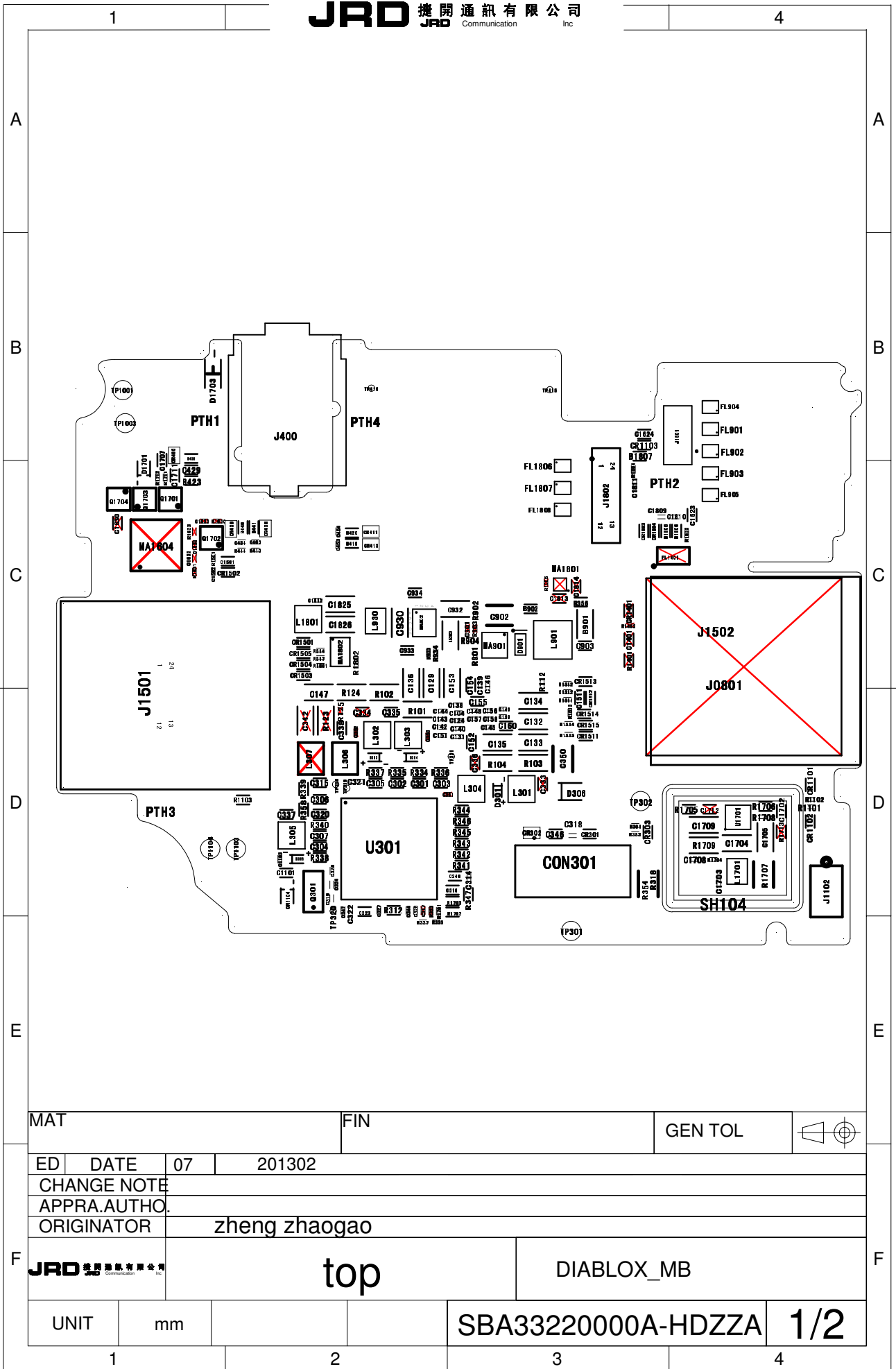
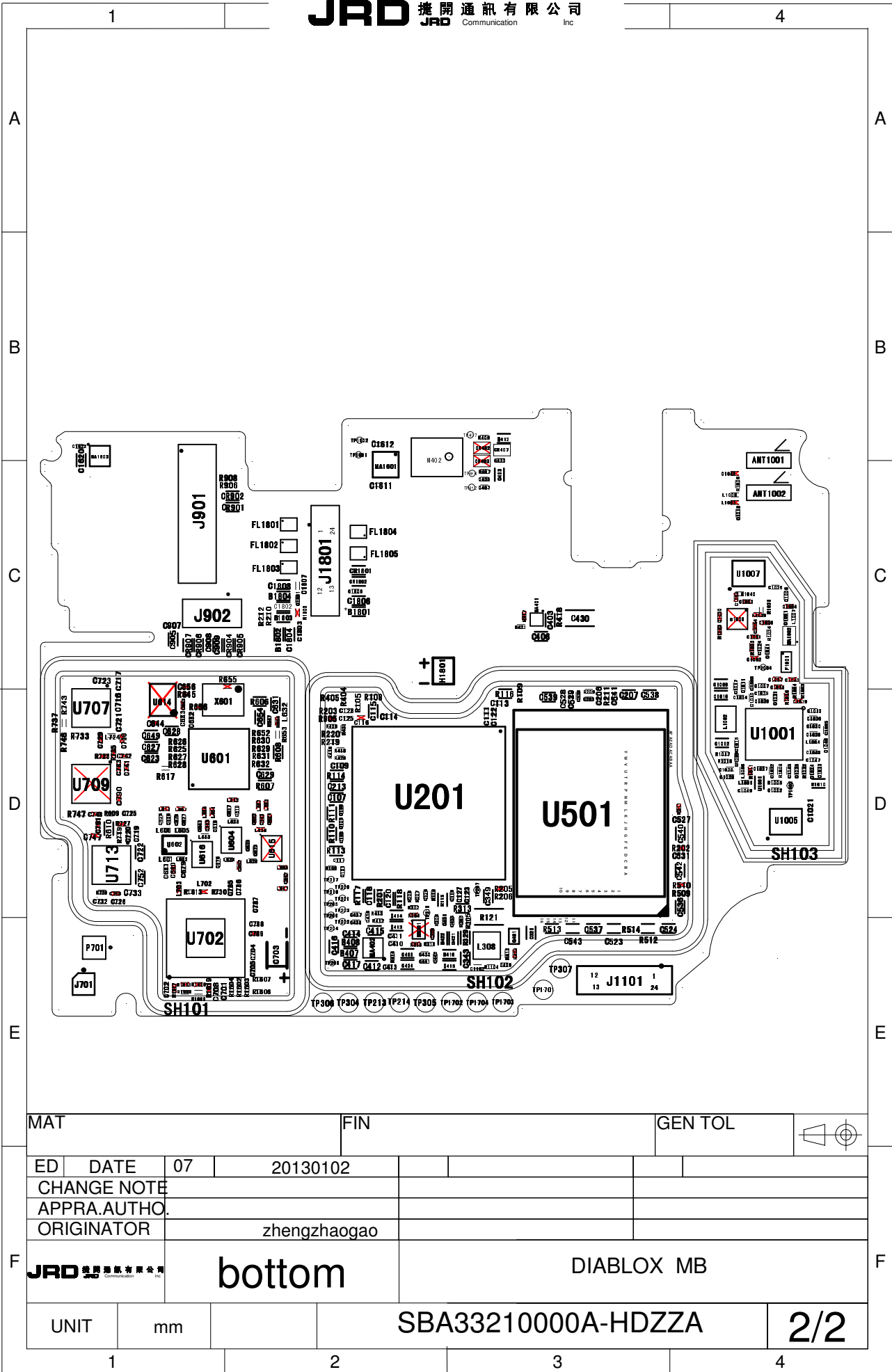
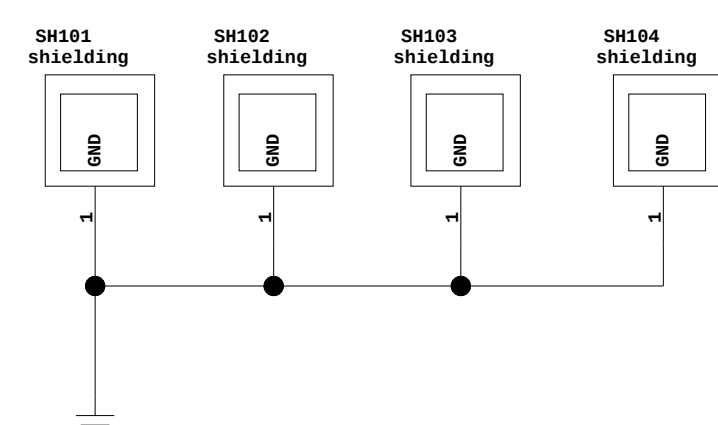
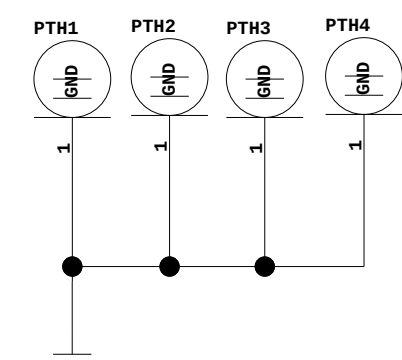
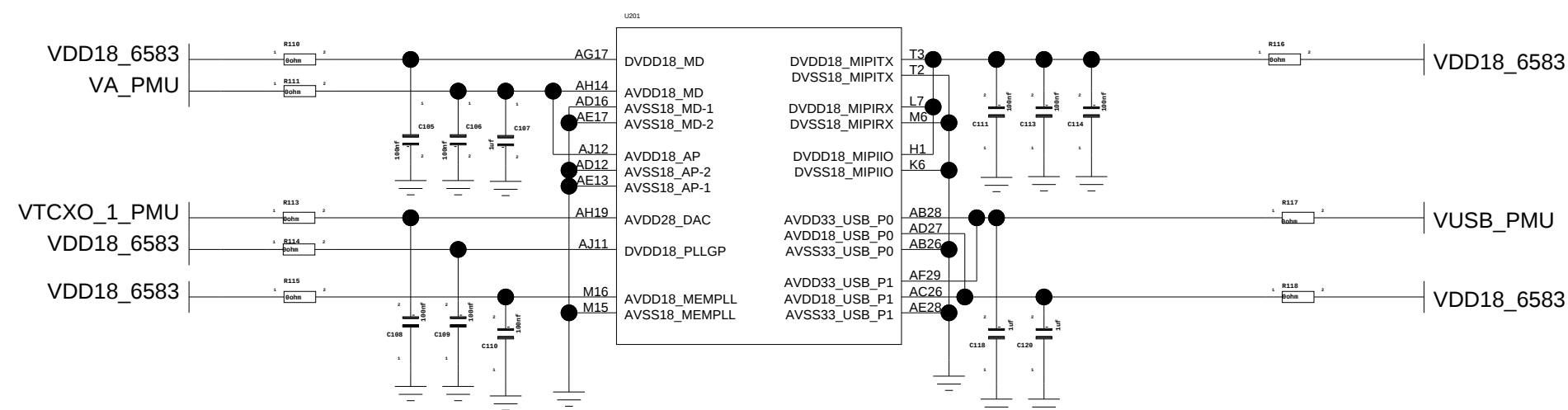


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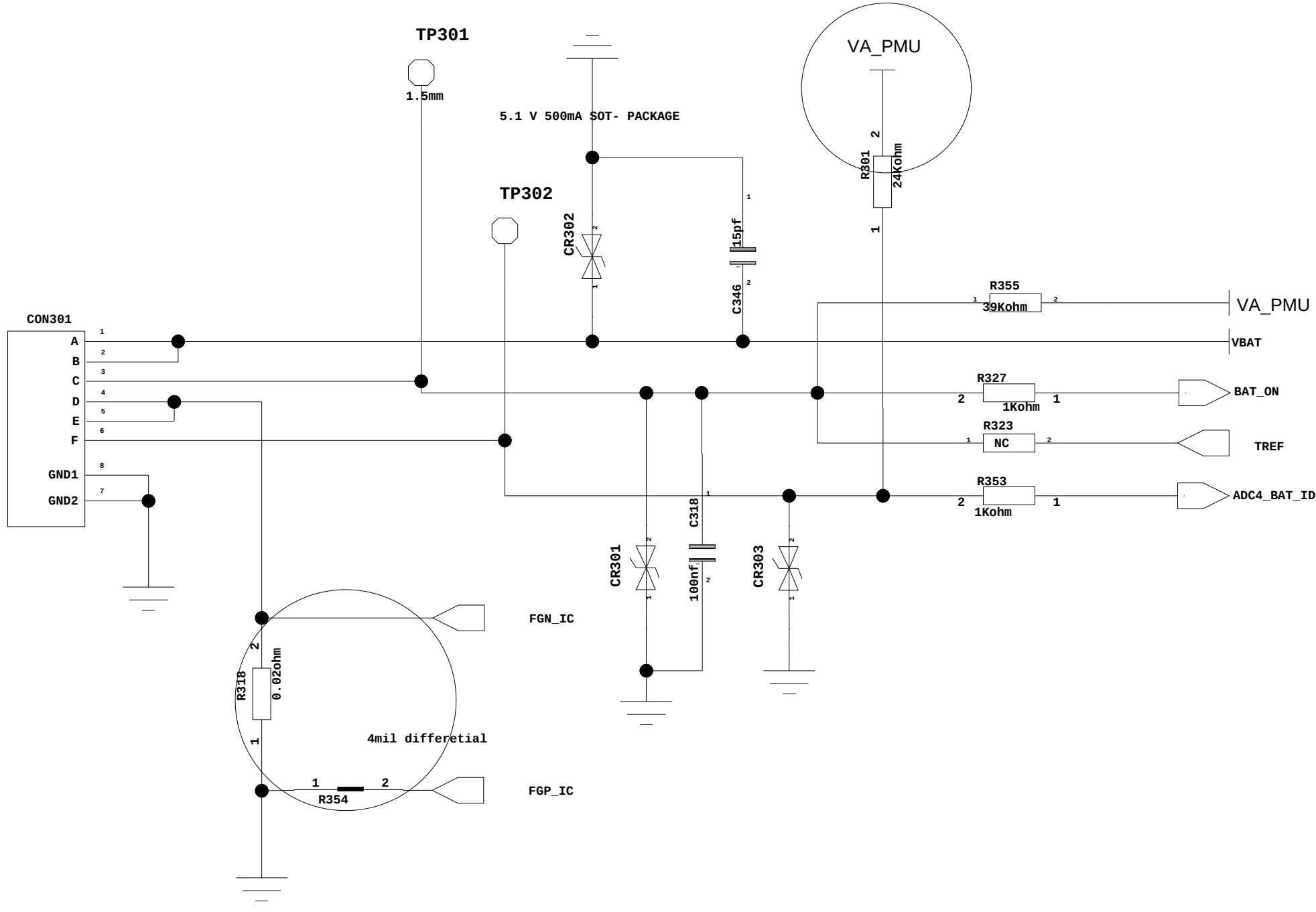
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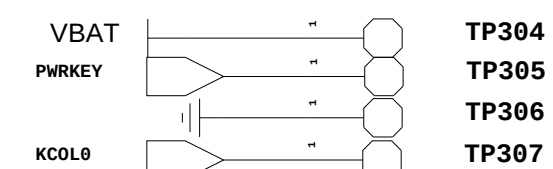


BATTERY CONNECTOR

change from VDD18_6583 to VA_PMU because of stability



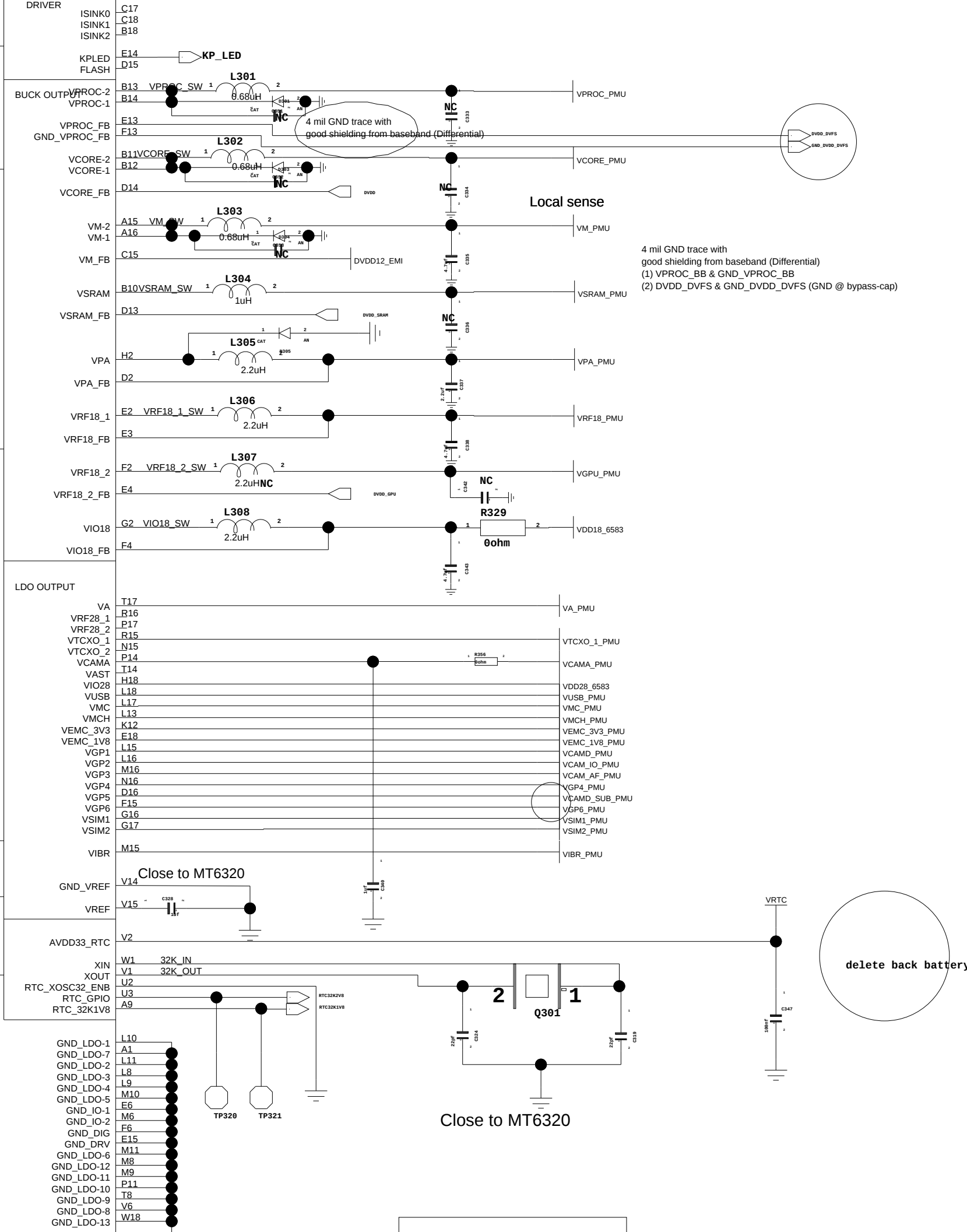
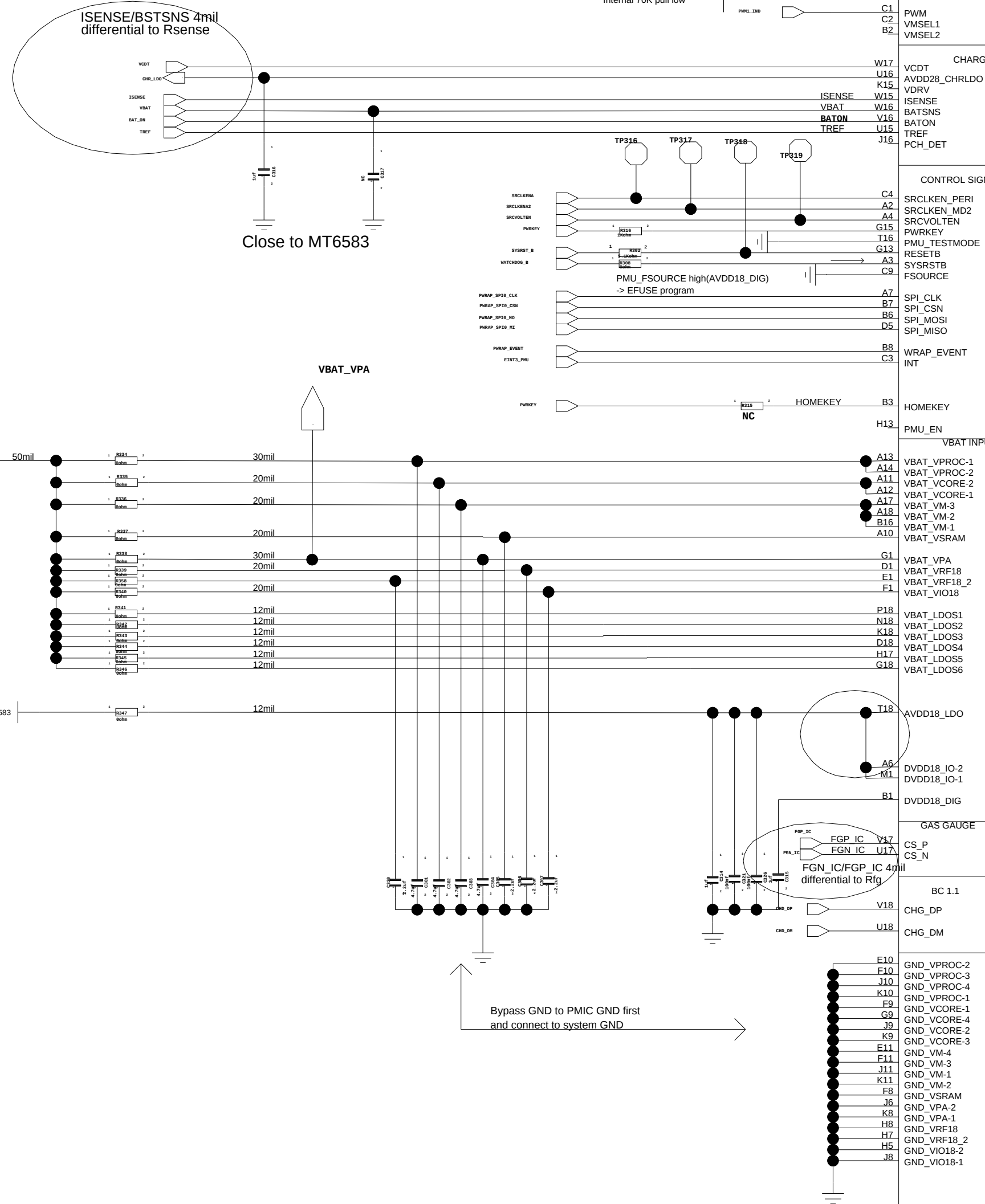
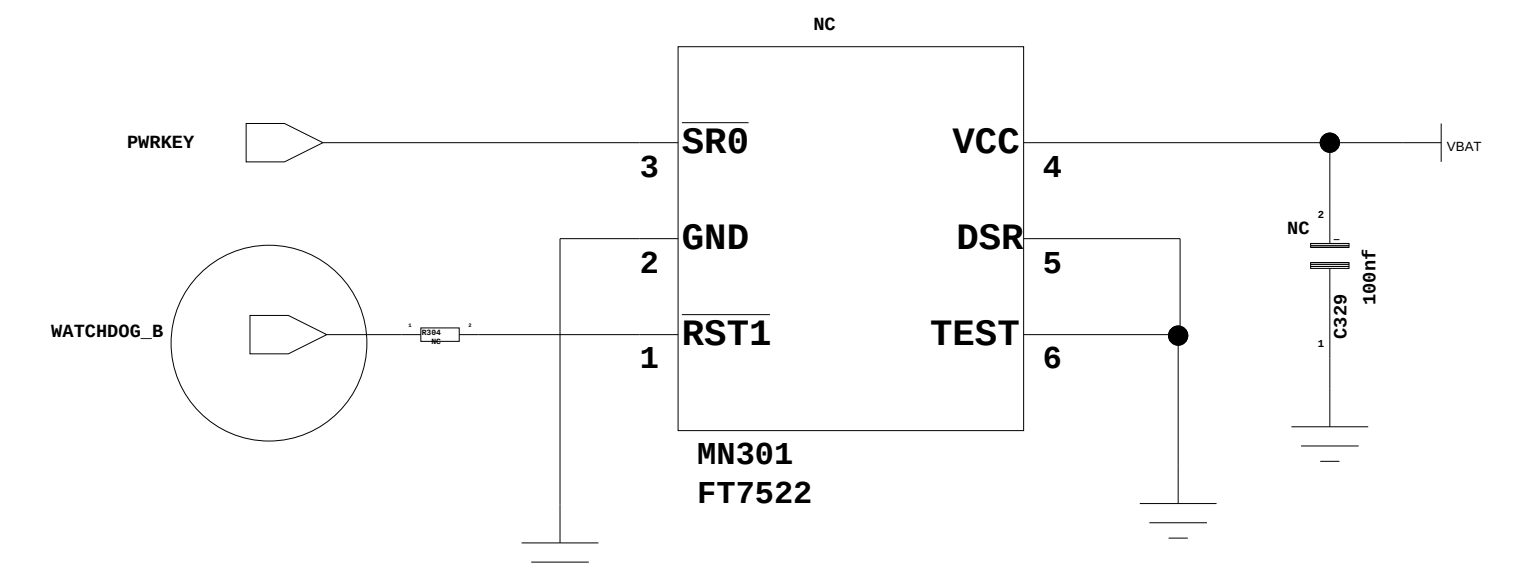
< MP Test Points >



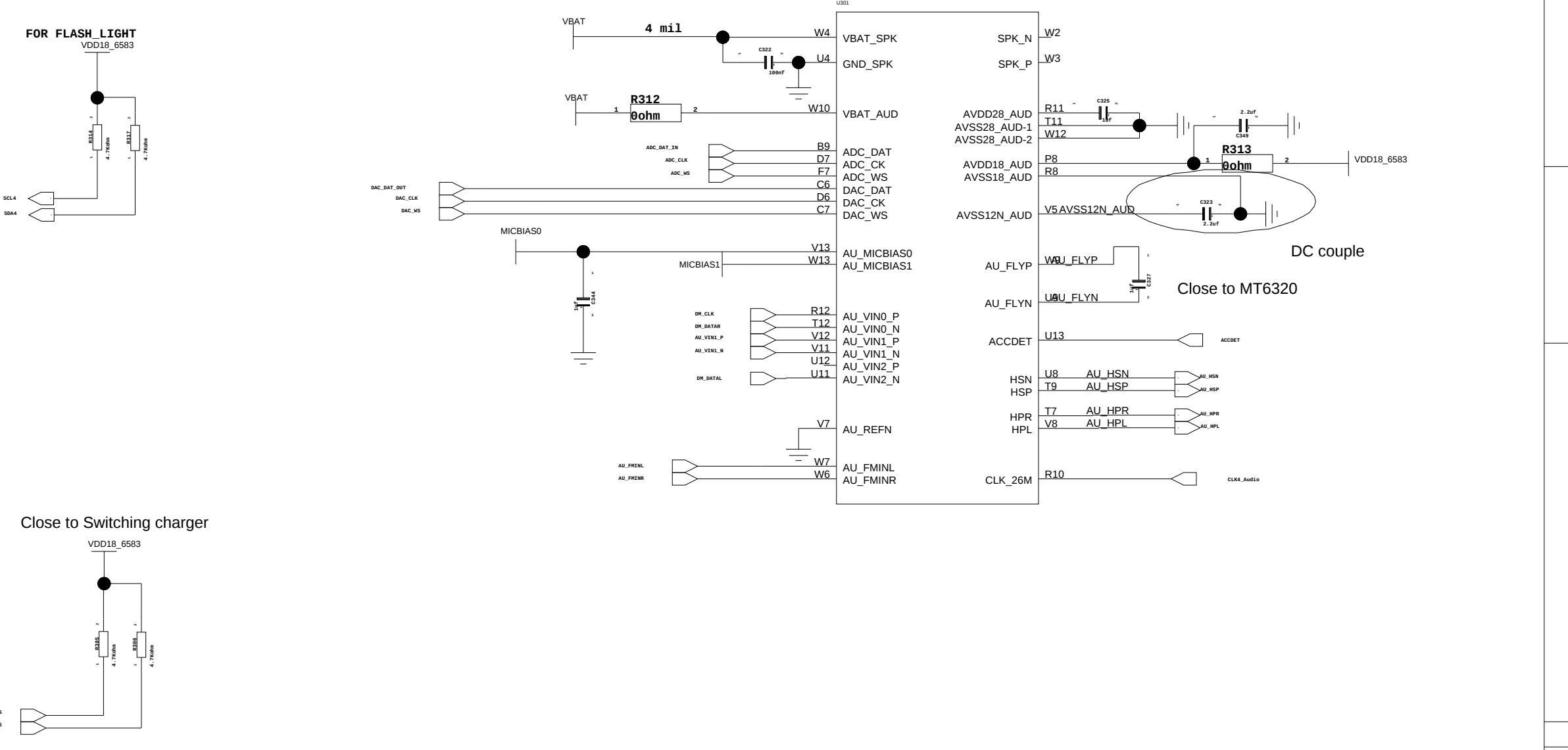
Add Zenar Diode
Place on the path
from VBAT to IC
(Battery connector
or test point or IO
connector)

