增加R5600;
修改GAUGE_RESN和GAUGE_RESP的位置
增加7色灯，增加C5546，D5506，R5547，R5546，Q5502，Q5501
将电量计处PMU的采样点移到0OHM电阻后端，方便走线

0517
更改R5593和R5594的封装，由0201改为0402;
耳机连接器的MIC和地互换;
PMU_CHRG_DET#与PMU断开，增加TP7399;
PMU的A4脚接地;

0518
做AK8975C和MMC3280的兼容设计，增加R5662 R5563 R5564 R5565 C5651
删除Gyro，增加TP5131
更改BCM4330的BT_ON和BT_RST设计，增加R6626 R6627
增加R5643 R5644

0519
将C5844有Tan电容改为陶瓷电容，封装和容值均不变。
将L5758改为NC

0810
增加J5351，R5395，R5397，R5396，C5397，D5357
将R5399由47K改为NC，
将D5399改为NC
将C5353和C5364由100uF改为0 ohm
增加C5783
增加R5394和R5393

<Variant Name>

Title
北京天宇朗通通信设备股份有限公司
Revision History

Size A4
Document Number **TBW7808**
Rev 1.0

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