SOD123
500mW
VF : 4.85V/36V

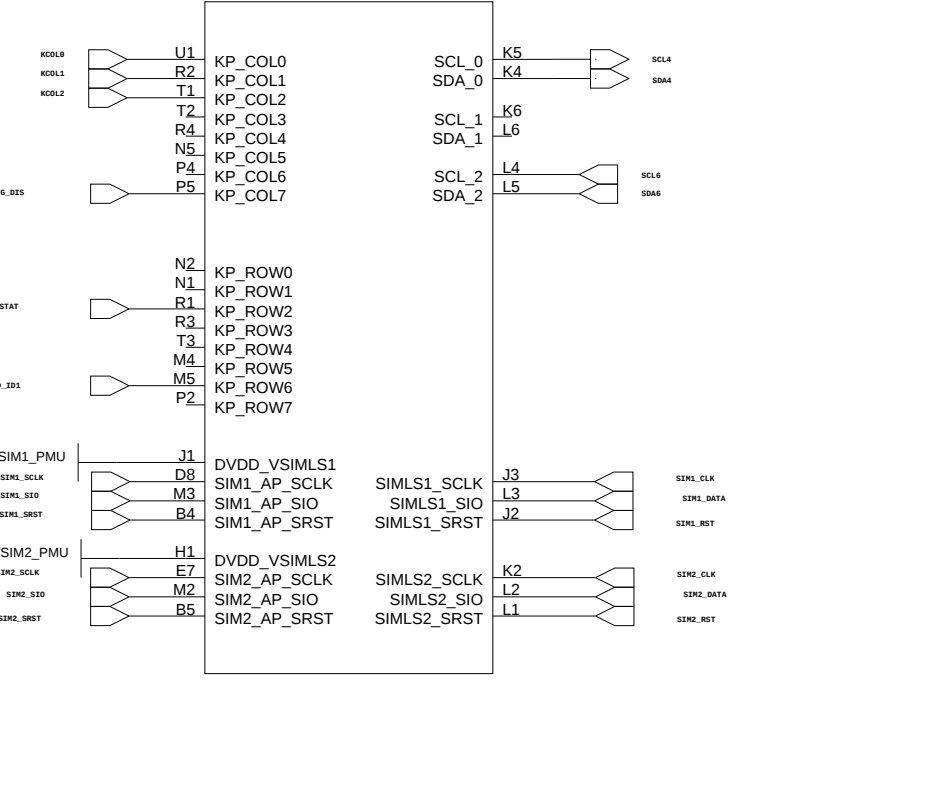
Between IC and IO port



Audio



Digital

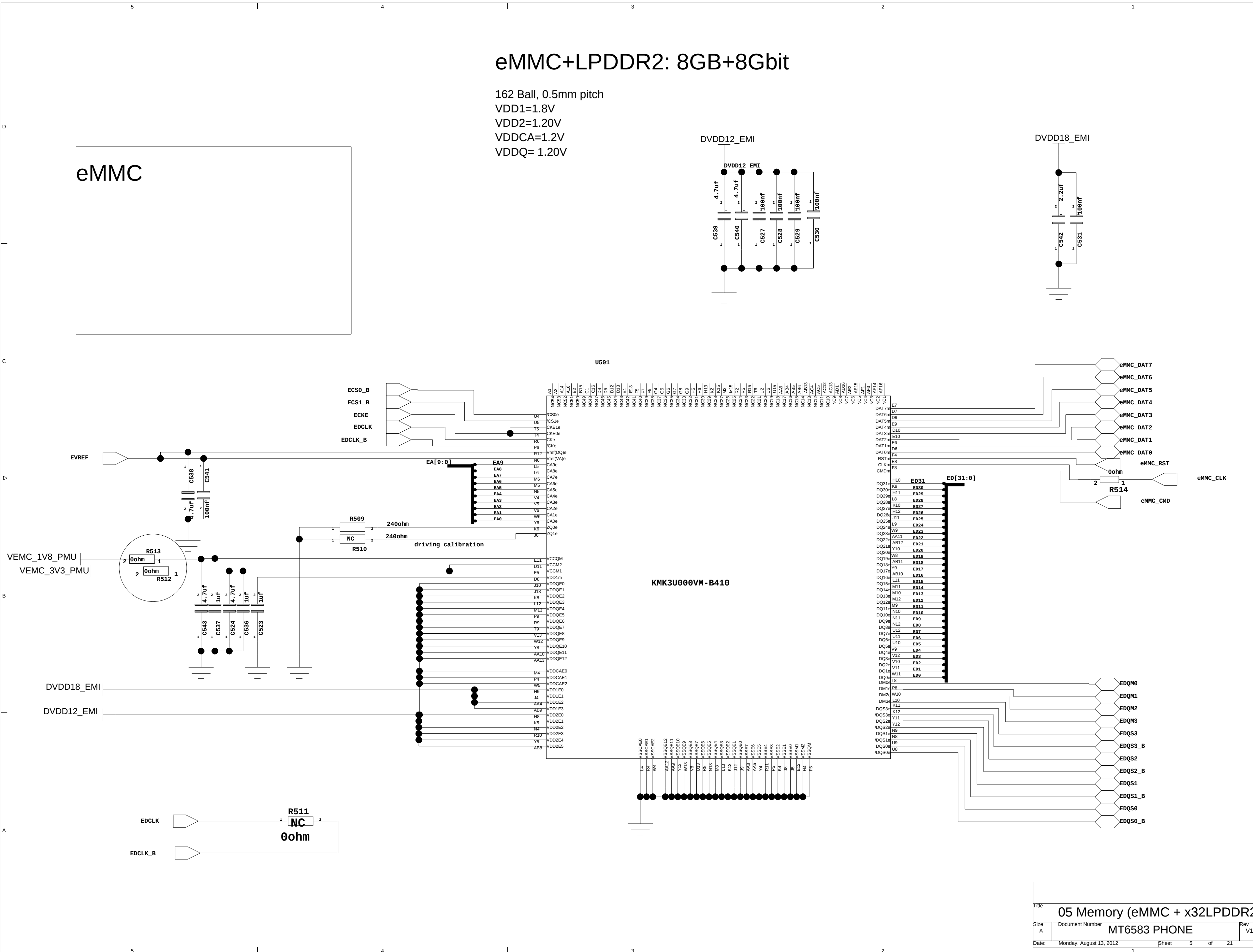


	Symbol	Application	Vout (V)	Iout (mA)
Buck	VPROC	CPU	0.71.4 (DC/DC+PTP)	2000
	VCORE	MDSYS/Infra	0.71.4 (DC/DC)	1200
	VM	Memory	1.2/1.35/1.5	1100
	VSAM	3GPA	0.71.4 (DC/DC+PTP)	600
	VRF18	1st RF	1.825	300
	VRF18_2	2nd RF	1.825	450
	VIO18	GPU OD IO App.	1.051.25 (500mV/step) 1.8	600
Analog LDO	VA	ABB	1.8/2.5	60
	VA28	Audio Block	2.8	40
	VRF28_1	MDSYS	2.85	200
	VRF28_2	General	1.8/2.85	200
	VTCXO_1	MDSYS	2.8	40
Digital LDO	VTCXO_2	MDSYS	1.8/2.8	40
	VCAMA	VCAMA	1.5/1.8/2.5/2.8	200
	VIO28		2.8	400
	VAST	AST3001	0.9/1.0/1.1/1.2	300
	VUSB		3.3	200
	VMC	T-Card	1.8/3.3	200
	VMCH	T-Card	3.0/3.3	800
	VEMC_3V3	eMMC (Core)	3.0/3.3	800
	VEMC_1V8	eMMC	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
	VGP1	VCAMD	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	400
	VGP2	VCAM_IO	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
	VGP3	VCAM_AF	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
	VGP4	CTP/CMMB	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
	VGP5	CTP/CMMB	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
	VGP6	CTP/CMMB	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
Vibrator	VSIM1	VSIM1	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
	VSIM2	VSIM2	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
	VRTC	RTC Block	2.8	

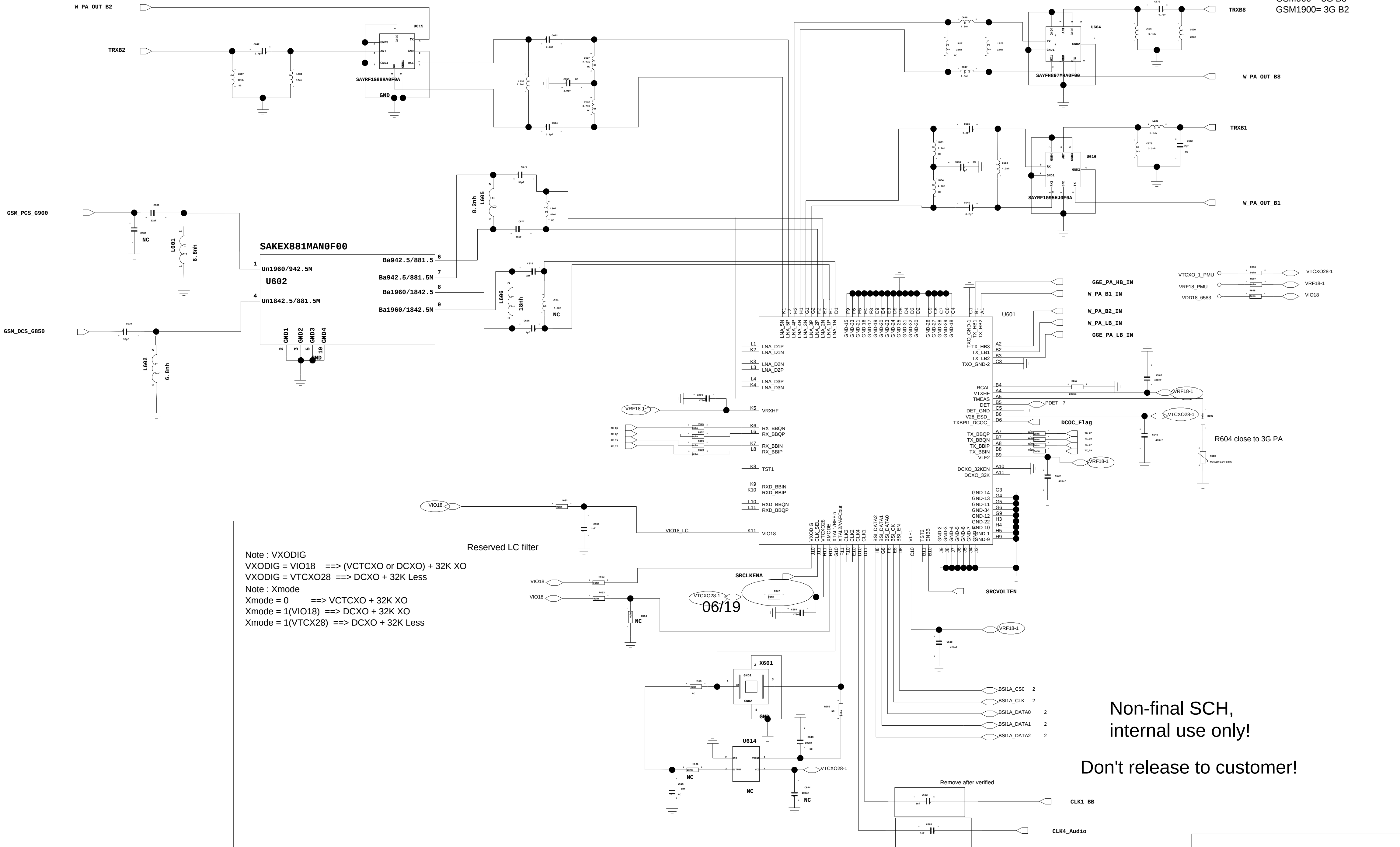
eMMC+LPDDR2: 8GB+8Gbit

162 Ball, 0.5mm pitch
VDD1=1.8V
VDD2=1.20V
VDDCA=1.2V
VDDQ = 1.20V

eMMC



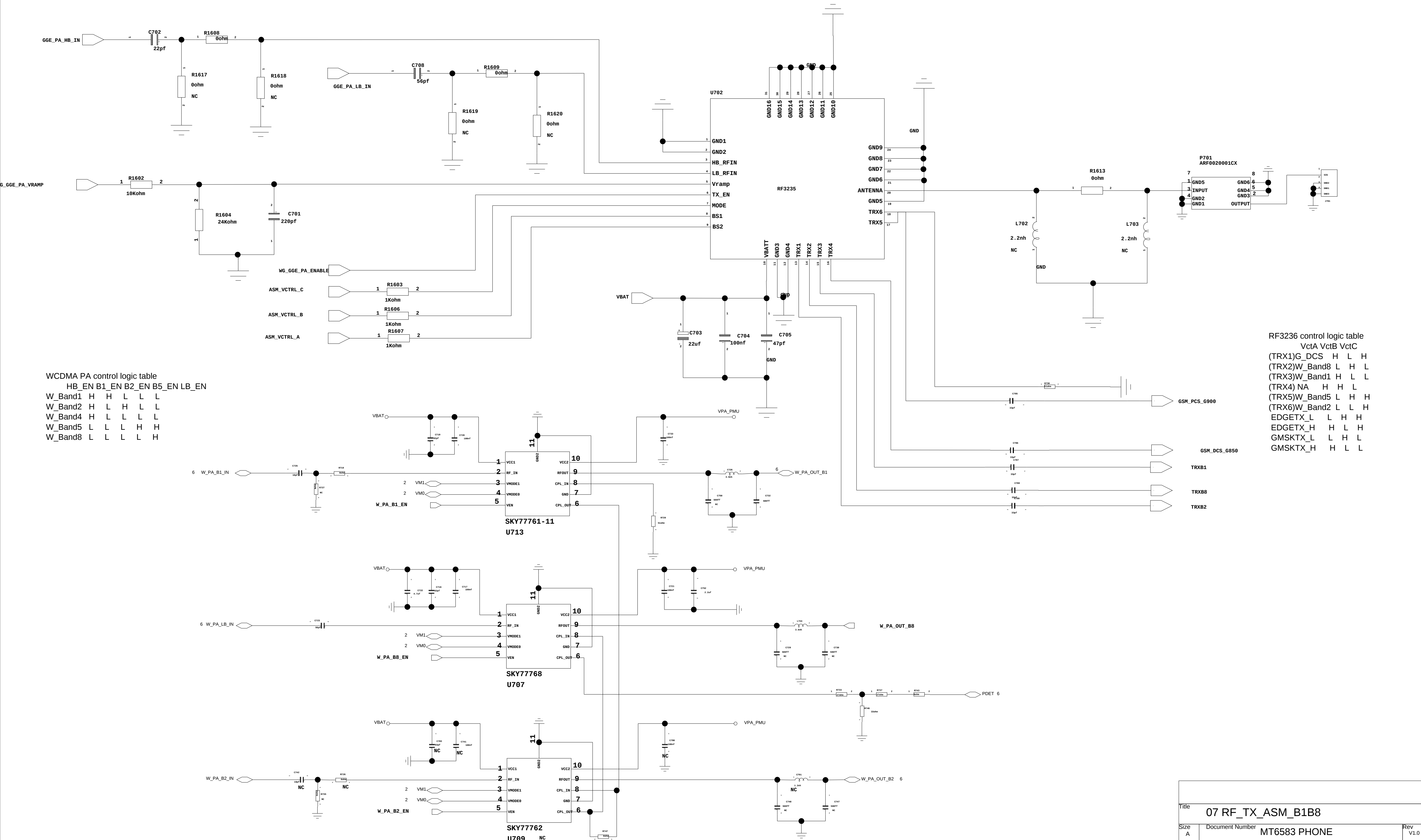
Note : Use RX Co-banding
GSM850 = 3G B5
GSM900 = 3G B8
GSM1900= 3G B2



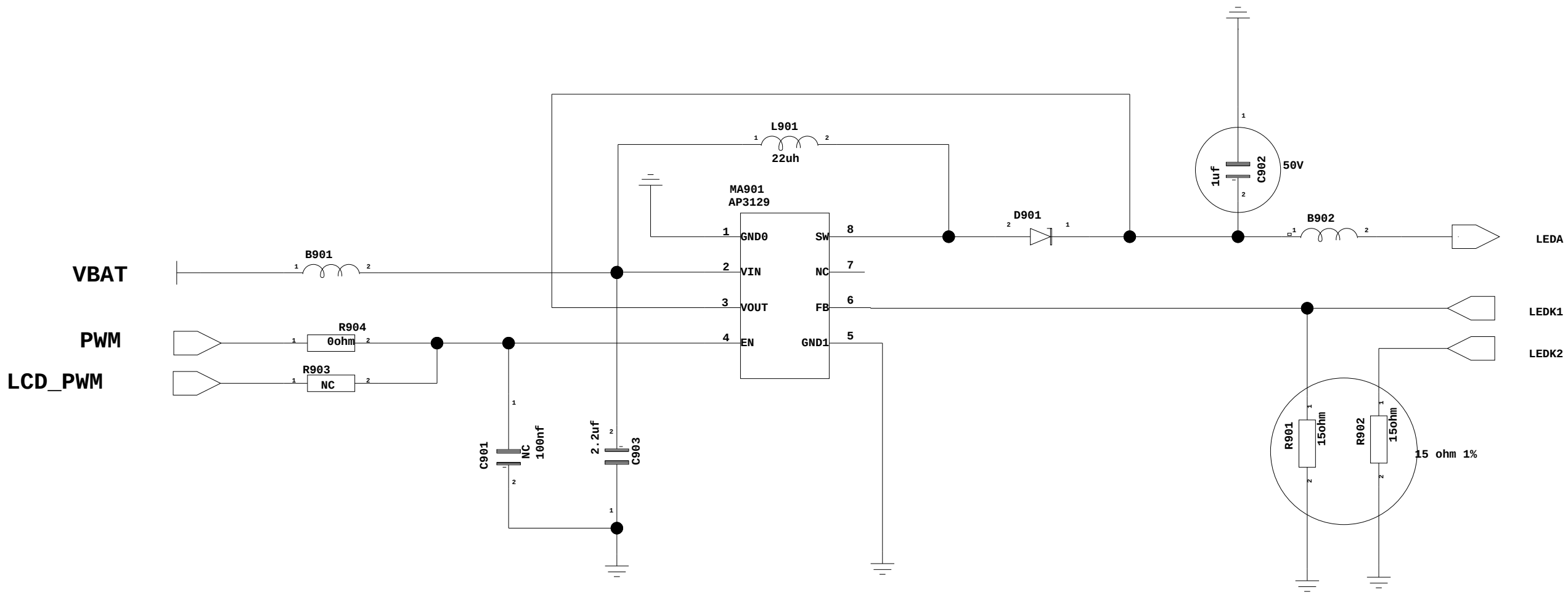
Note : VXODIG
VXODIG = VIO18 ==> (VTCXO or DCXO) + 32K XO
VXODIG = VTCXO28 ==> DCXO + 32K Less
Note : Xmode
Xmode = 0 ==> VTCXO + 32K XO
Xmode = 1(VIO18) ==> DCXO + 32K XO
Xmode = 1(VTCX28) ==> DCXO + 32K Less

Non-final SCH,
internal use only!

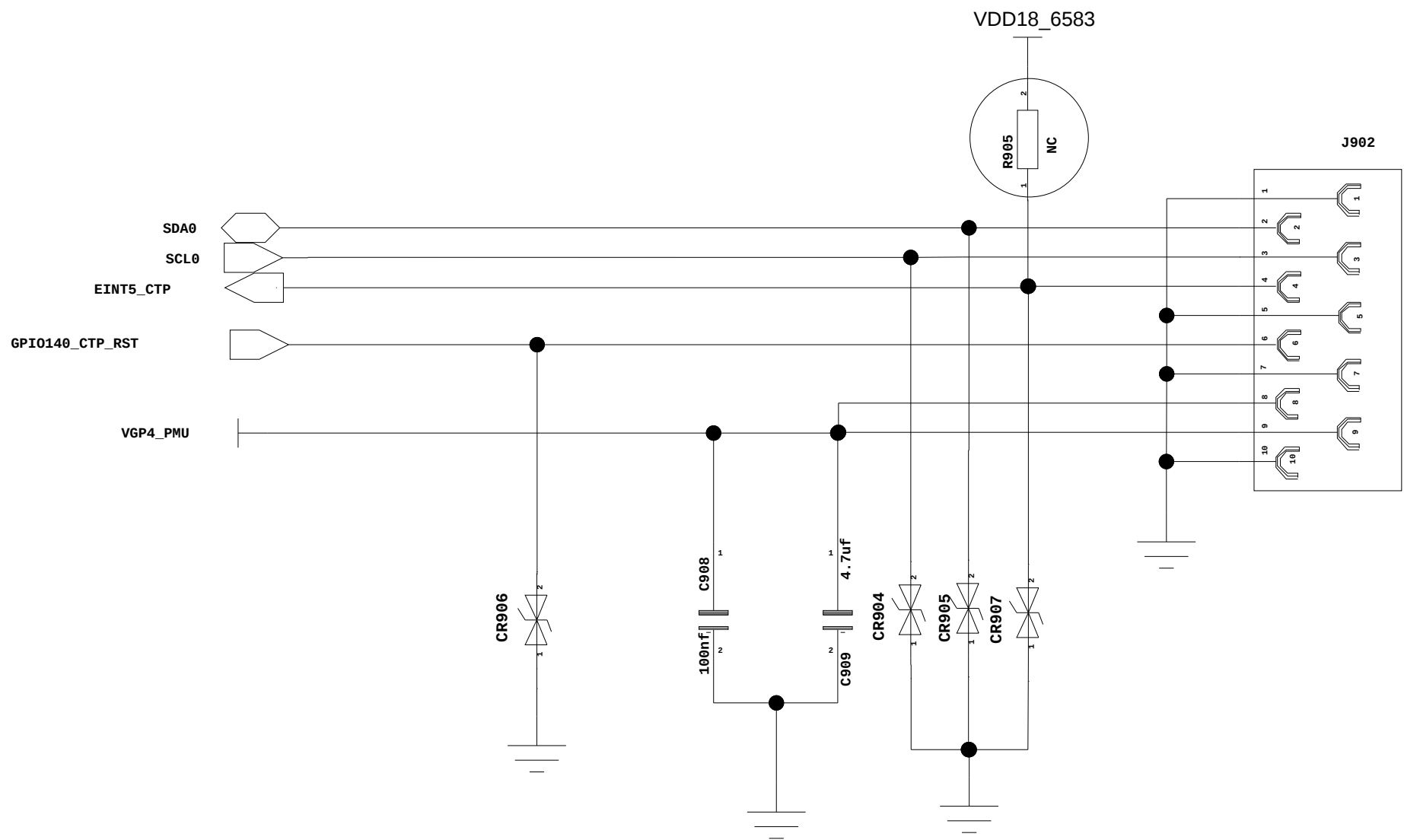
Don't release to customer!



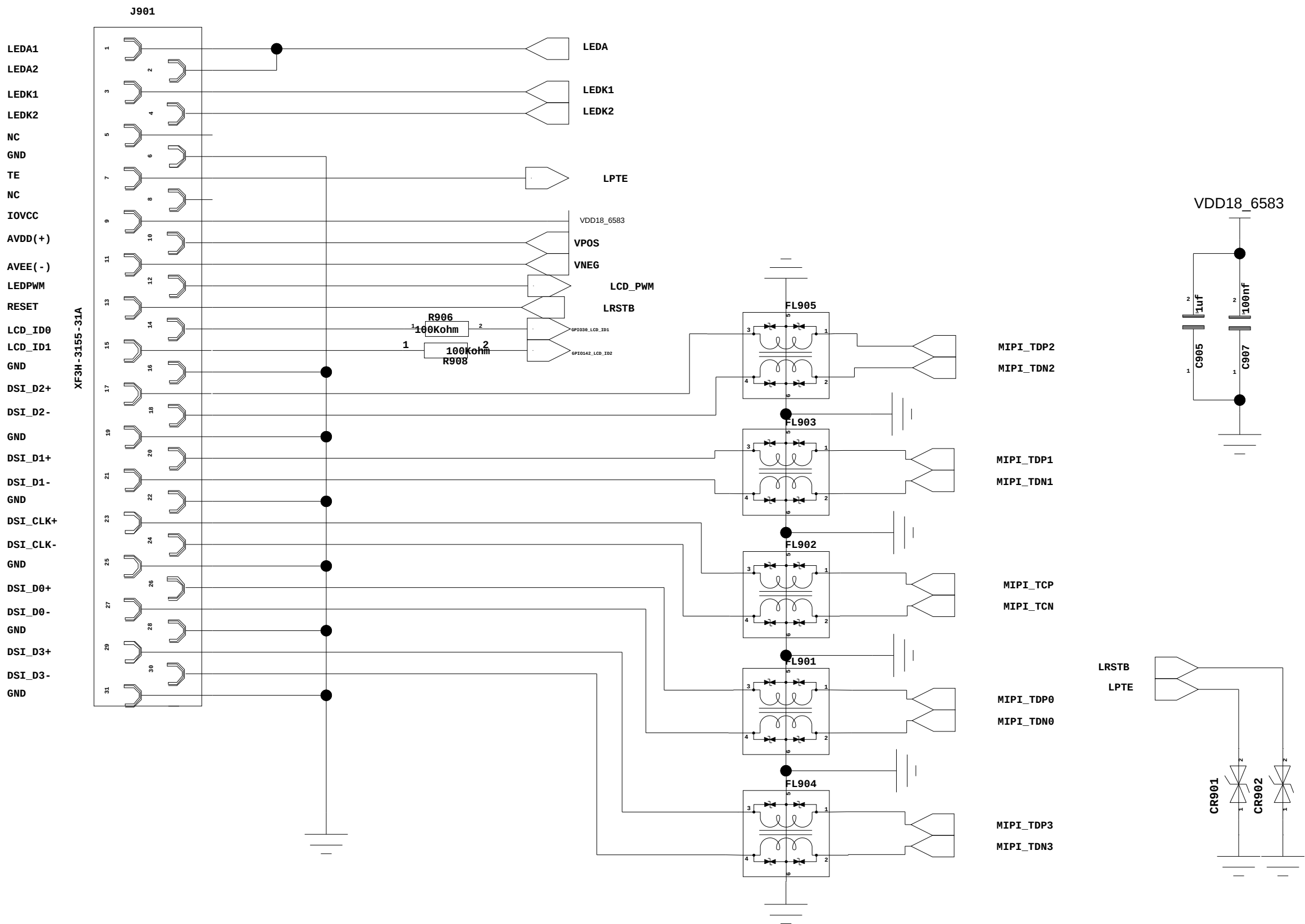
LCD BACKLIGHT



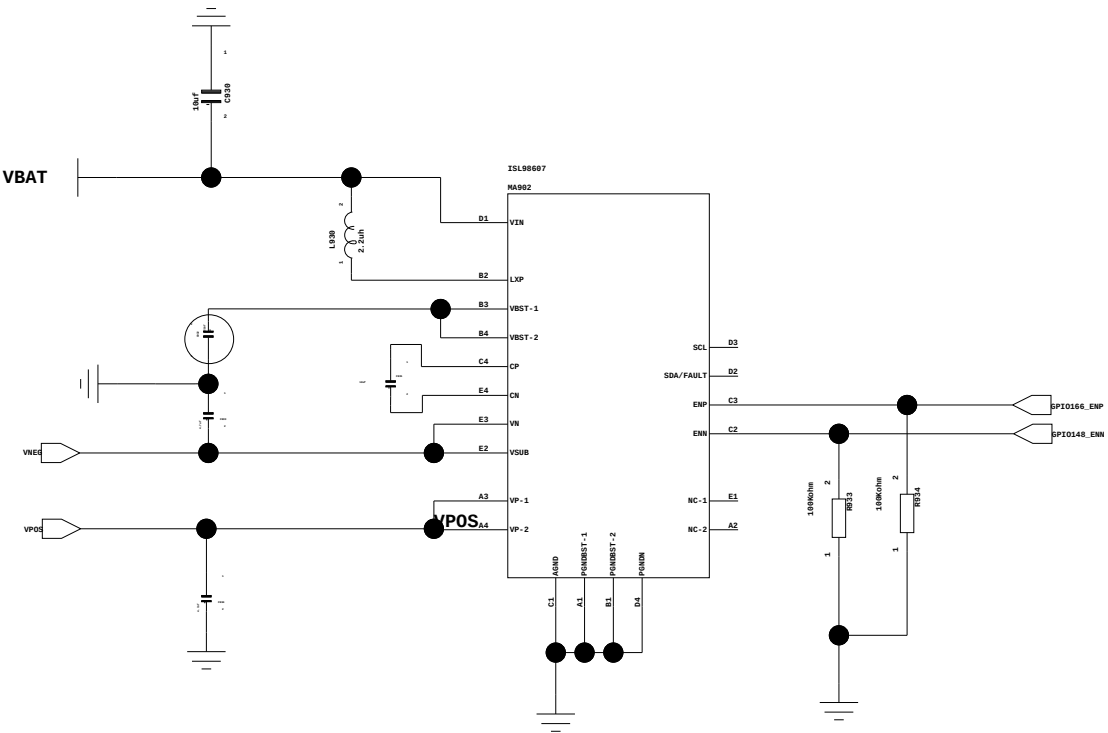
CTP



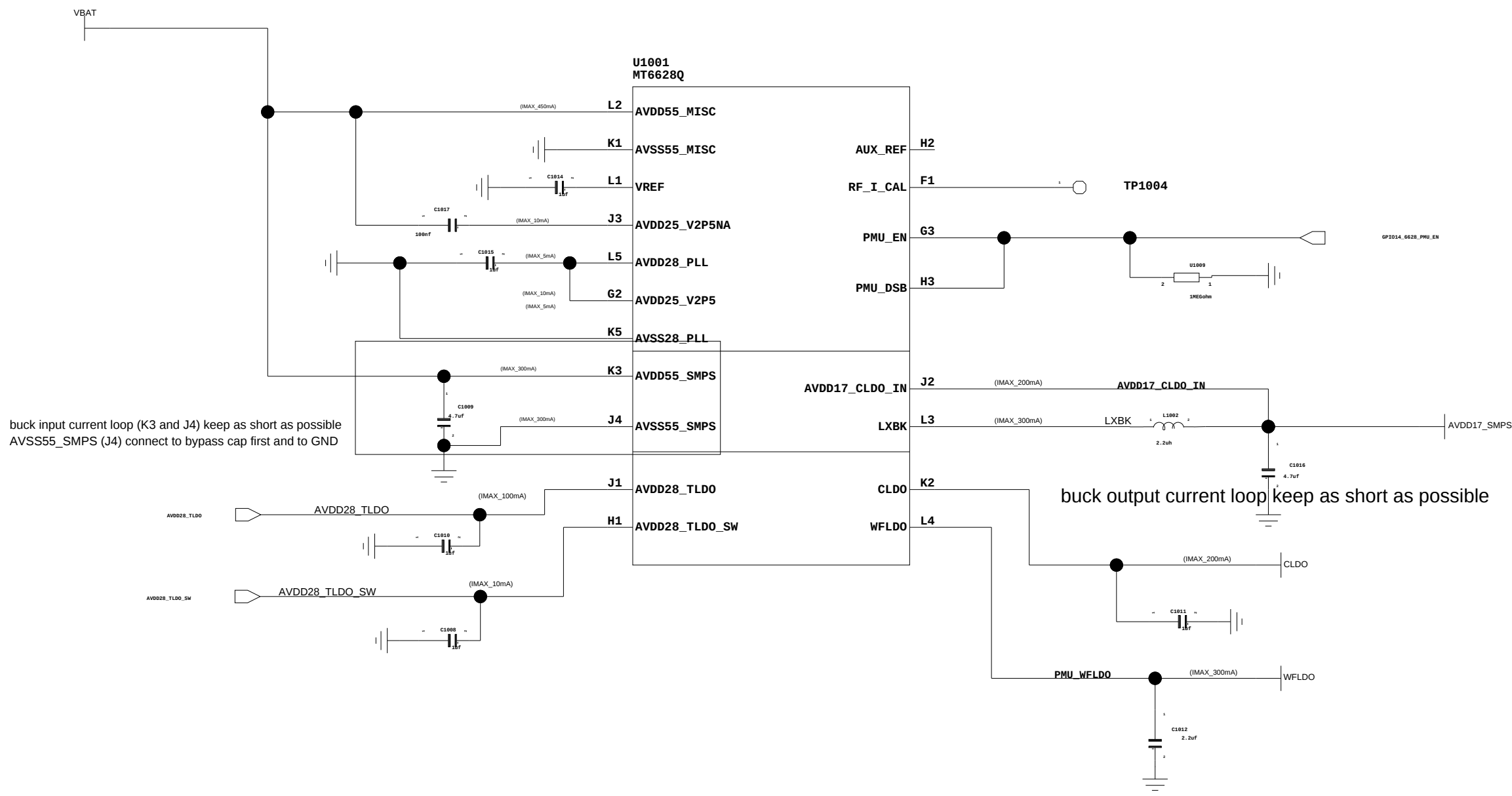
LCD CONN



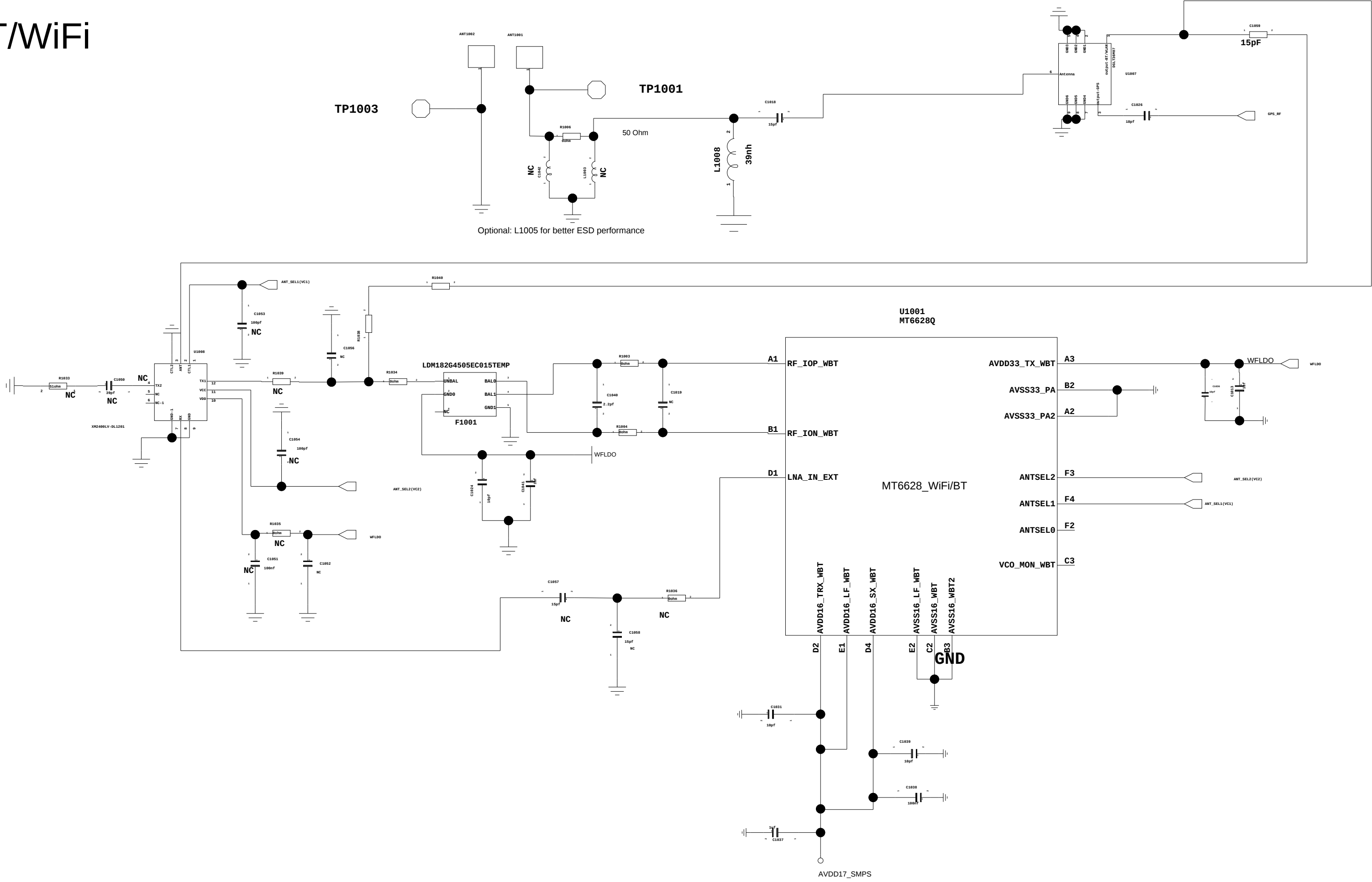
DC/DC Converter



MT6628_PMU



MT6628_BT/WiFi



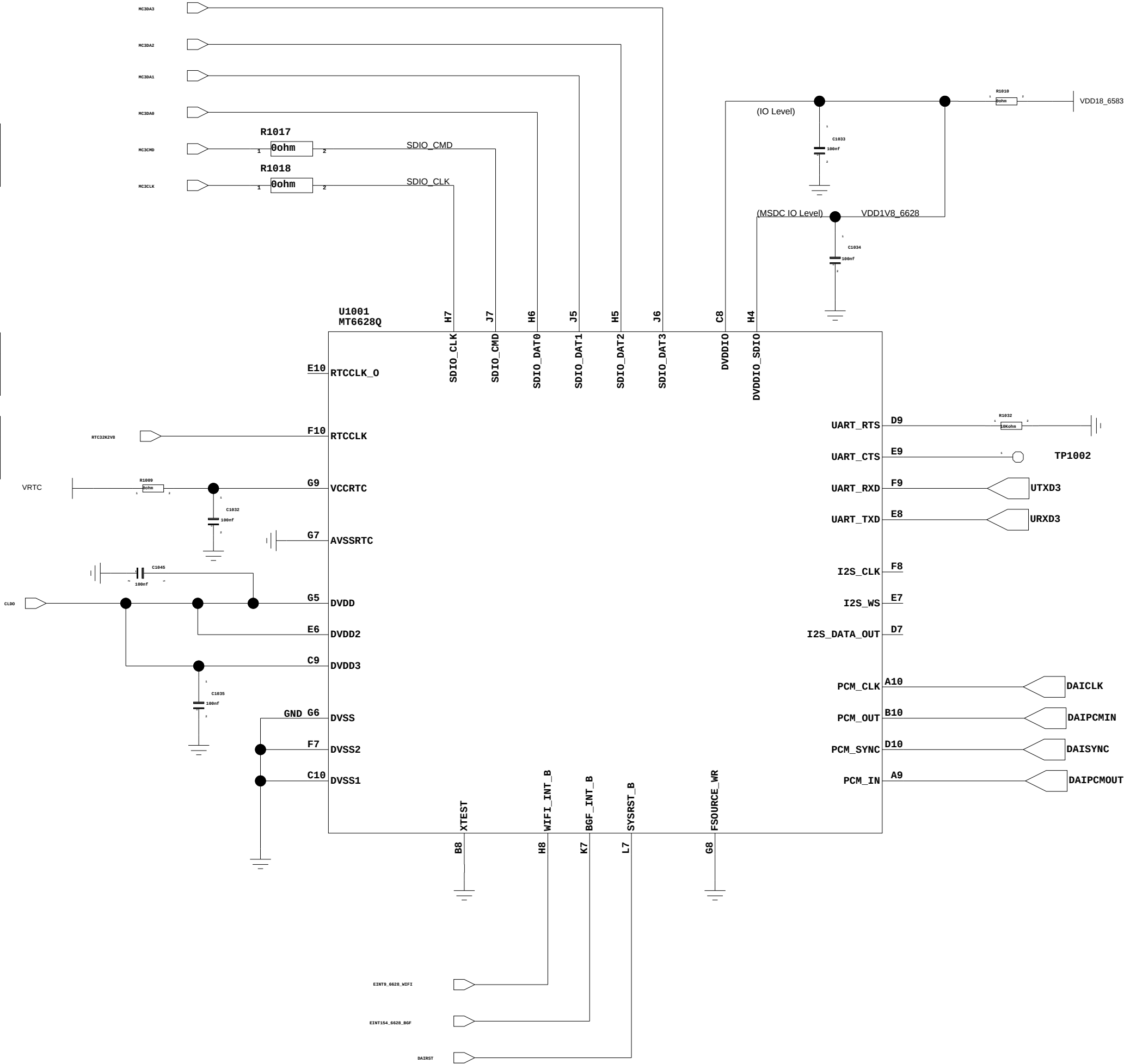
MT6628_GPIO

WiFi_Host ANTSEL-2	0	SDIO	
	1	SPI	

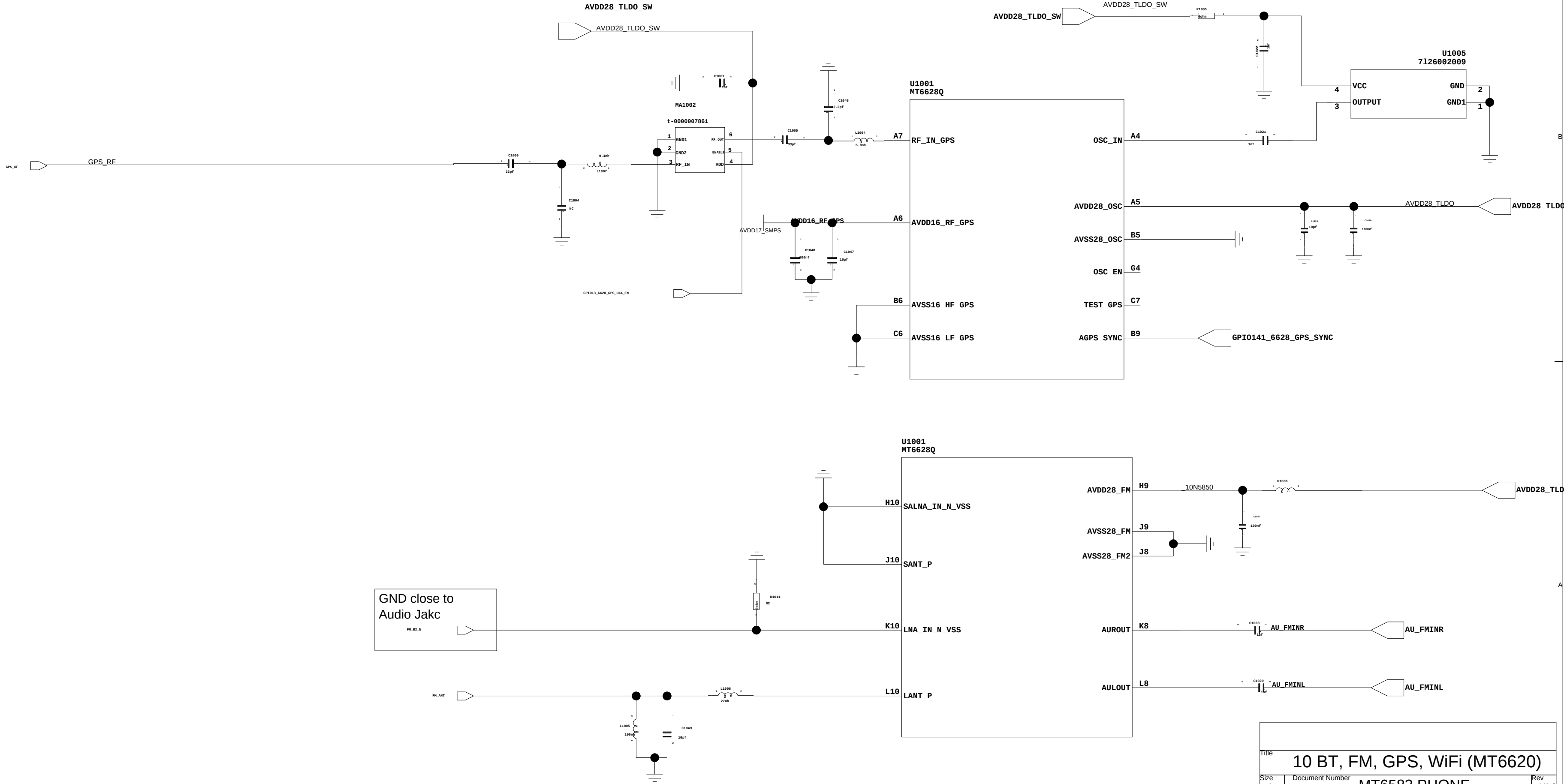
Xtal/OCS ANTSEL-1 (b'0)	00	TCXO	
	01	Xtal	
	10	EXTCK	
	11	RESERVED	

BT/COM Host UART_RTS	0	UART	MT6628E2
	1	SDIO	MT6628E2

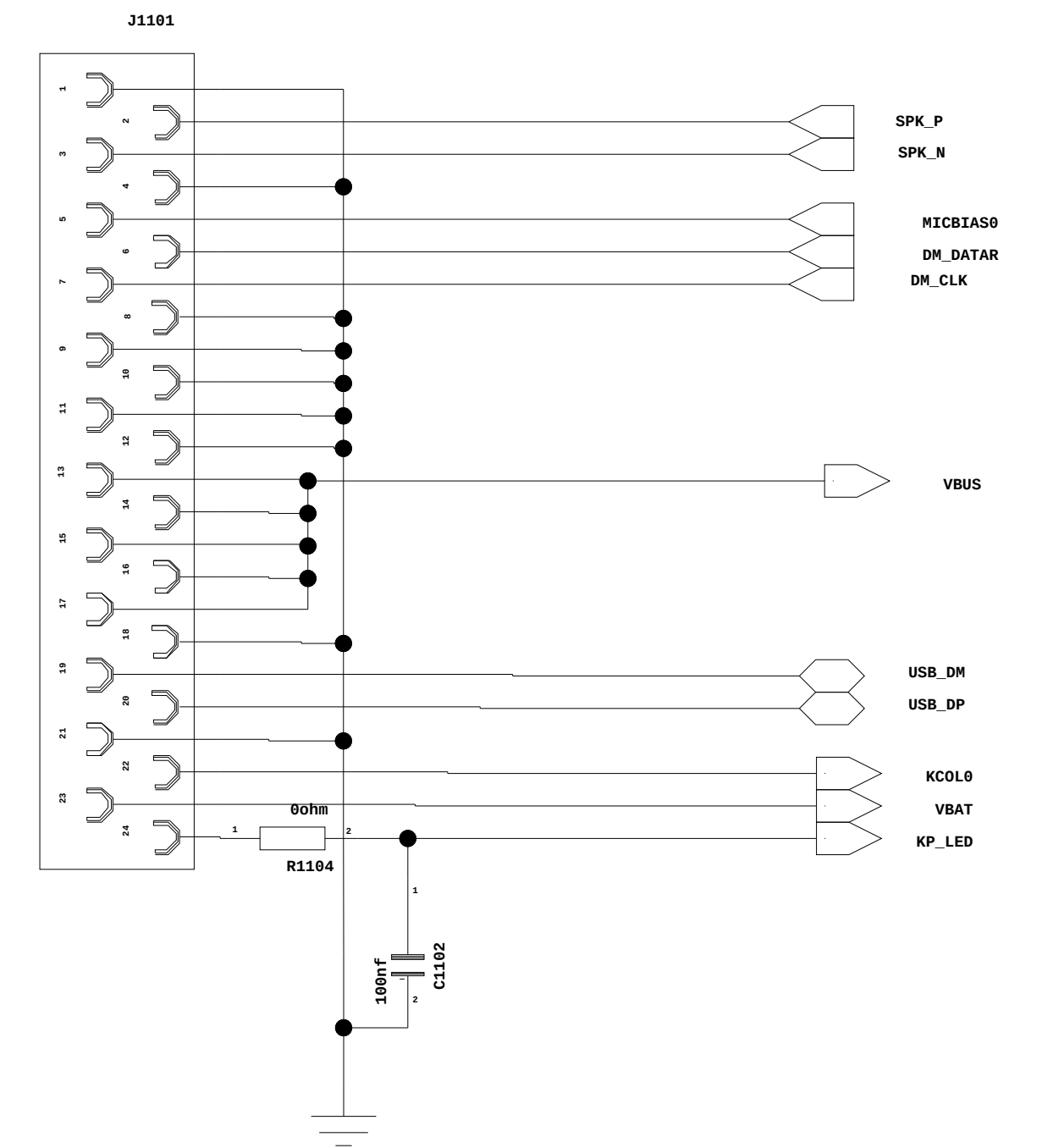
BT/COM Host ANTSEL-0	0	SDIO	MT6628E1
	1	UART	MT6628E1



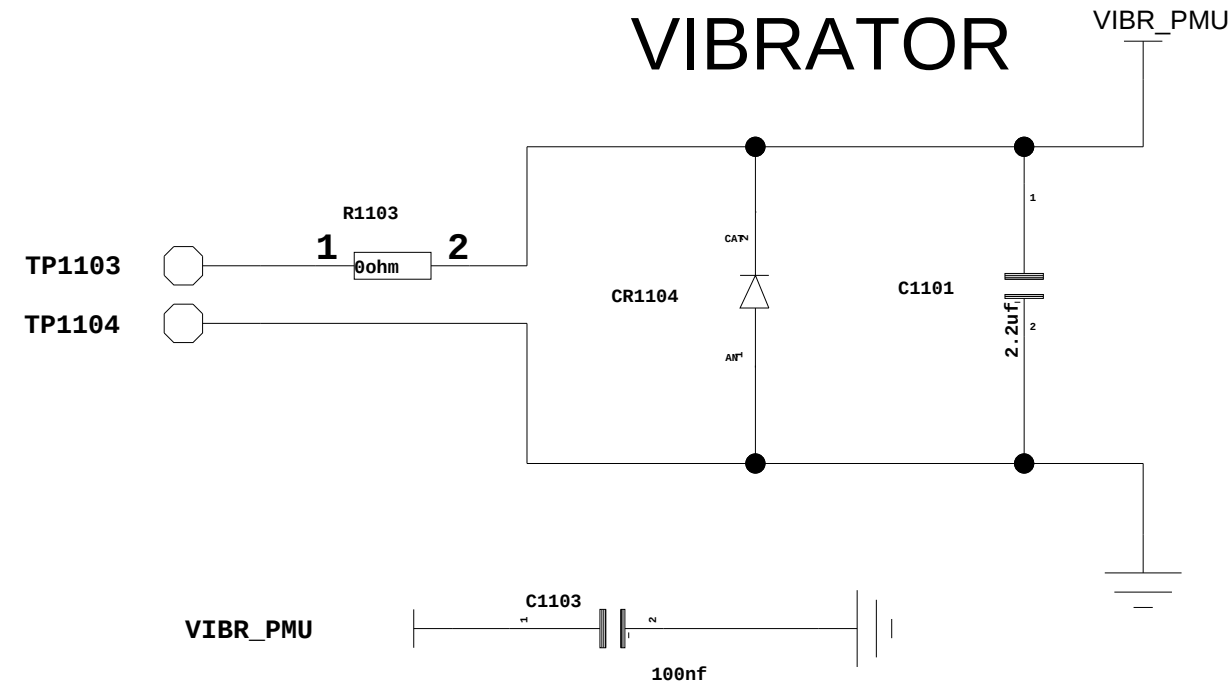
MT6628_GPS / FM



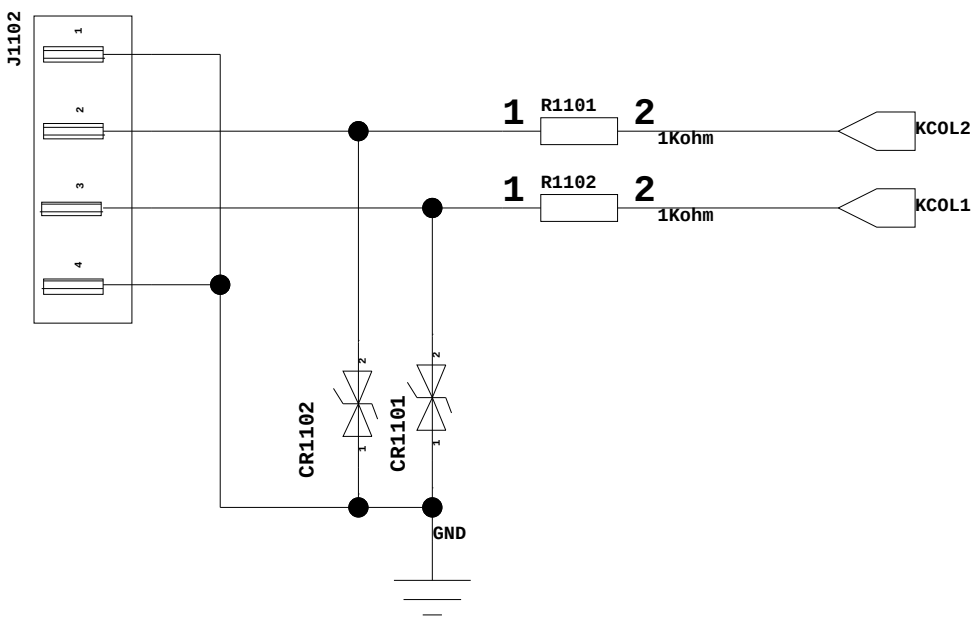
SUB Board CONN



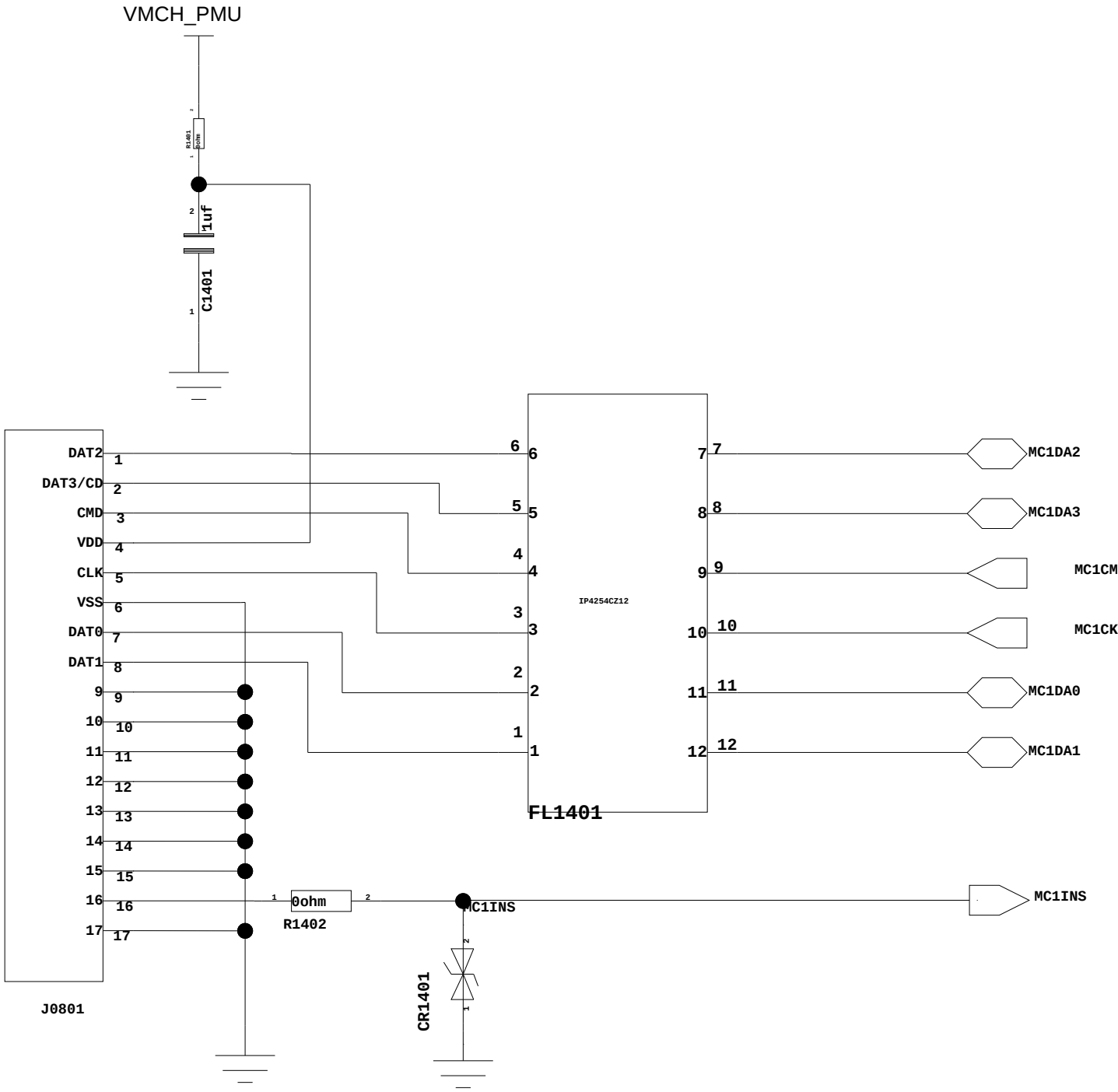
VIBRATOR



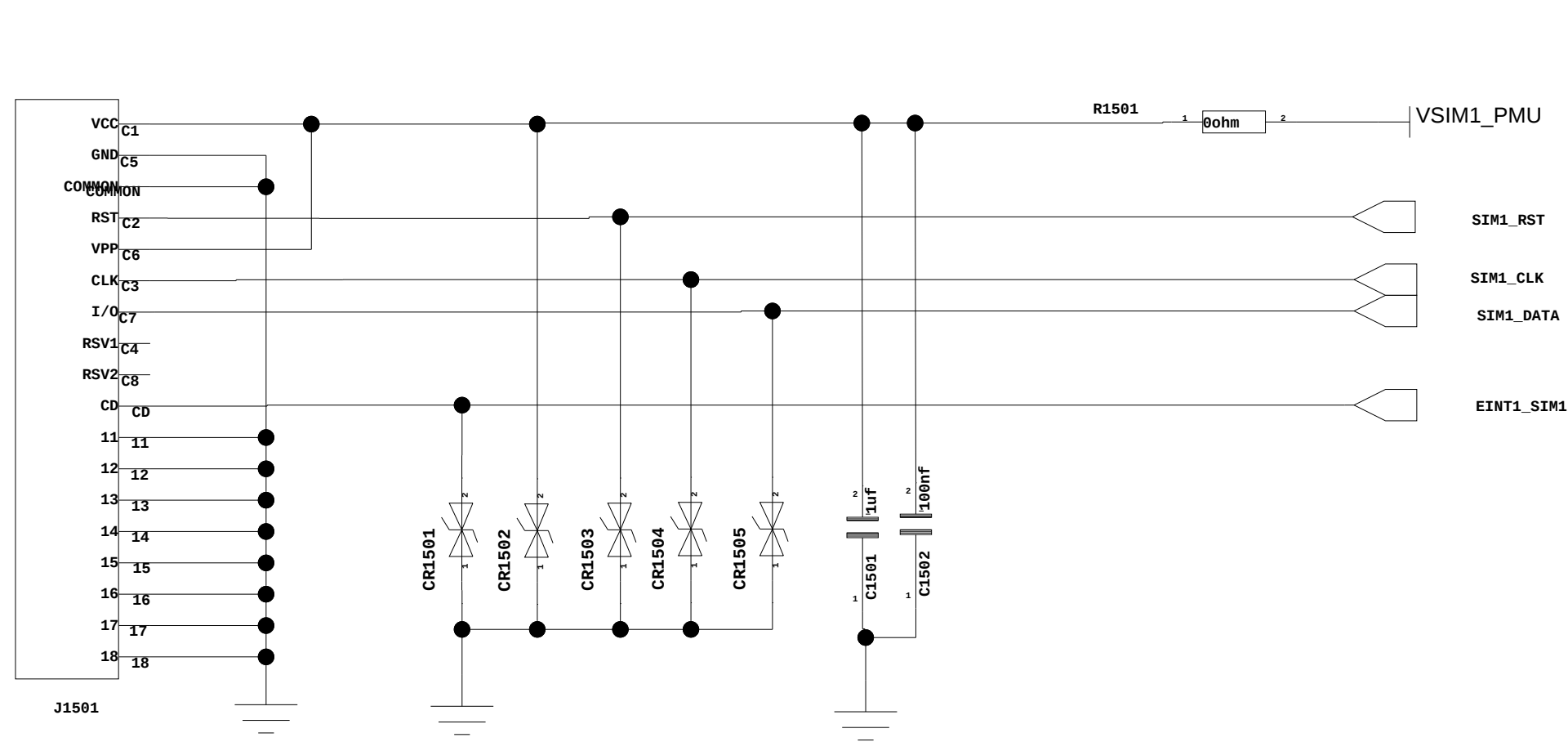
Volume SIDE KEY



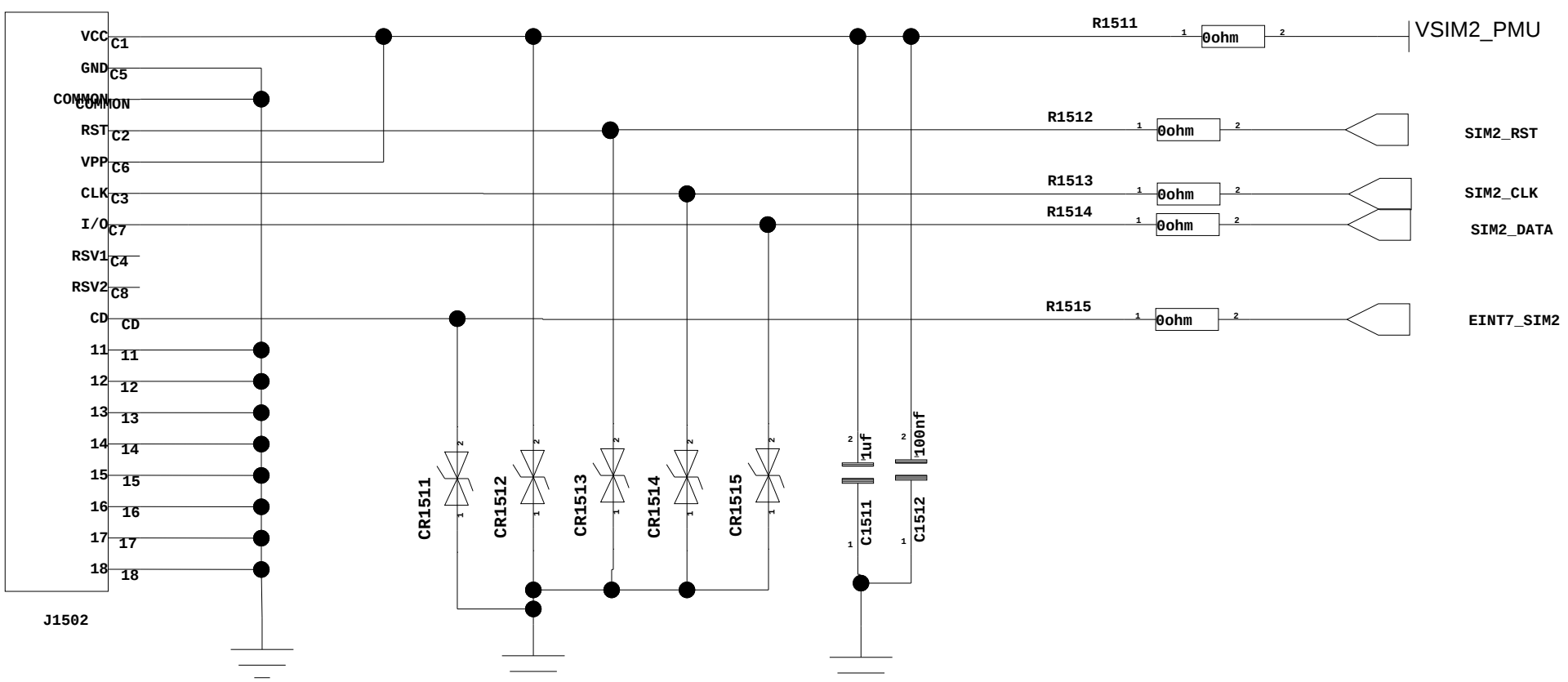
MICRO SD/T-FLASH



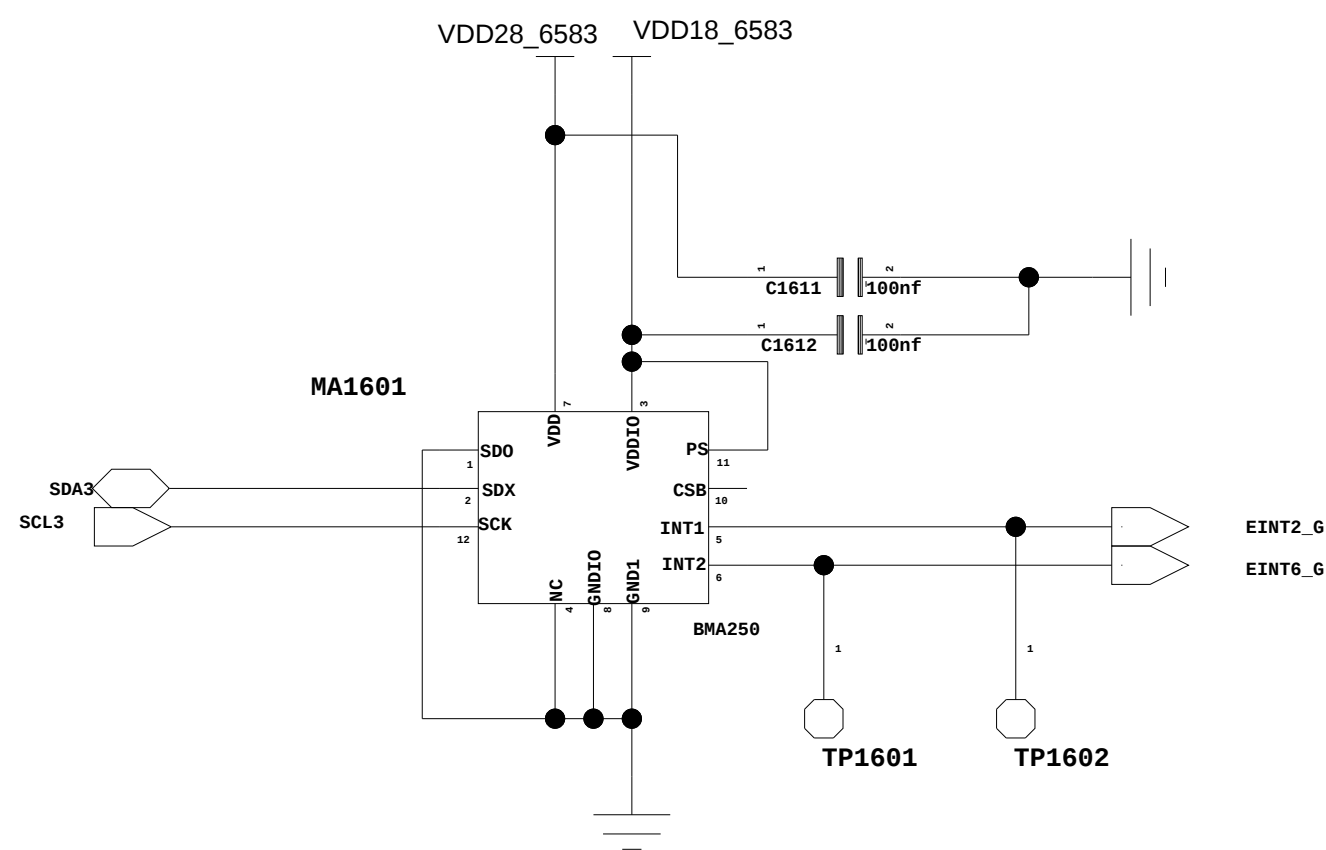
Micro-SIM CARD1



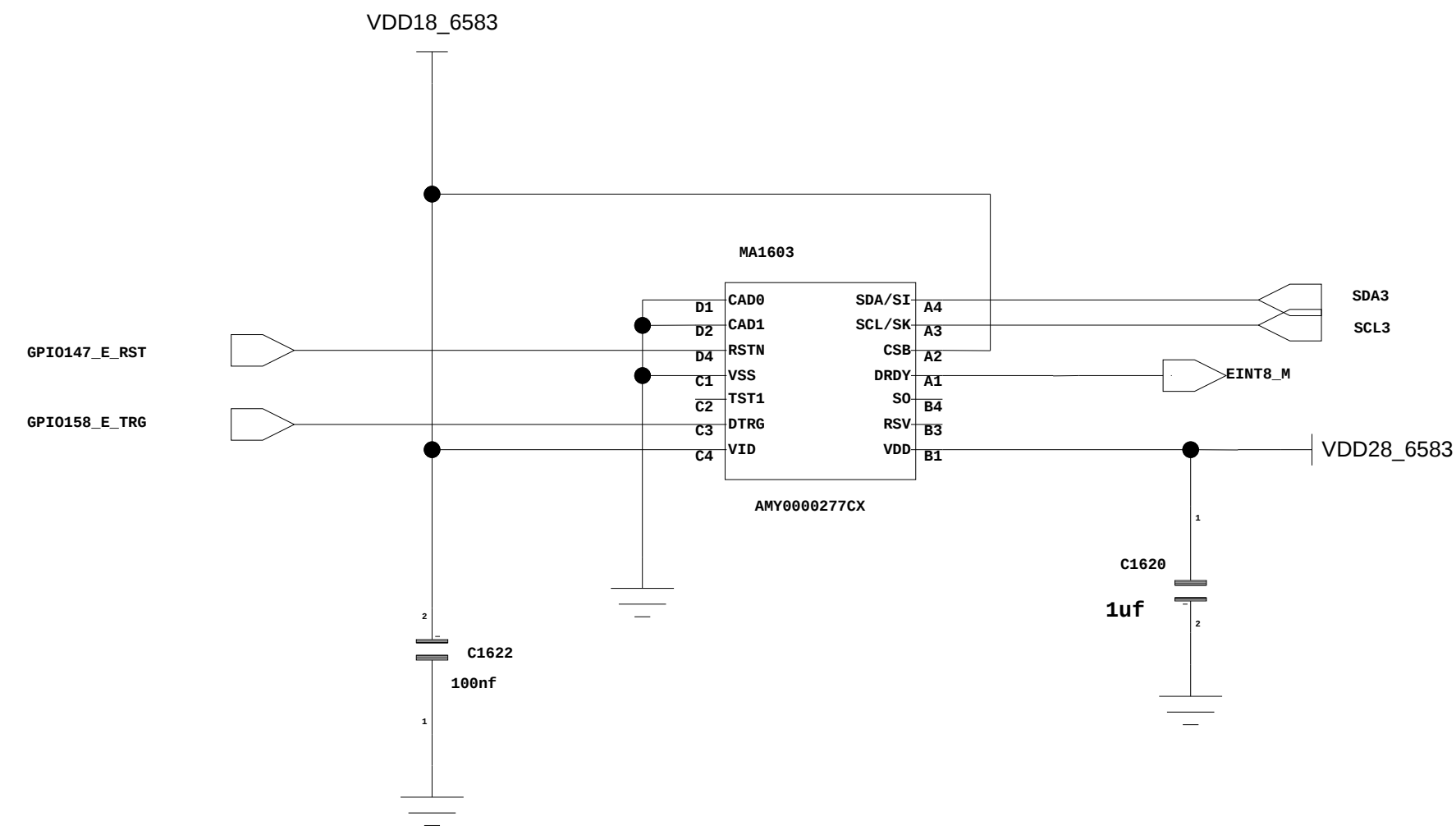
Micro-SIM CARD2



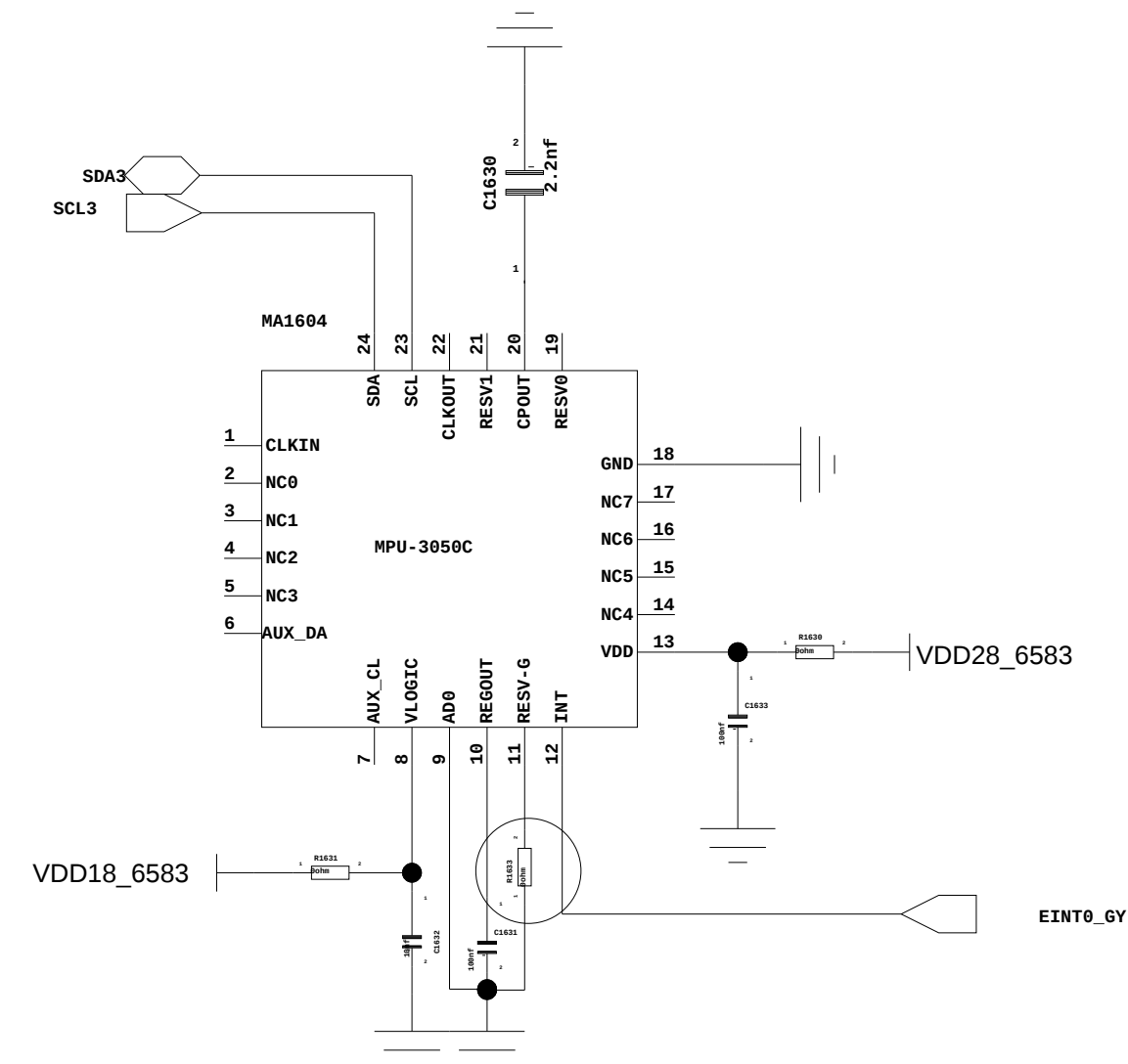
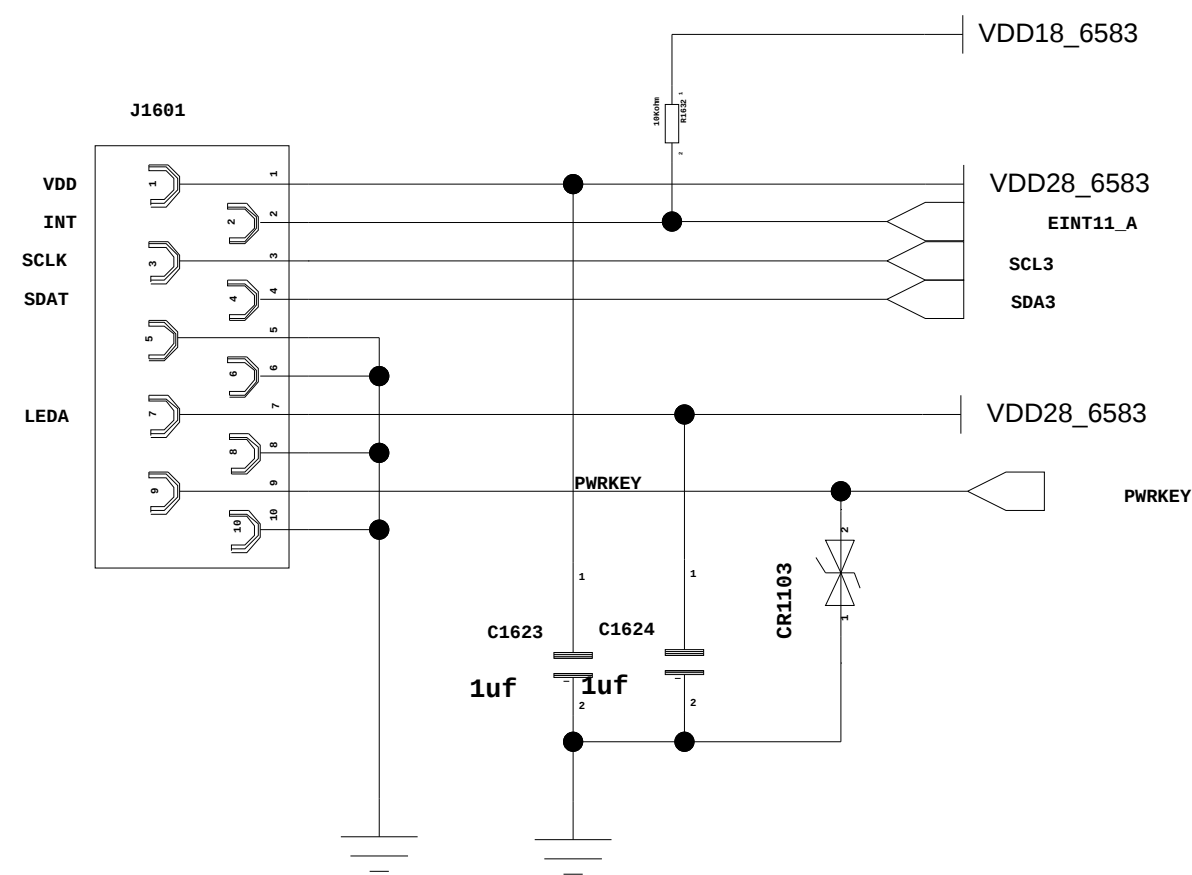
G - SENSOR

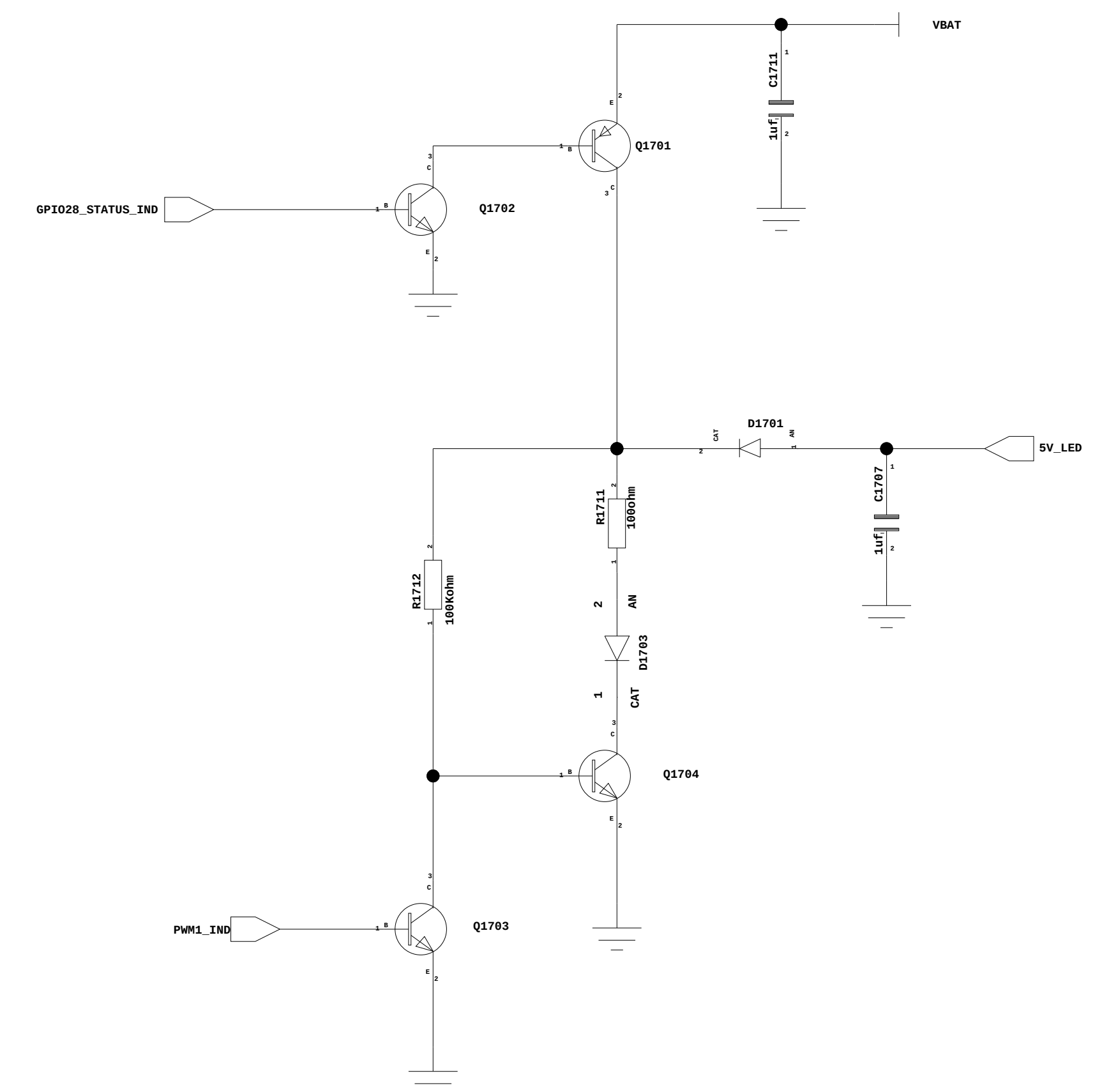


E - COMPASS



ALS&PS Sensor&Powerkey

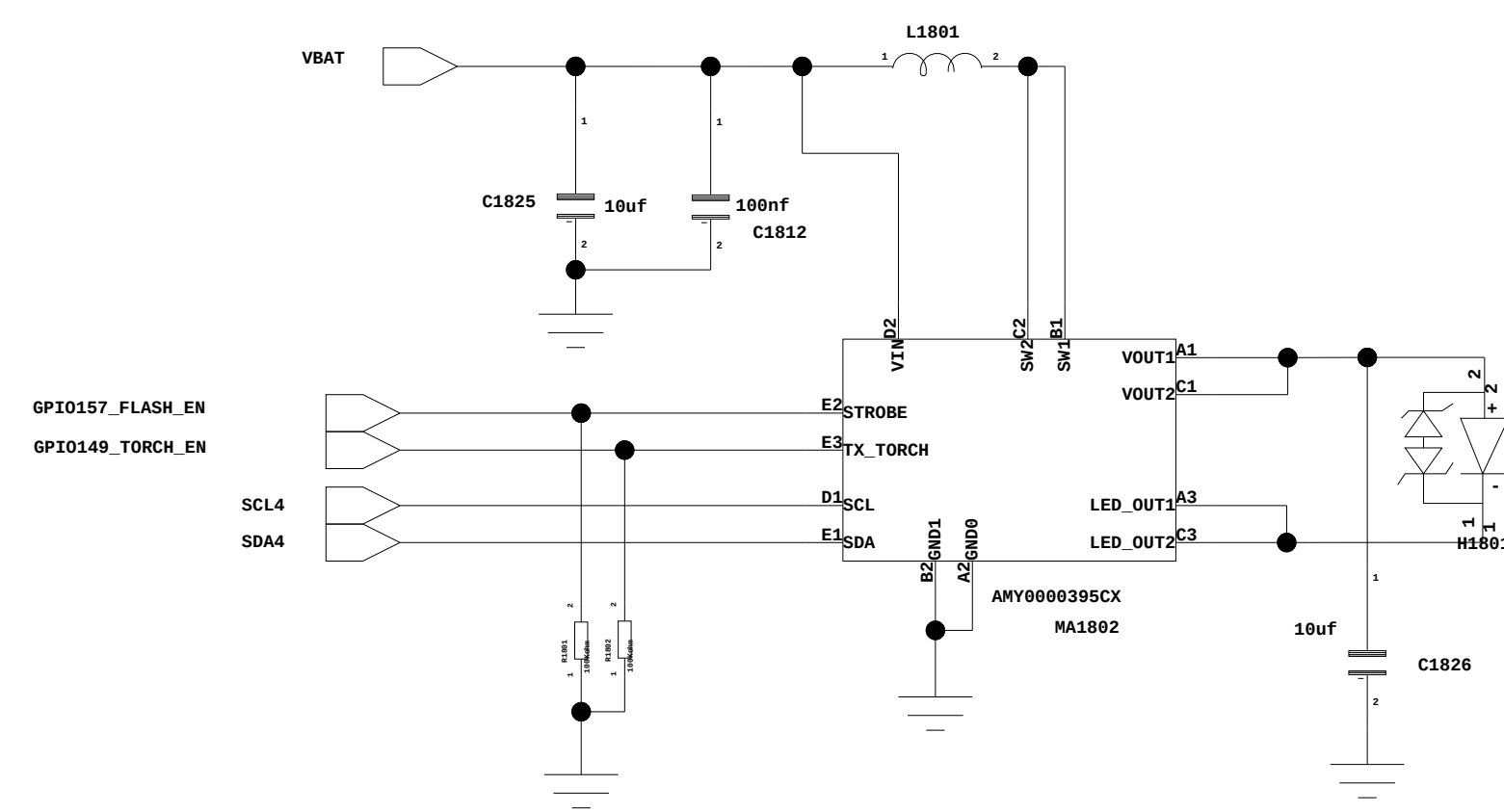




The schematic diagram illustrates the electrical connections for the U1761 module. Key components and connections include:

- VBUS Section:**
 - Input **VBUS_1** connects to **VBUS_IN1** and **VBUS_IN2** of the U1761.
 - A 3.3Kohm resistor (**R1703**) and a 330Kohm resistor (**R1702**) are connected to the VBUS input line.
 - A 39K 1% resistor (**R1701**) and a 330Kohm resistor are connected to the VBUS output line.
 - A 3.3Kohm resistor (**R1704**) is connected to the **5V_LED** pin.
- VBAT Section:**
 - The **VBAT** input connects to the **VBAT** pin of the U1761.
 - A 9.848ohm resistor (**R1707**) is connected to the VBAT input line.
 - A 10uF capacitor (**C1705**) is connected to the VBAT input line.
- U1761 Pin Connections:**
 - SW1, SW2, SW3:** Connected to pins **C2, C1, C3** respectively.
 - PGND1, PGND2, PGND3:** Connected to pins **D2, D1, D3** respectively.
 - CSIN, E4:** Connected to pins **A3, A4** respectively.
 - VREG:** Connected to pin **E3**.
 - STAT:** Connected to pin **C4**.
 - DTG:** Connected to pin **D4**.
 - DISABLE:** Connected to pin **E2**.
 - PHI01, PHI02, PHI03:** Connected to pins **B1, B2, B3** respectively.
 - SDA6, SCL6:** Connected to pins **A1, A2** respectively.
- Other Components:**
 - Capacitors:** **C1702** (100nf), **C1703** (100nf), **C1704** (4.7nf), **C1705** (10uF), **C1706** (100nf).
 - Resistors:** **R1708** (100Kohm), **R1709** (220Kohm), **R1710** (220Kohm), **R1711** (220Kohm), **R1712** (100Kohm), **R1713** (100Kohm), **R1714** (100Kohm), **R1715** (100Kohm), **R1716** (100Kohm), **R1717** (100Kohm), **R1718** (100Kohm), **R1719** (100Kohm), **R1720** (100Kohm), **R1721** (100Kohm), **R1722** (100Kohm), **R1723** (100Kohm), **R1724** (100Kohm), **R1725** (100Kohm), **R1726** (100Kohm), **R1727** (100Kohm), **R1728** (100Kohm), **R1729** (100Kohm), **R1730** (100Kohm), **R1731** (100Kohm), **R1732** (100Kohm), **R1733** (100Kohm), **R1734** (100Kohm), **R1735** (100Kohm), **R1736** (100Kohm), **R1737** (100Kohm), **R1738** (100Kohm), **R1739** (100Kohm), **R1740** (100Kohm), **R1741** (100Kohm), **R1742** (100Kohm), **R1743** (100Kohm), **R1744** (100Kohm), **R1745** (100Kohm), **R1746** (100Kohm), **R1747** (100Kohm), **R1748** (100Kohm), **R1749** (100Kohm), **R1750** (100Kohm), **R1751** (100Kohm), **R1752** (100Kohm), **R1753** (100Kohm), **R1754** (100Kohm), **R1755** (100Kohm), **R1756** (100Kohm), **R1757** (100Kohm), **R1758** (100Kohm), **R1759** (100Kohm), **R1760** (100Kohm), **R1761** (100Kohm), **R1762** (100Kohm), **R1763** (100Kohm), **R1764** (100Kohm), **R1765** (100Kohm), **R1766** (100Kohm), **R1767** (100Kohm), **R1768** (100Kohm), **R1769** (100Kohm), **R1770** (100Kohm), **R1771** (100Kohm), **R1772** (100Kohm), **R1773** (100Kohm), **R1774** (100Kohm), **R1775** (100Kohm), **R1776** (100Kohm), **R1777** (100Kohm), **R1778** (100Kohm), **R1779** (100Kohm), **R1780** (100Kohm), **R1781** (100Kohm), **R1782** (100Kohm), **R1783** (100Kohm), **R1784** (100Kohm), **R1785** (100Kohm), **R1786** (100Kohm), **R1787** (100Kohm), **R1788** (100Kohm), **R1789** (100Kohm), **R1790** (100Kohm), **R1791** (100Kohm), **R1792** (100Kohm), **R1793** (100Kohm), **R1794** (100Kohm), **R1795** (100Kohm), **R1796** (100Kohm), **R1797** (100Kohm), **R1798** (100Kohm), **R1799** (100Kohm), **R1800** (100Kohm), **R1801** (100Kohm), **R1802** (100Kohm), **R1803** (100Kohm), **R1804** (100Kohm), **R1805** (100Kohm), **R1806** (100Kohm), **R1807** (100Kohm), **R1808** (100Kohm), **R1809** (100Kohm), **R1810** (100Kohm), **R1811** (100Kohm), **R1812** (100Kohm), **R1813** (100Kohm), **R1814** (100Kohm), **R1815** (100Kohm), **R1816** (100Kohm), **R1817** (100Kohm), **R1818** (100Kohm), **R1819** (100Kohm), **R1820** (100Kohm), **R1821** (100Kohm), **R1822** (100Kohm), **R1823** (100Kohm), **R1824** (100Kohm), **R1825** (100Kohm), **R1826** (100Kohm), **R1827** (100Kohm), **R1828** (100Kohm), **R1829** (100Kohm), **R1830** (100Kohm), **R1831** (100Kohm), **R1832** (100Kohm), **R1833** (100Kohm), **R1834** (100Kohm), **R1835** (100Kohm), **R1836** (100Kohm), **R1837** (100Kohm), **R1838** (100Kohm), **R1839** (100Kohm), **R1840** (100Kohm), **R1841** (100Kohm), **R1842** (100Kohm), **R1843** (100Kohm), **R1844** (100Kohm), **R1845** (100Kohm), **R1846** (100Kohm), **R1847** (100Kohm), **R1848** (100Kohm), **R1849** (100Kohm), **R1850** (100Kohm), **R1851** (100Kohm), **R1852** (100Kohm), **R1853** (100Kohm), **R1854** (100Kohm), **R1855** (100Kohm), **R1856** (100Kohm), **R1857** (100Kohm), **R1858** (100Kohm), **R1859** (100Kohm), **R1860** (100Kohm), **R1861** (100Kohm), **R1862** (100Kohm), **R1863** (100Kohm), **R1864** (100Kohm), **R1865** (100Kohm), **R1866** (100Kohm), **R1867** (100Kohm), **R1868** (100Kohm), **R1869** (100Kohm), **R1870** (100Kohm), **R1871** (100Kohm), **R1872** (100Kohm), **R1873** (100Kohm), **R1874** (100Kohm), **R1875** (100Kohm), **R1876** (100Kohm), **R1877** (100Kohm), **R1878** (100Kohm), **R1879** (100Kohm), **R1880** (100Kohm), **R1881** (100Kohm), **R1882** (100Kohm), **R1883** (100Kohm), **R1884** (100Kohm), **R1885** (100Kohm), **R1886** (100Kohm), **R1887** (100Kohm), **R1888** (100Kohm), **R1889** (100Kohm), **R1890** (100Kohm), **R1891** (100Kohm), <

FLASH_LIGHT

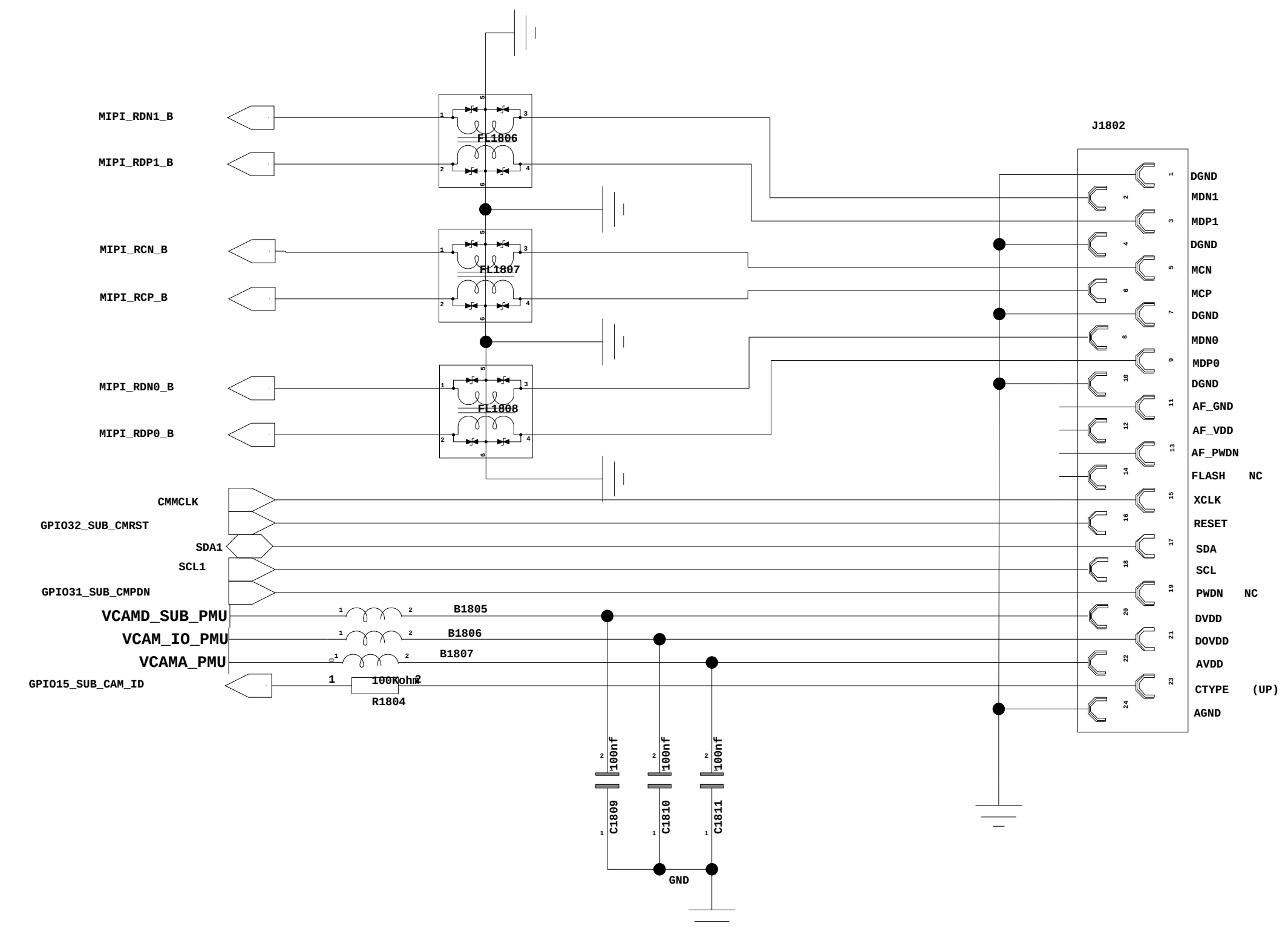


3A current, single vbat net from Battery connector

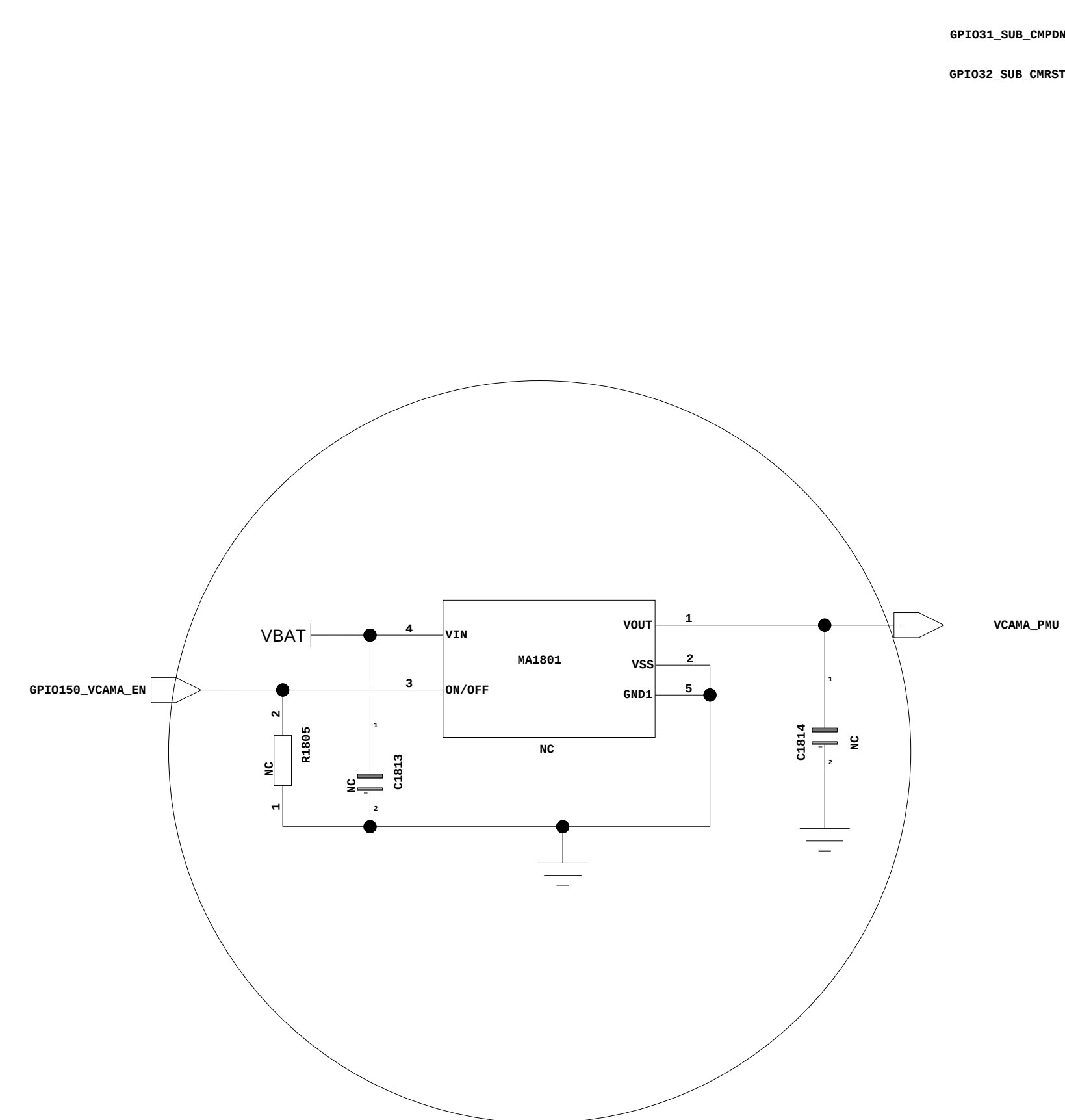
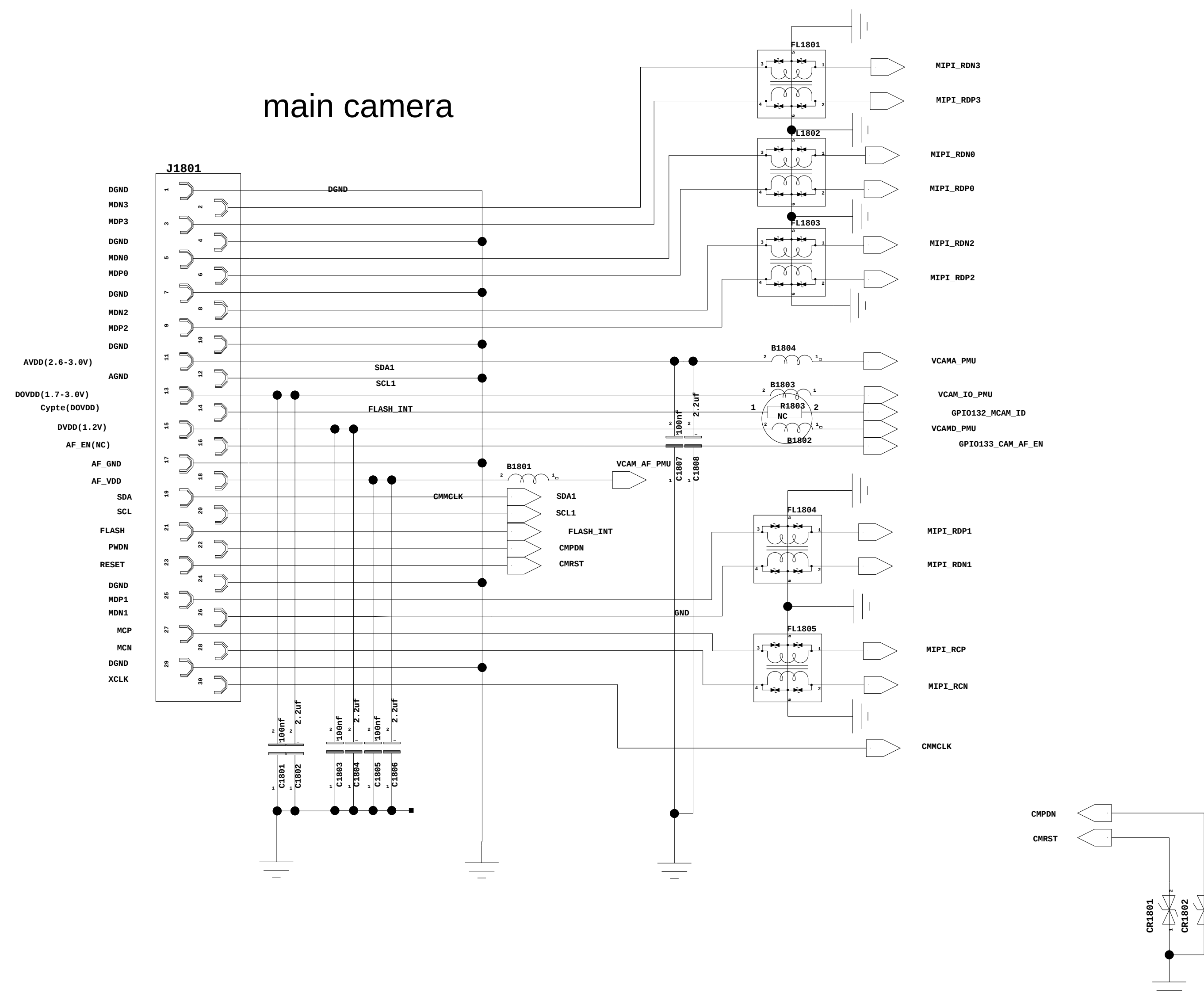
IIC4 need to check function fine or not?

SUB camera

SUB camera



main camera



2012-11-21

1 C301 C302 C303 C304 change from 0603 4.7UF to 0402 4.7UF

2012-11-30

1 add C347 for VRTC
2 delete net SYSRST of MW301
3 R315 change to NC
4 add net WCLIMS for TF card eint
5 change B903 B904 to R934 R935 ,from 0402 bead to 0R

2012-12-03

1 C327,C344,C320,C317 change from 0402 1UF to 0201 1UF(both are 6.3V)
2 C314 change from 0402 1UF to 0201 1UF(both are 6.3V)

2012-12-07

1 update main camera defination
2 change BL SCDC design
3 change Q301 to AJA3276831CX

2012-12-11

1 Delete netname VPROC_BB6GND VPROC_BB(for BB),change PIN AB11 AD11to NC
2 Delete R349 R350 R351 R352 Adelete netname VPROC_BB6GND VPROC_BB(for PMU)
3 C1709 change to 0603 1UF reference to MTK

2012-12-17

1 C539 C540 change from 2.2UF to 4.7UF
2 ADD R1713 Pull up to VREG_CMG_1V0,default NC
3 R065 change to NC(CTP EINT Pull-up resistor)

2012-12-21

1 change pwn of led from MT6320 PIN C1
2 change the input of audio PA from AU_NPR to AU_MPL
3 add R417,default NC
4 change net GPIO165_IPHONE_EN to GPIO175_IPHONE_EN(MCD2)
5 delete SECOND_SUB_MICROPHONE
6 delete R401 R402
7 R1803 default change to NC

2012-12-27

1 C133 change to 0603 22uf
2 H1801 change to AFB0000012CX

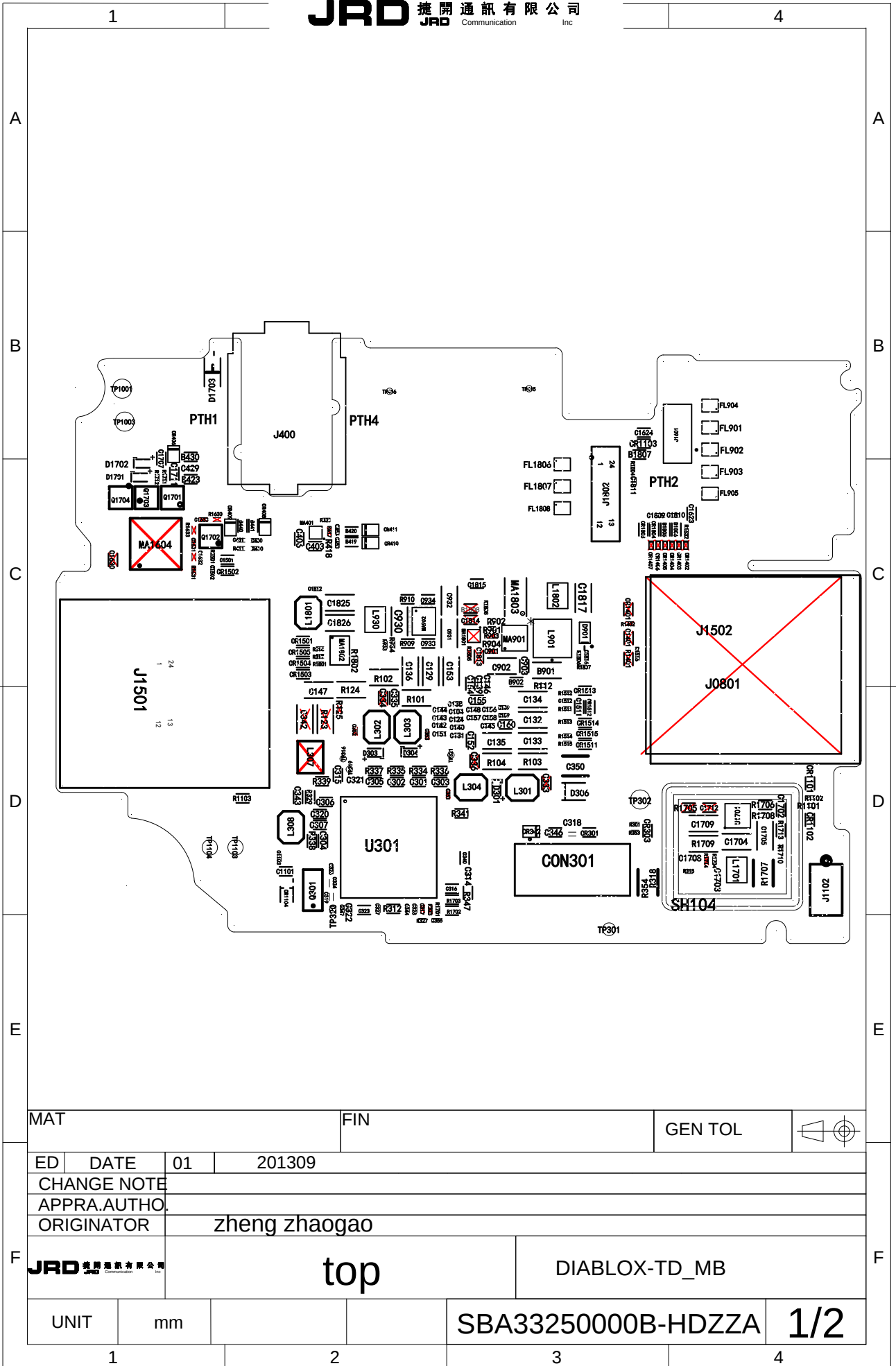
2012-12-28

1 add C351 C352 C353 default NC

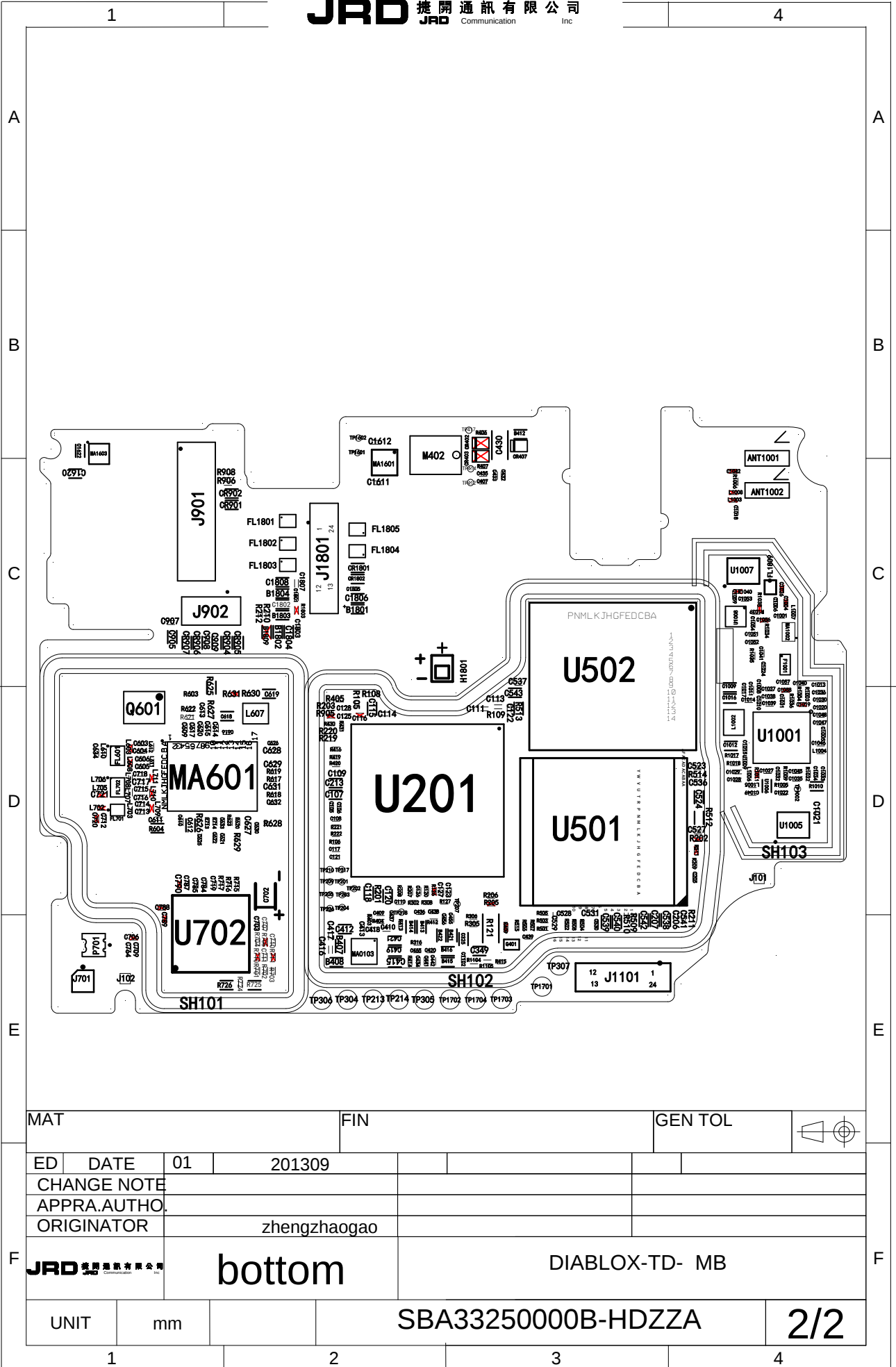
2012-12-29

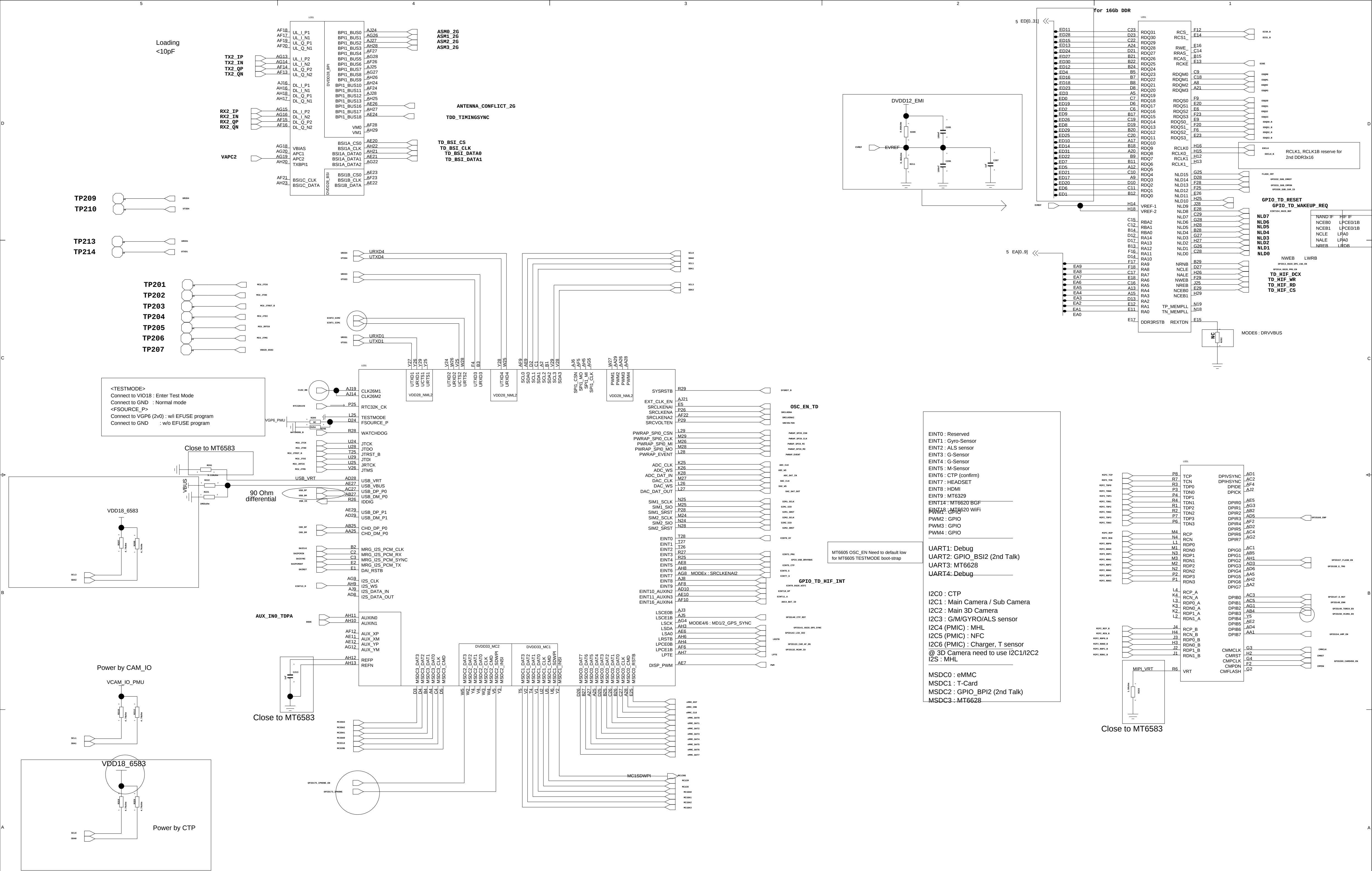
1 change DC-DC(for LCD) design circuit

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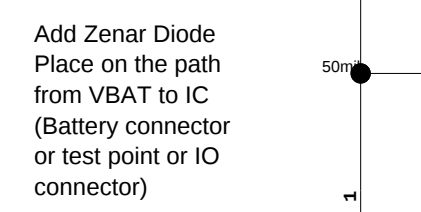
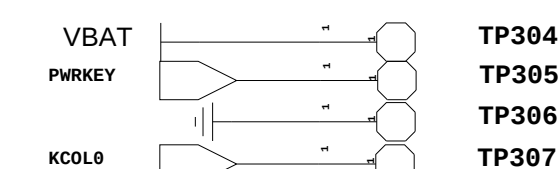
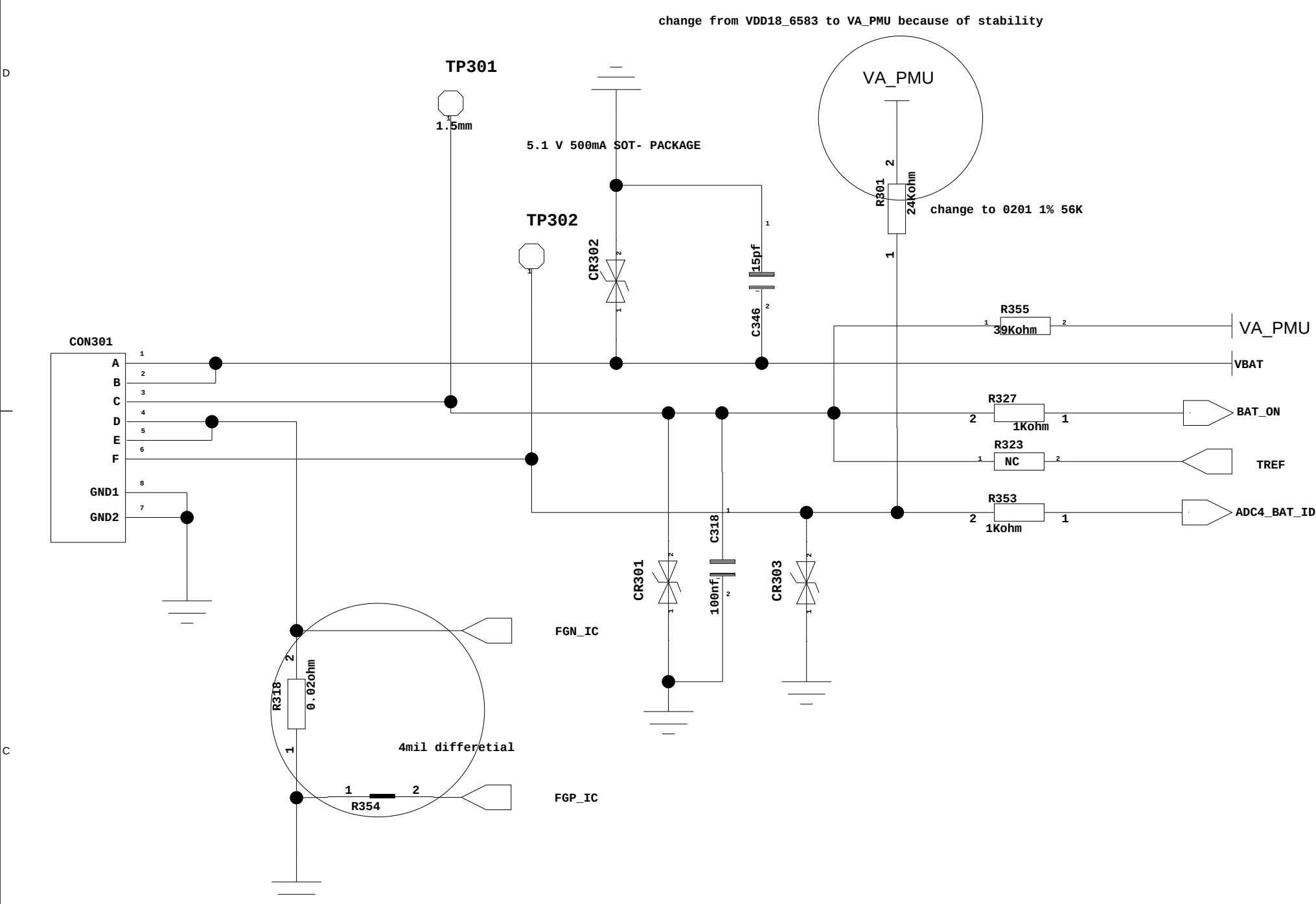


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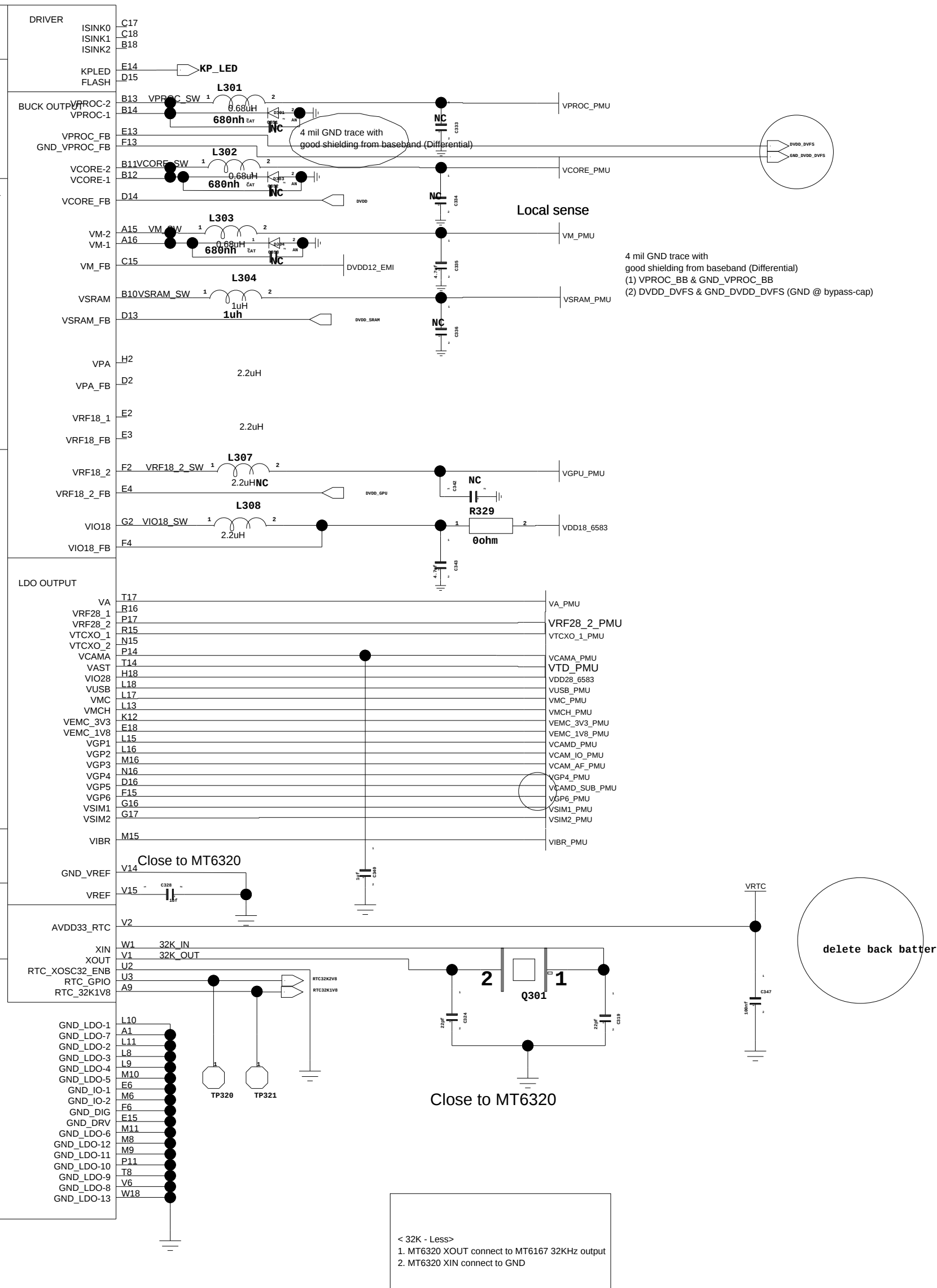
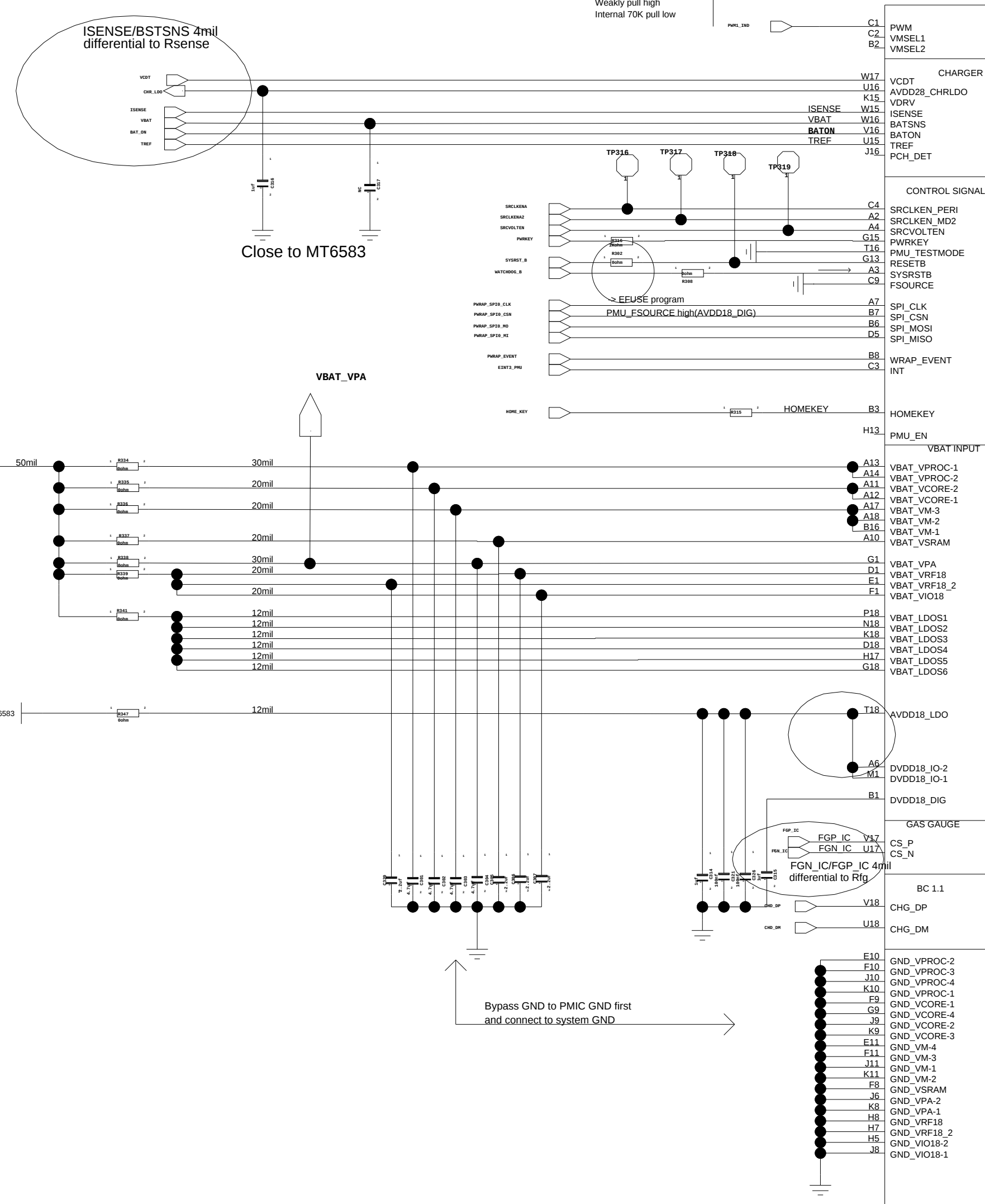




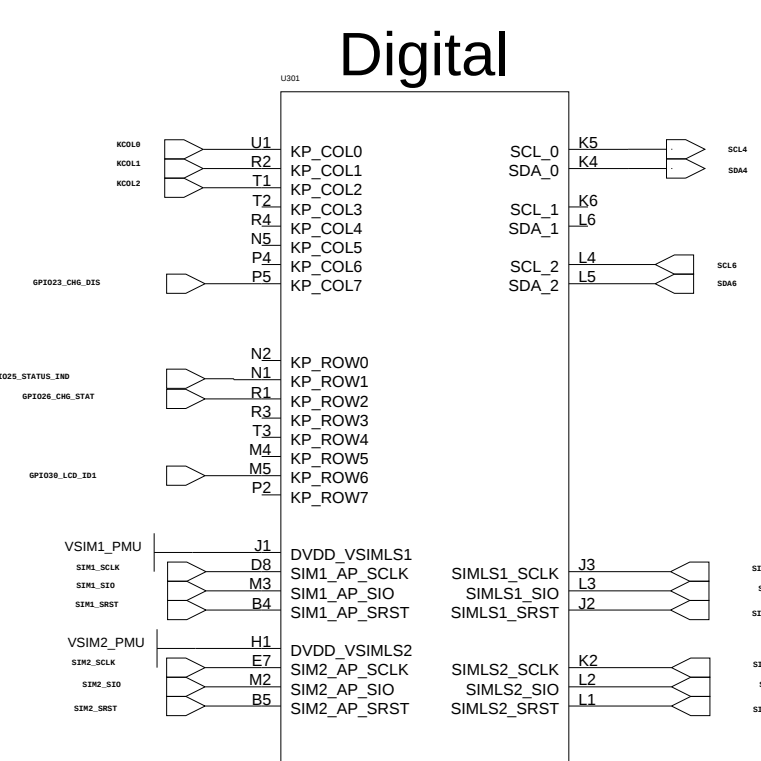
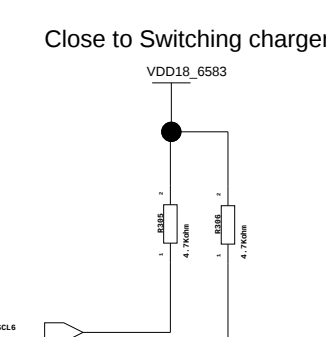
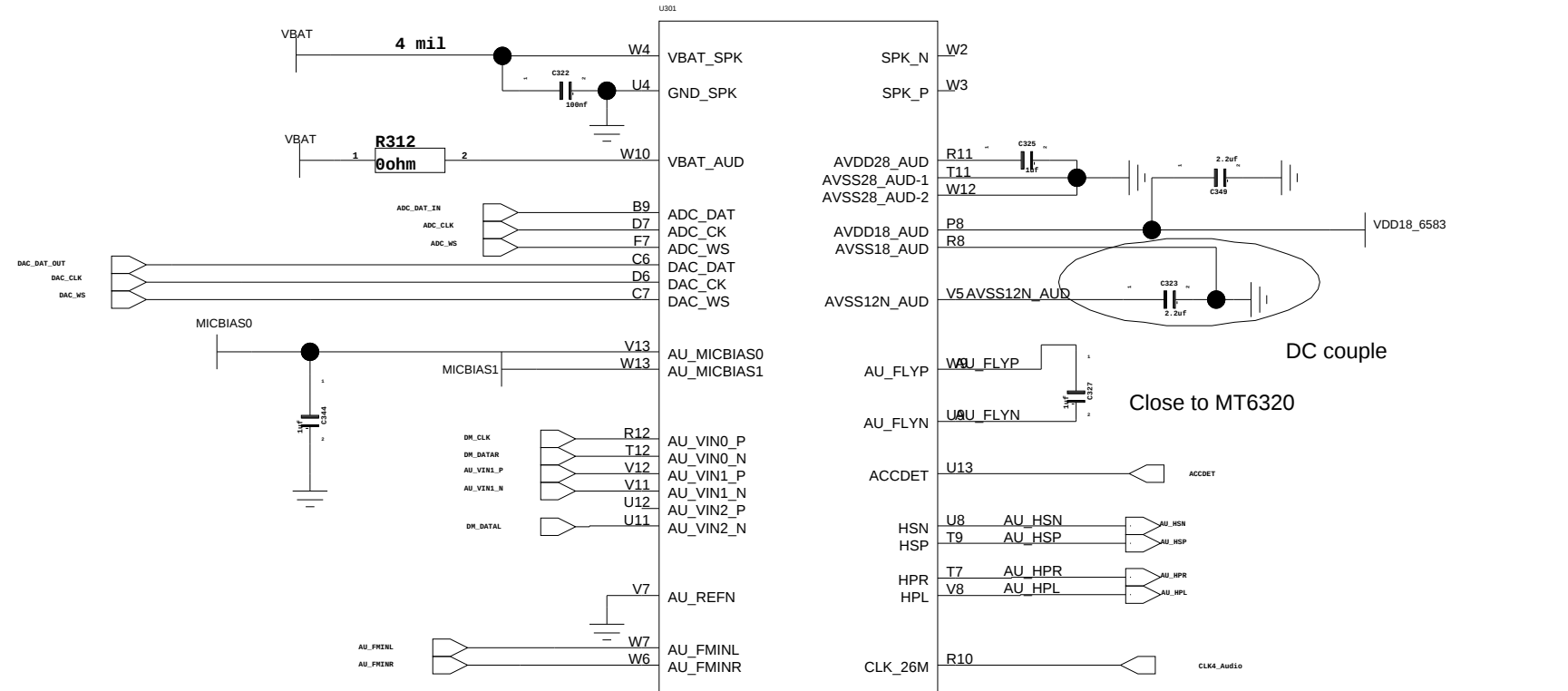
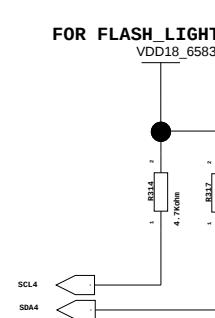
BATTERY CONNECTOR



Between IC and IO port



Audio



	Symbol	Application	Vout (V)	Iout (mA)
Buck	VPROC	CPU	0.71.4 (DC/DC+PTP)	2000
	VCORE	MDSYS/Infra	0.71.4 (DC/DC)	1200
	VM	VM	1.2/1.35/1.5	1100
	VSRAM	Memory	0.71.4 (DC/DC+PTP)	600
	VPA	3GPA	0.53.4 (50mV/step)	600
	VRF18	1st RF	1.825	300
	VRF18_2	2nd RF	1.825	450
	VIO18	GPU OD IO App.	1.051.25 (500mV/step) 1.8	600
Analog LDO	VA	ABB	1.8/2.5	60
	VA28	Audio Block	2.8	40
	VRF28_1	MDSYS	2.85	200
	VRF28_2	General	1.8/2.85	200
	VTXCO_1	MDSYS	2.8	40
	VTXCO_2	MDSYS	1.8/2.8	40
	VCAMA	VCAMA	1.5/1.8/2.5/2.8	200
Digital LDO	VIO28		2.8	400
	VAST	AST3001	0.9/1.0/1.1/2	300
	USB		3.3	200
	VMC	T-Card	1.8/3.3	200
	VMCH	T-Card	3.0/3.3	800
	VEMC_3V3	eMMC (Core)	3.0/3.3	800
	VEMC_1V8	eMMC	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
	VGP1	VCAMD	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	400
	VGP2	VCAM_IO	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
	VGP3	VCAM_AF	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
	VGP4	CTP/CMMB	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
	VGP5	CTP/CMMB	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
	VGP6	CTP/CMMB	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
	VSIM1	VSIM1	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
	VSIM2	VSIM2	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
Vibrator	VIBR	Vibrator	1.2/1.3/1.5/1.8/2.5/2.8/3.0/3.3	200
RTC	VRTC	RTC Block	2.8	

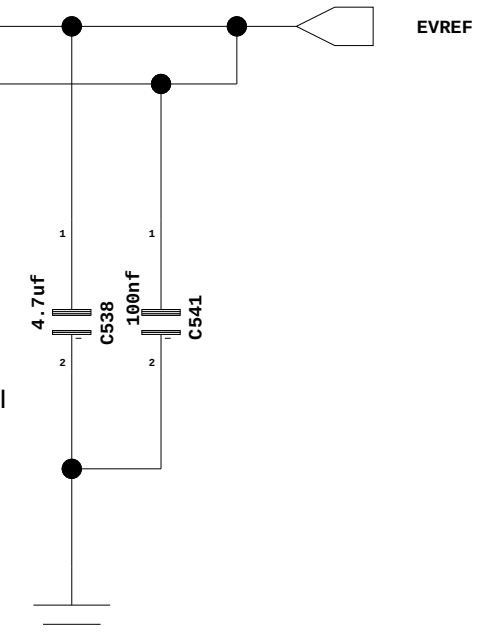
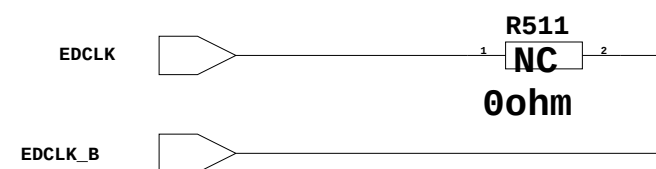
The diagram illustrates the internal structure of the EDBA232B1MA component, which is a 32-bit data bus interface. It shows the internal data bus (ED[0:31]) and its connection to the external data bus (DQ[0:31]). The component is powered by VDD1=1.8V, VDD2=1.20V, and VDDQ=1.20V. The internal structure includes a 32-bit data bus, a 32-bit address bus (A[0:31]), and a 32-bit data bus (D[0:31]). The component is shown with its pins and internal connections, including the data bus, address bus, and power supply connections.

Power Supply Requirements:

- VDD1=1.8V
- VDD2=1.20V
- VDDQ=1.20V

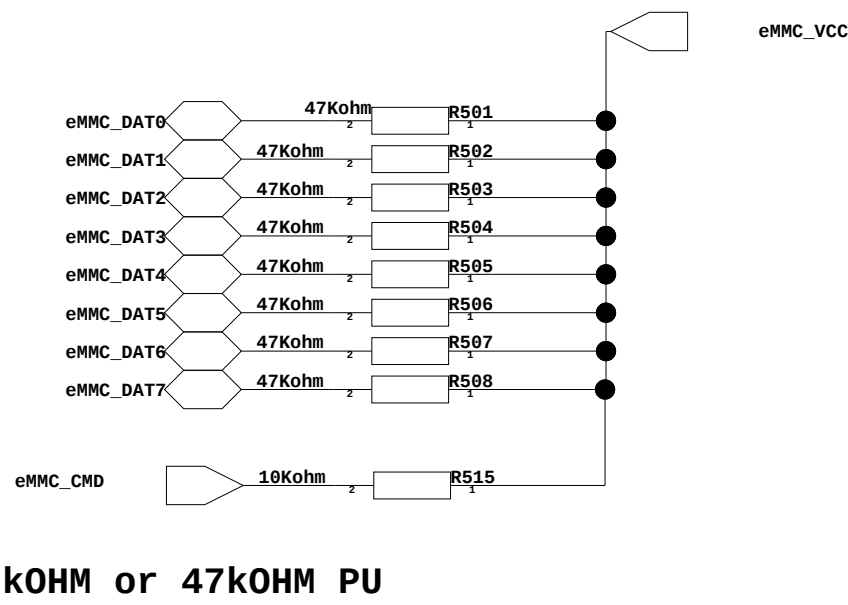
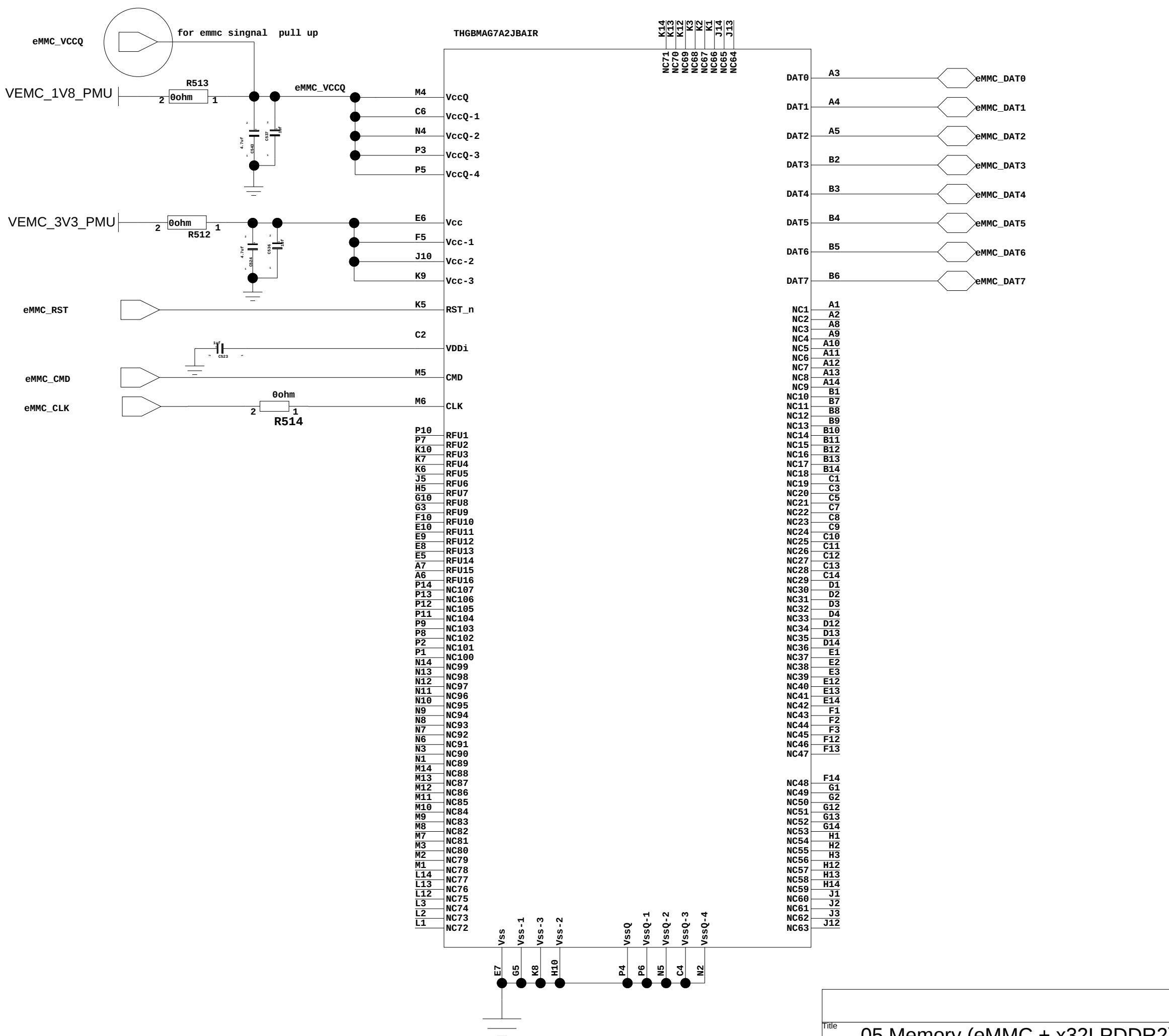
Internal Structure:

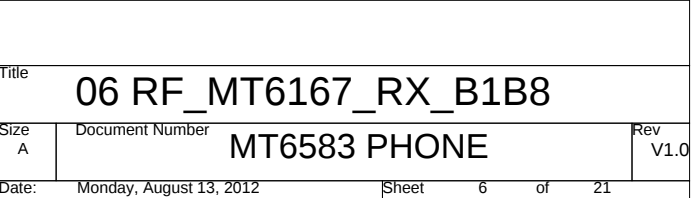
- ED[0:31] (Data Bus)
- ED0, ED1, ED2, ED3, ED4, ED5, ED6, ED7, ED8, ED9, ED10, ED11, ED12, ED13, ED14, ED15, ED16, ED17, ED18, ED19, ED20, ED21, ED22, ED23, ED24, ED25, ED26, ED27, ED28, ED29, ED30, ED31 (Data Bus)
- EDQS0, EDQS1, EDQS2, EDQS3 (Data Bus)
- EDCLK, EDCLK_B (Clock)
- R509, R510, R511, R512, R513, R514, R515, R516, R517, R518, R519, R520, R521, R522, R523, R524, R525, R526, R527, R528, R529, R530, R531, R532, R533, R534, R535, R536, R537, R538, R539, R540, R541, R542, R543, R544, R545, R546, R547, R548, R549, R550, R551, R552, R553, R554, R555, R556, R557, R558, R559, R560, R561, R562, R563, R564, R565, R566, R567, R568, R569, R570, R571, R572, R573, R574, R575, R576, R577, R578, R579, R580, R581, R582, R583, R584, R585, R586, R587, R588, R589, R590, R591, R592, R593, R594, R595, R596, R597, R598, R599, R600, R601, R602, R603, R604, R605, R606, R607, R608, R609, R610, R611, R612, R613, R614, R615, R616, R617, R618, R619, R620, R621, R622, R623, R624, R625, R626, R627, R628, R629, R630, R631, R632, R633, R634, R635, R636, R637, R638, R639, R640, R641, R642, R643, R644, R645, R646, R647, R648, R649, R650, R651, R652, R653, R654, R655, R656, R657, R658, R659, R660, R661, R662, R663, R664, R665, R666, R667, R668, R669, R670, R671, R672, R673, R674, R675, R676, R677, R678, R679, R680, R681, R682, R683, R684, R685, R686, R687, R688, R689, R690, R691, R692, R693, R694, R695, R696, R697, R698, R699, R700, R701, R702, R703, R704, R705, R706, R707, R708, R709, R710, R711, R712, R713, R714, R715, R716, R717, R718, R719, R720, R721, R722, R723, R724, R725, R726, R727, R728, R729, R730, R731, R732, R733, R734, R735, R736, R737, R738, R739, R740, R741, R742, R743, R744, R745, R746, R747, R748, R749, R750, R751, R752, R753, R754, R755, R756, R757, R758, R759, R760, R761, R762, R763, R764, R765, R766, R767, R768, R769, R770, R771, R772, R773, R774, R775, R776, R777, R778, R779, R780, R781, R782, R783, R784, R785, R786, R787, R788, R789, R790, R791, R792, R793, R794, R795, R796, R797, R798, R799, R800, R801, R802, R803, R804, R805, R806, R807, R808, R809, R810, R811, R812, R813, R814, R815, R816, R817, R818, R819, R820, R821, R822, R823, R824, R825, R826, R827, R828, R829, R830, R831, R832, R833, R834, R835, R836, R837, R838, R839, R840, R841, R842, R843, R844, R845, R846, R847, R848, R849, R850, R851, R852, R853, R854, R855, R856, R857, R858, R859, R860, R861, R862, R863, R864, R865, R866, R867, R868, R869, R870, R871, R872, R873, R874, R875, R876, R877, R878, R879, R880, R881, R882, R883, R884, R885, R886, R887, R888, R889, R890, R891, R892, R893, R894, R895, R896, R897, R898, R899, R900, R901, R902, R903, R904, R905, R906, R907, R908, R909, R910, R911, R912, R913, R914, R915, R916, R917, R918, R919, R920, R921, R922, R923, R924, R925, R926, R927, R928, R929, R930, R931, R932, R933, R934, R935, R936, R937, R938, R939, R940, R941, R942, R943, R944, R945, R946, R947, R948, R949, R950, R951, R952, R953, R954, R955, R956, R957, R958, R959, R960, R961, R962, R963, R964, R965, R966, R967, R968, R969, R970, R971, R972, R973, R974, R975, R976, R977, R978, R979, R980, R981, R982, R983, R984, R985, R986, R987, R988, R989, R990, R991, R992, R993, R994, R995, R996, R997, R998, R999, R1000, R1001, R1002, R1003, R1004, R1005, R1006, R1007, R1008, R1009, R1010, R1011, R1012, R1013, R1014, R1015, R1016, R1017, R1018, R1019, R1020, R1021, R1022, R1023, R1024, R1025, R1026, R1027, R1028, R1029, R1030, R1031, R1032, R1033, R1034, R1035, R1036, R1037, R1038, R1039, R1040, R1041, R1042, R1043, R1044, R1045, R1046, R1047, R1048, R1049, R1050, R1051, R1052, R1053, R1054, R1055, R1056, R1057, R1058, R1059, R1060, R1061, R1062, R1063, R1064, R1065, R1066, R1067, R1068, R1069, R1070, R1071, R1072, R1073, R1074, R1075, R1076, R1077, R1078, R1079, R1080, R1081, R1082, R1083, R1084, R1085, R1086, R1087, R1088, R1089, R1090, R1091, R1092, R1093, R1094, R1095, R1096, R1097, R1098, R1099, R1100, R1101, R1102, R1103, R1104, R1105, R1106, R1107, R1108, R1109, R1110, R1111, R1112, R1113, R1114, R1115, R1116, R1117, R1118, R1119, R1120, R1121, R1122, R1123, R1124, R1125, R1126, R1127, R1128, R1129, R1130, R1131, R1132, R1133, R1134, R1135, R1136, R1137, R1138, R1139, R1140, R1141, R1142, R1143, R1144, R1145, R1146, R1147, R1148, R1149, R1150, R1151, R1152, R1153, R1154, R1155, R1156, R1157, R1158, R1159, R1160, R1161, R1162, R1163, R1164, R1165, R1166, R1167, R1168, R1169, R1170, R1171, R1172, R1173, R1174, R1175, R1176, R1177, R1178, R1179, R1180, R1181, R1182, R1183, R1184, R1185, R1186, R1187, R1188, R1189, R1190, R1191, R1192, R1193, R1194, R1195, R1196, R11



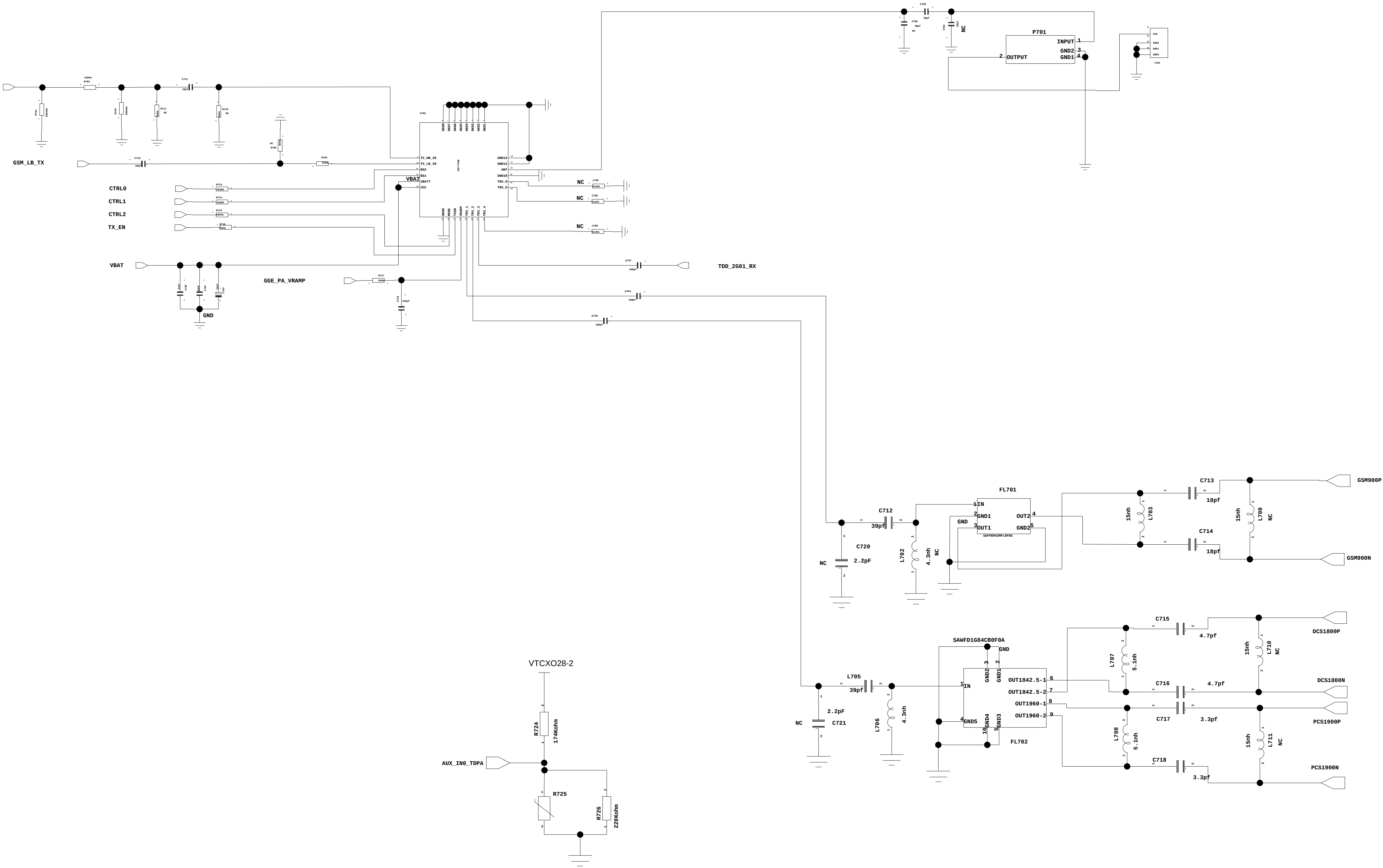
eMMC

U502

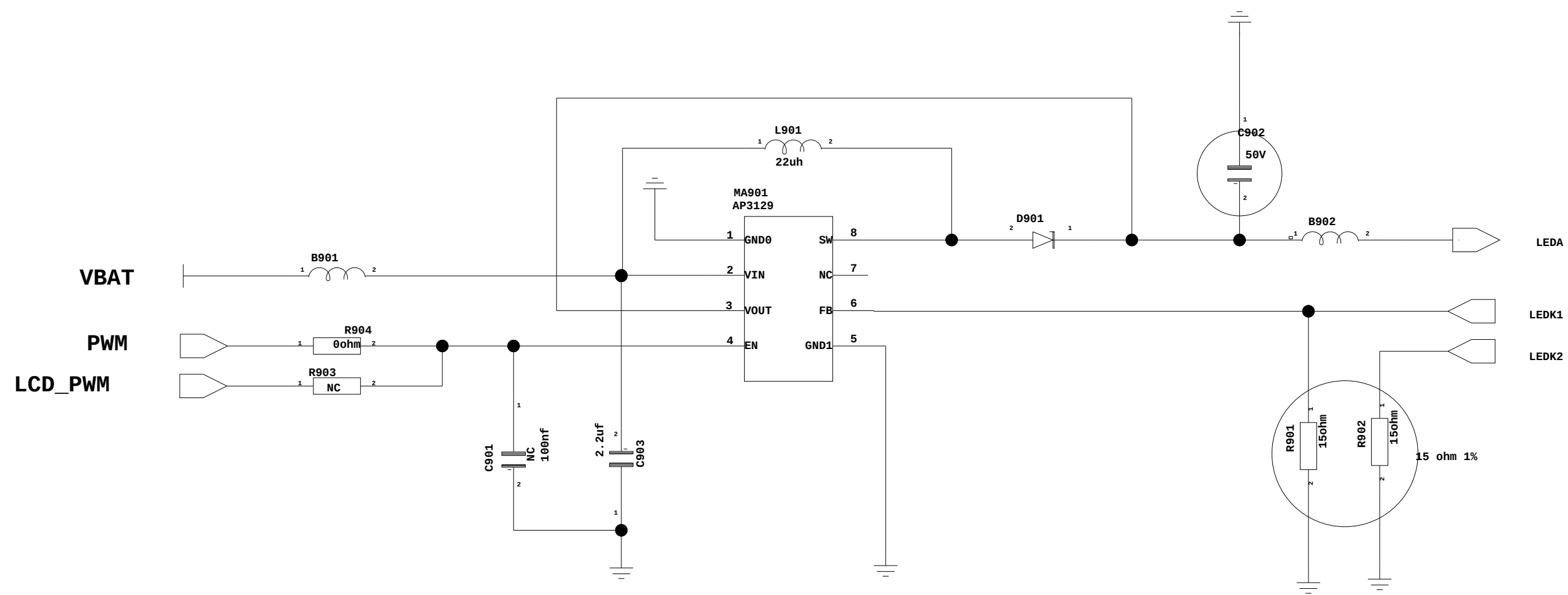




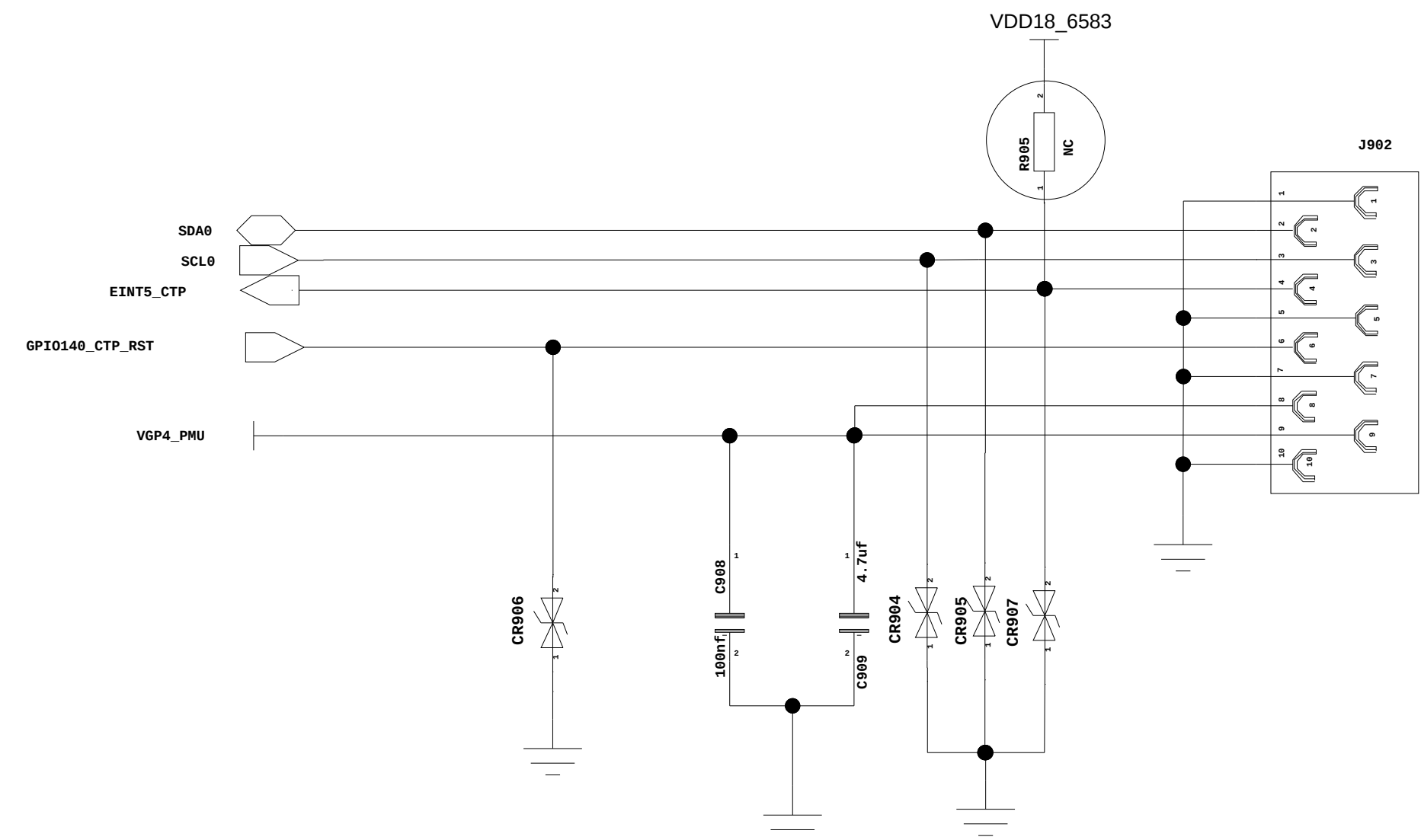
GSM_HB_TD_B34/39_TX



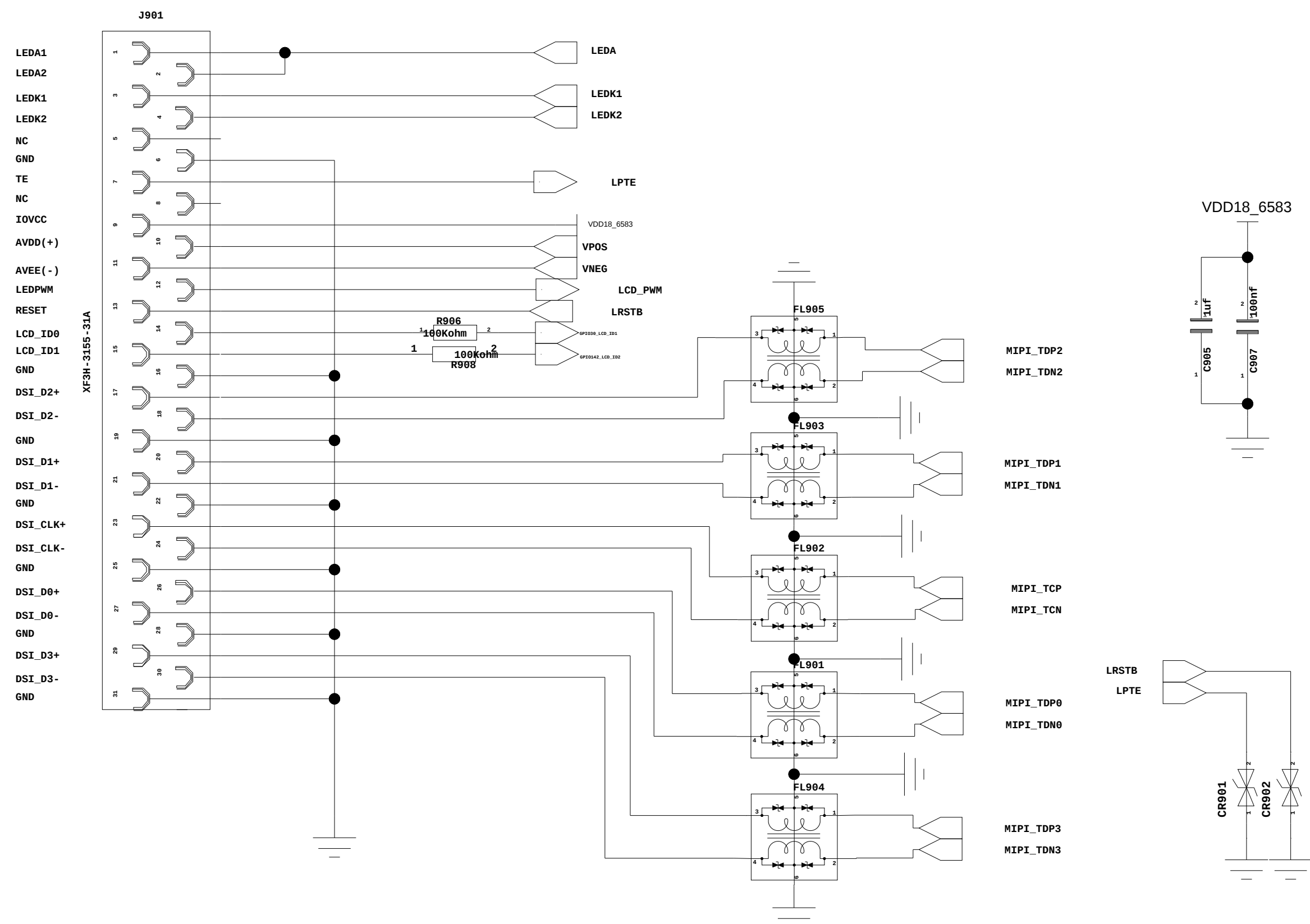
LCD BACKLIGHT



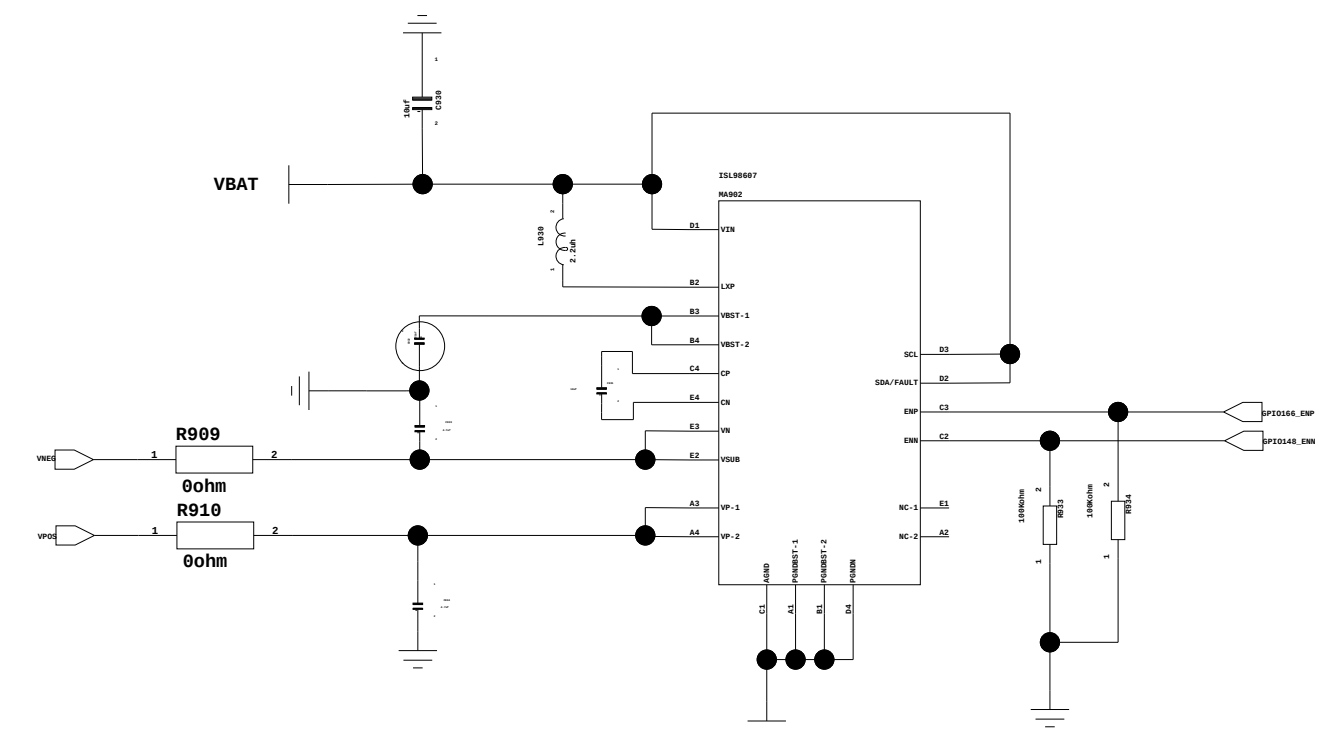
CTP



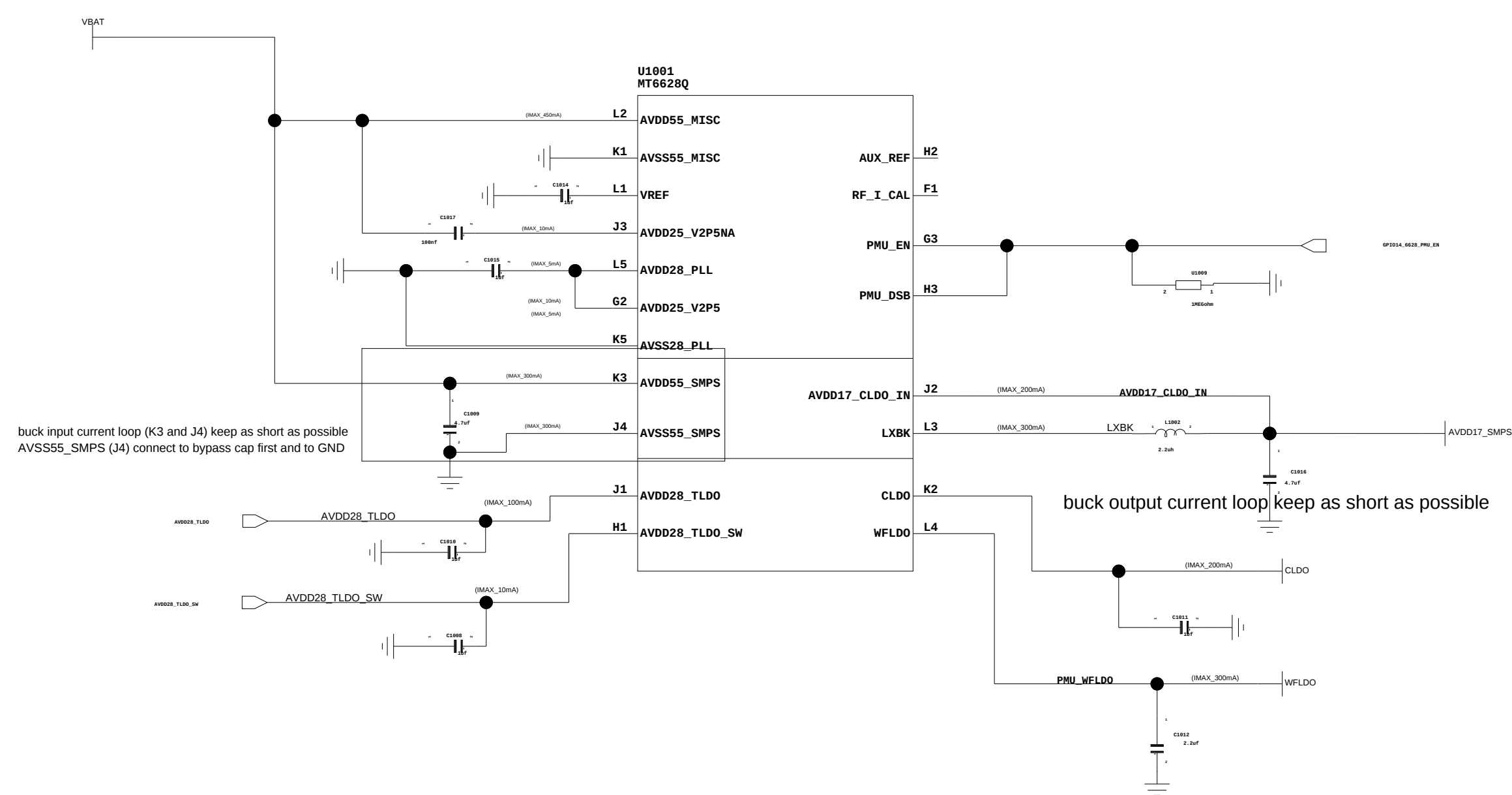
LCD CONN



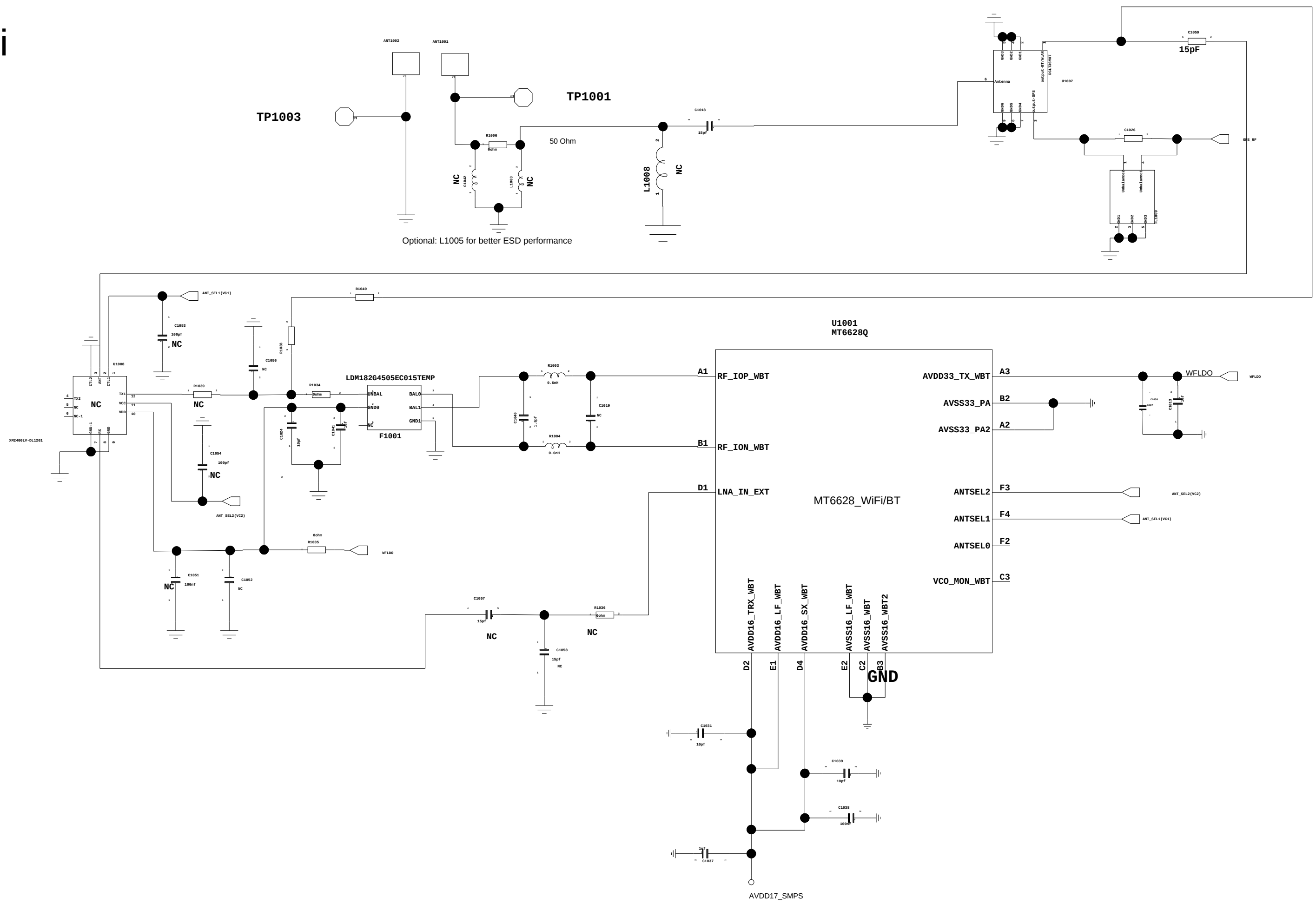
DC/DC Converter



MT6628_PMU



MT6628_BT/WiFi



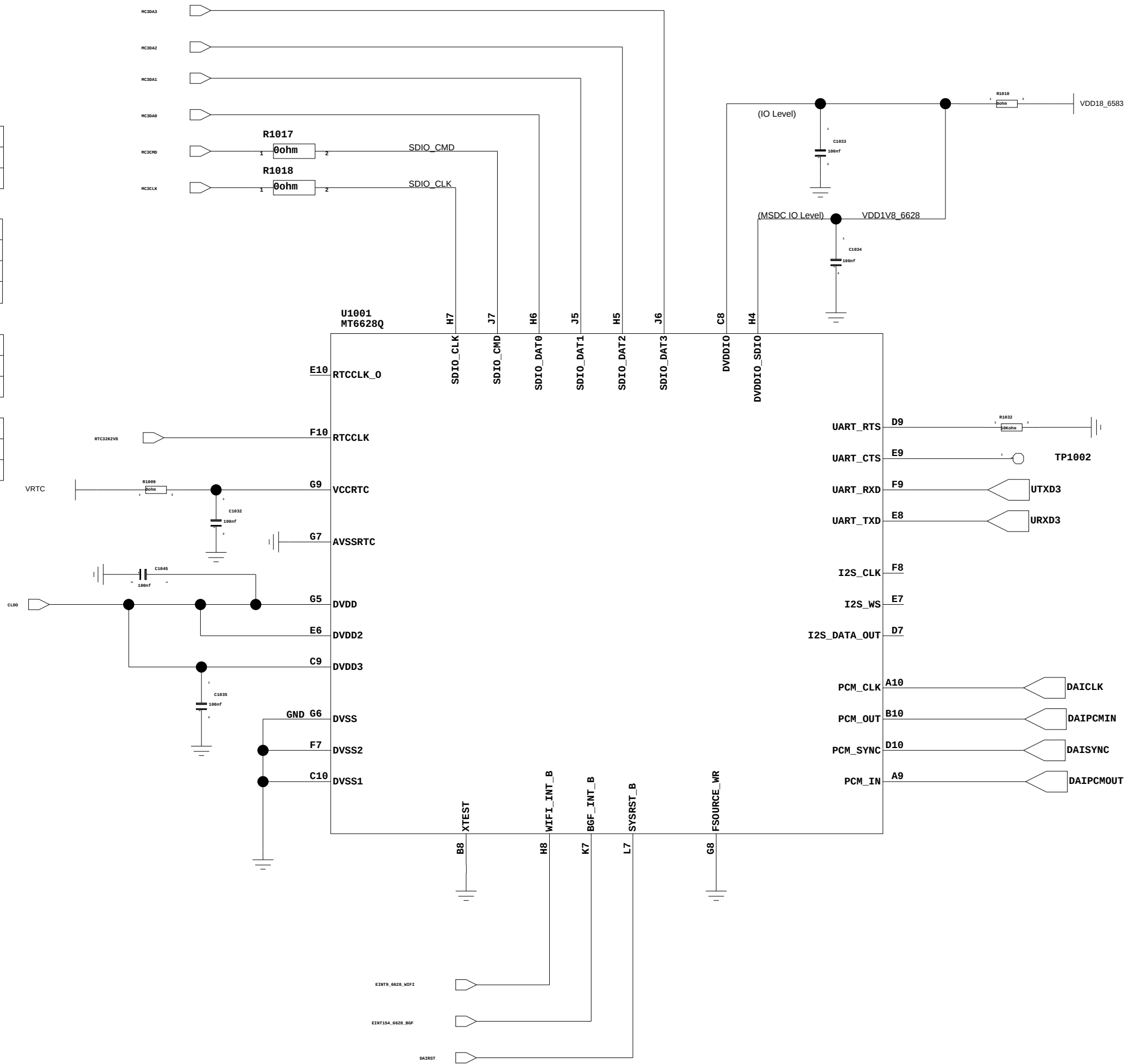
MT6628_GPIO

WIFI_Host	0	SDIO	
ANTSEL-2	1	SPI	

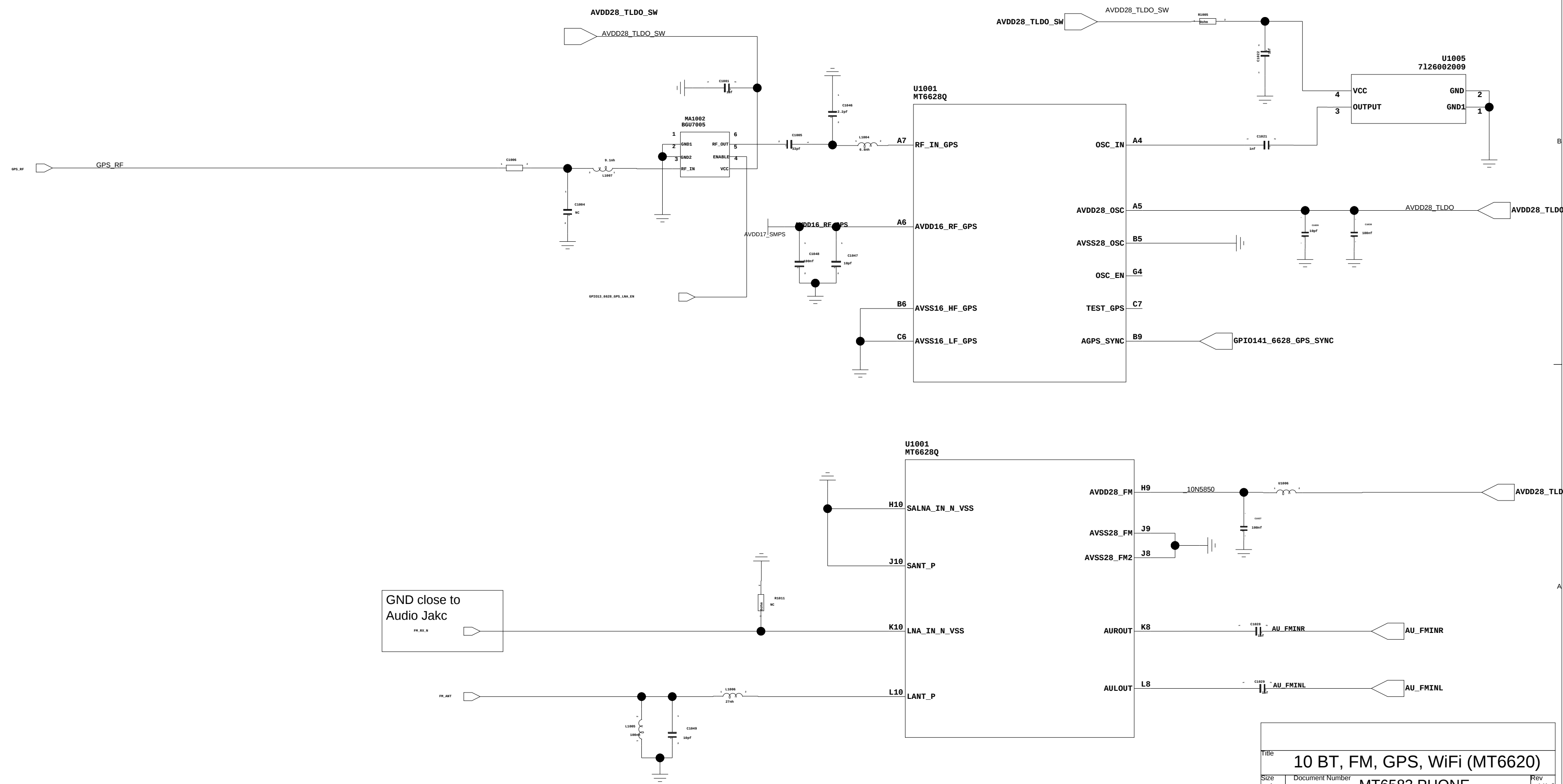
Xtal/OCS ANTSEL-1 (b'0)	00	TCXO	
	01	Xtal	
	10	EXTCK	
	11	RESERVED	

BT/COM Host	0	UART	MT6628E2
UART_RTS	1	SDIO	MT6628E2

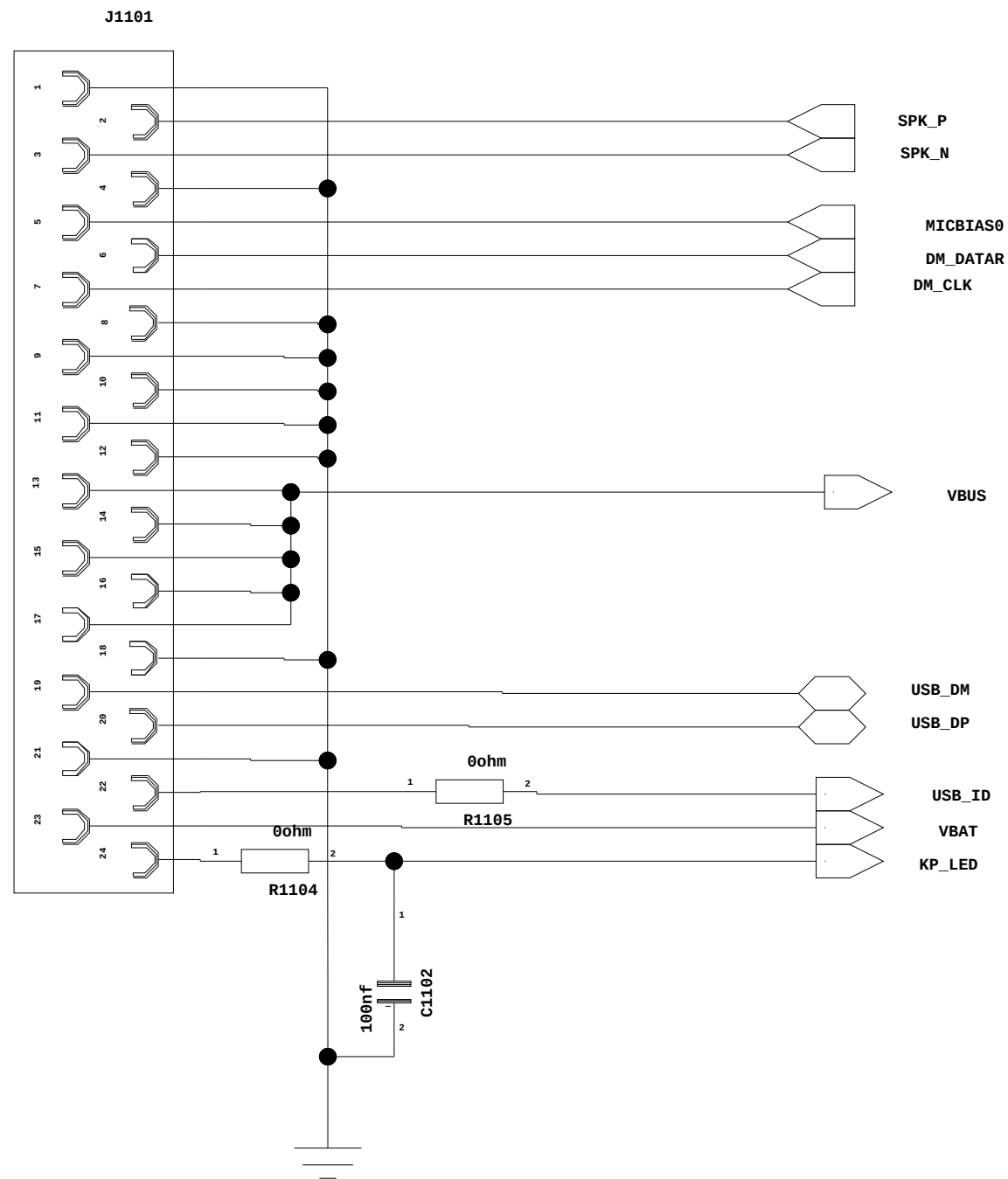
BT/COM Host	0	SDIO	MT6628E1
ANTSEL-0	1	UART	MT6628E1



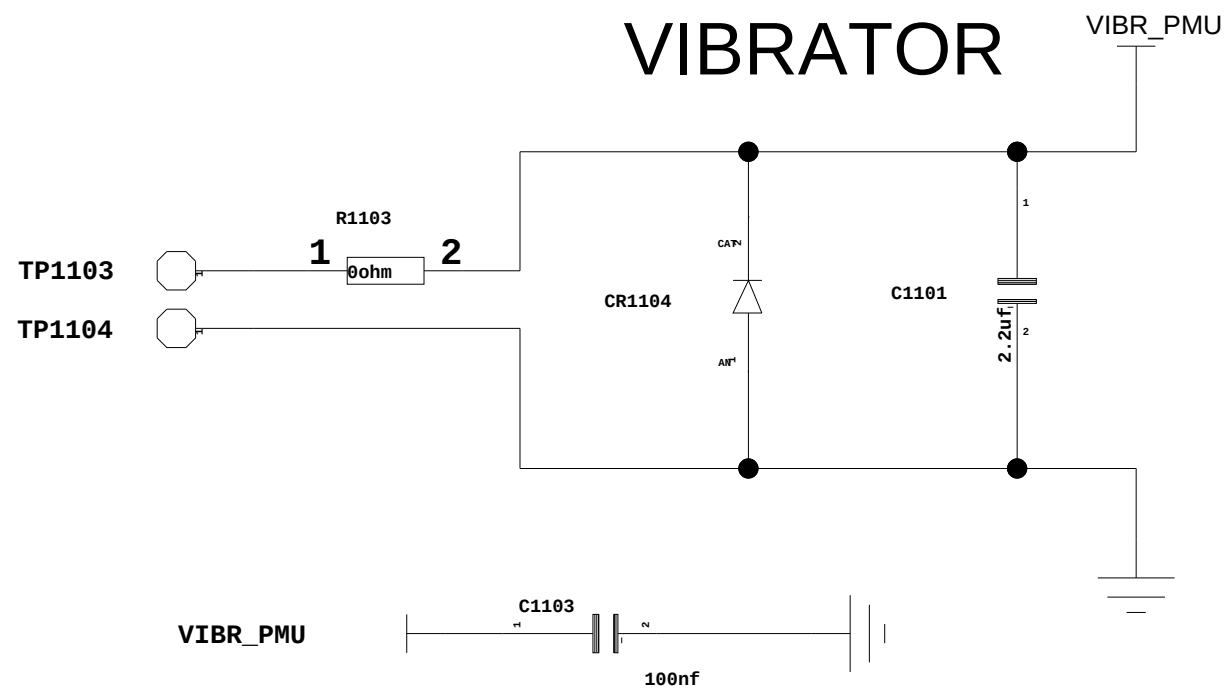
MT6628_GPS / FM



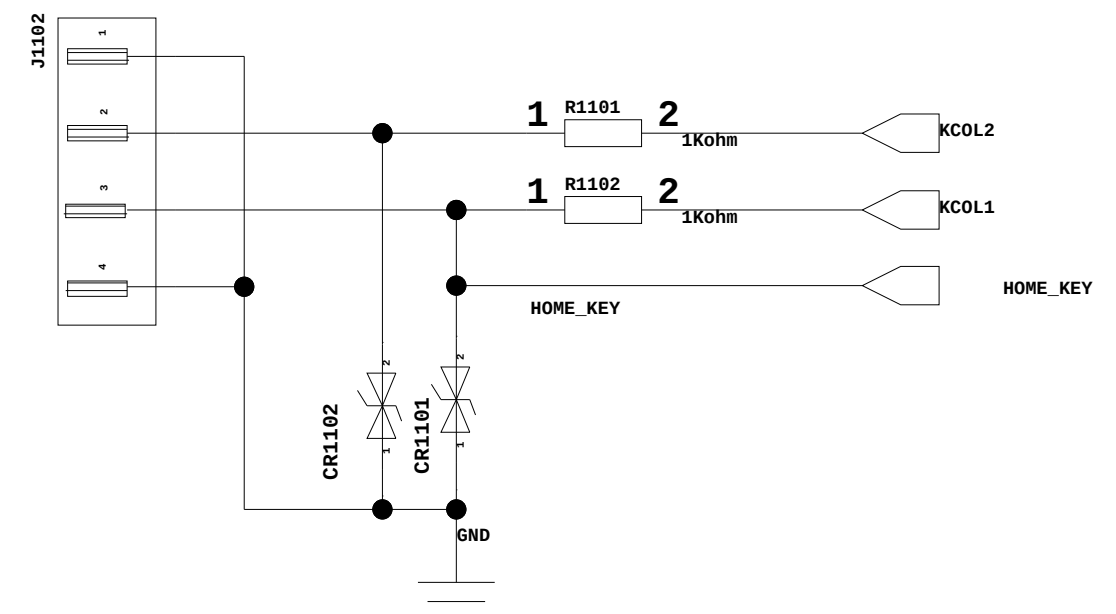
SUB Board CONN



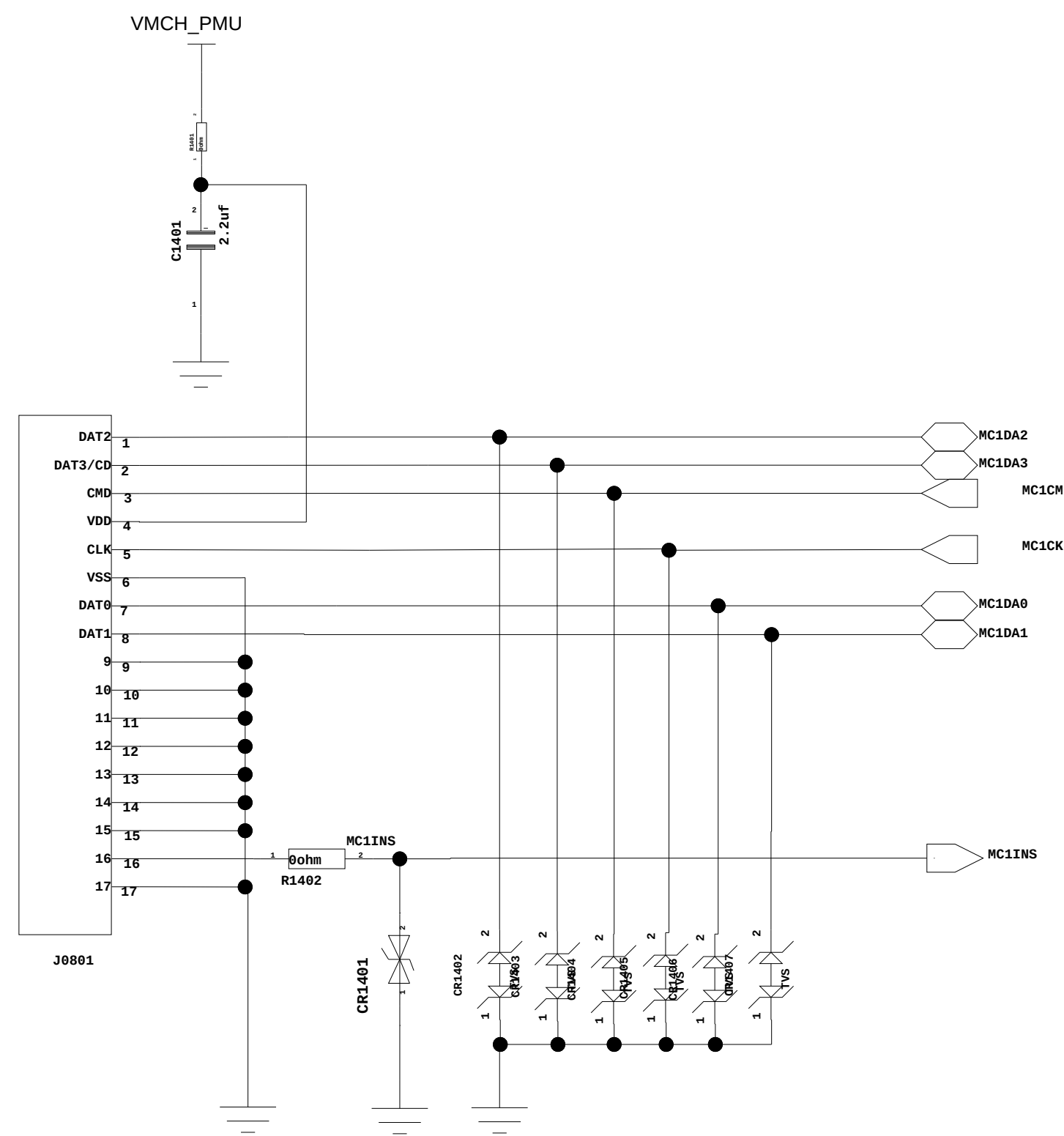
VIBRATOR



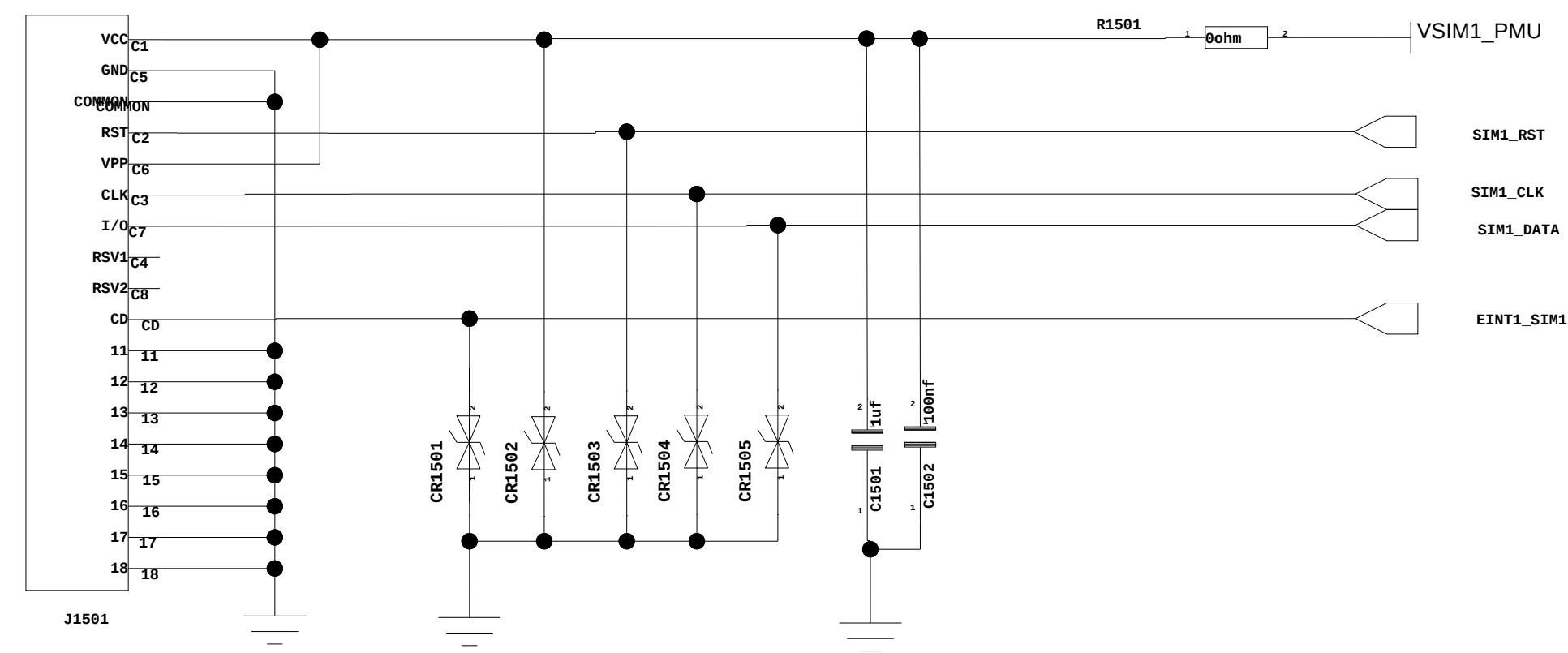
Volume SIDE KEY



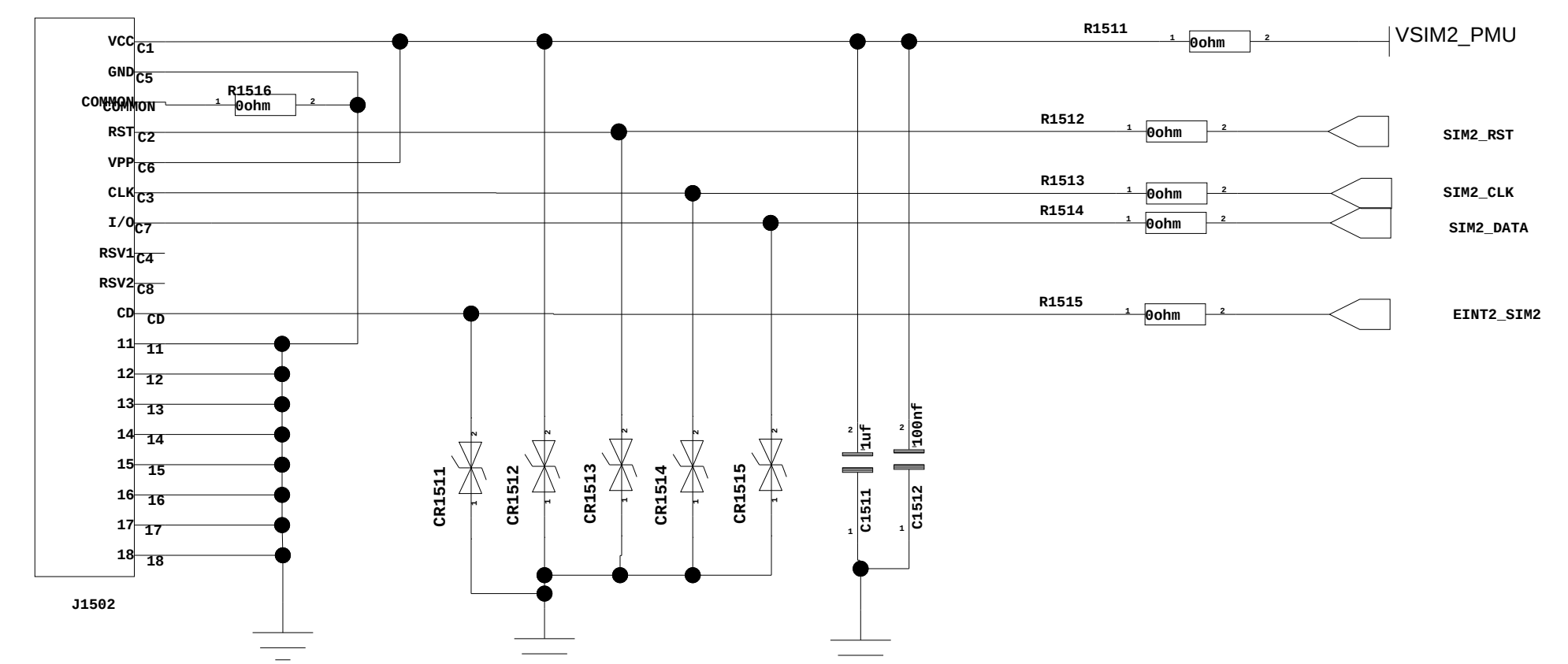
MICRO SD/T-FLASH



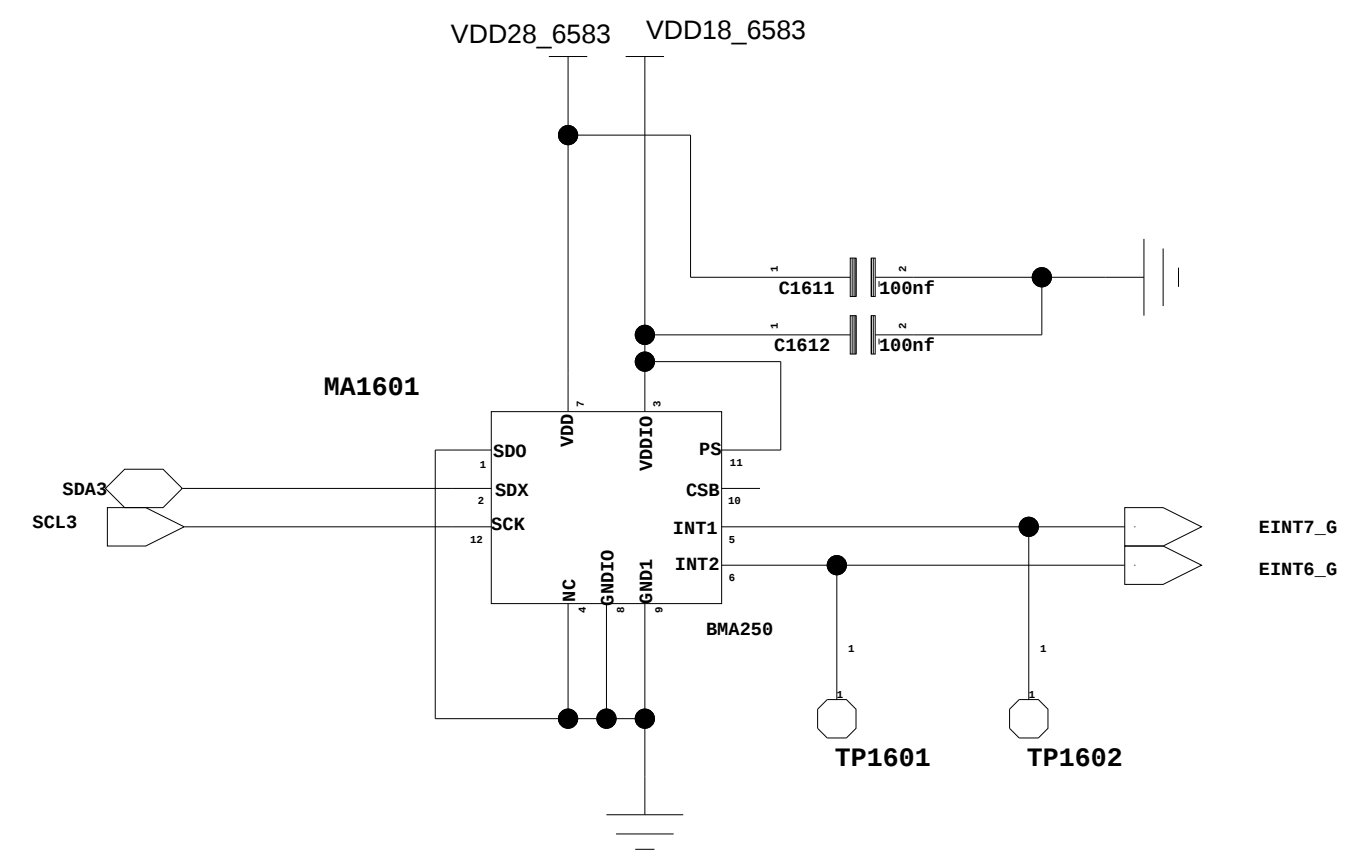
Micro-SIM CARD1



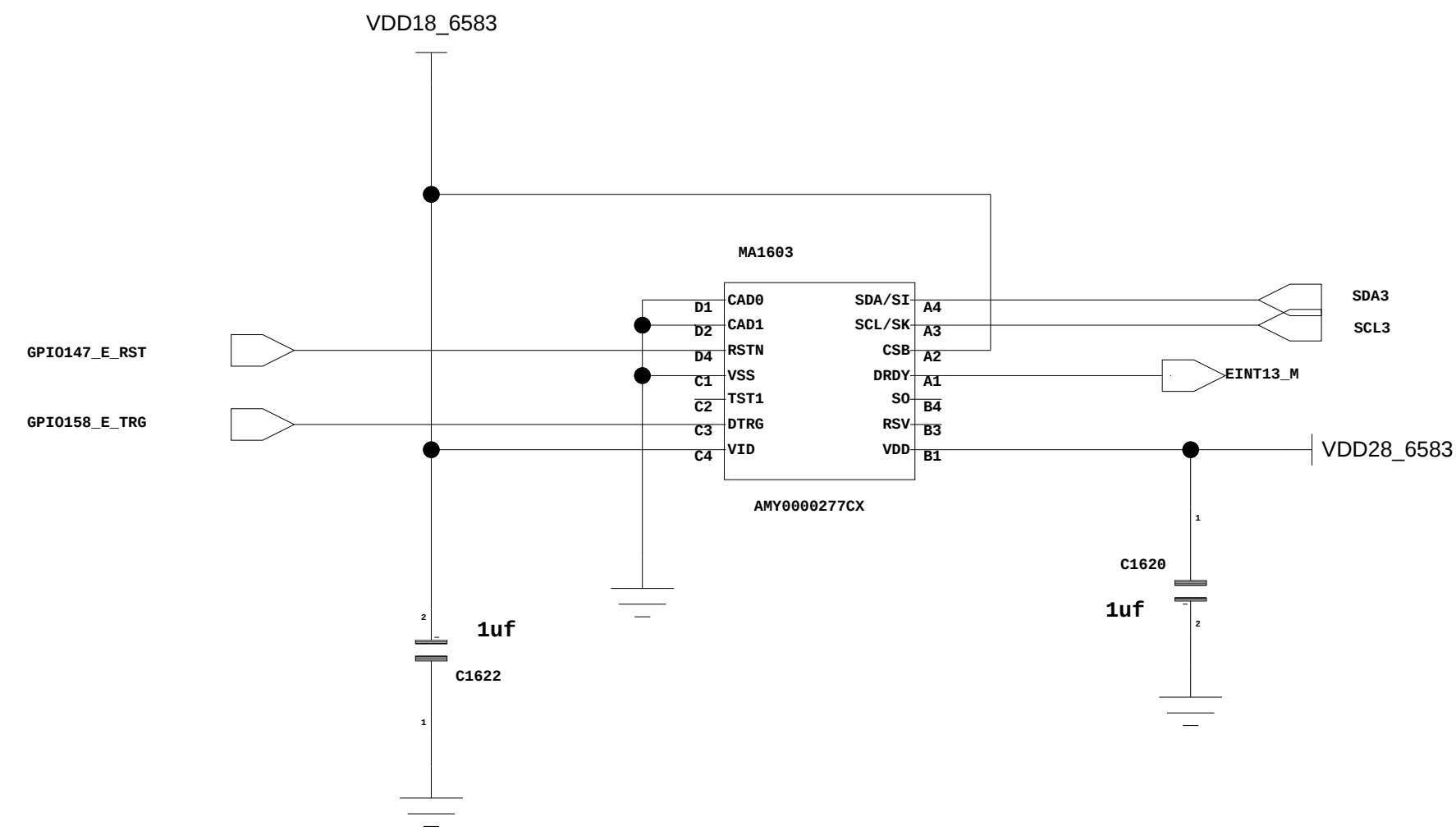
Micro-SIM CARD2



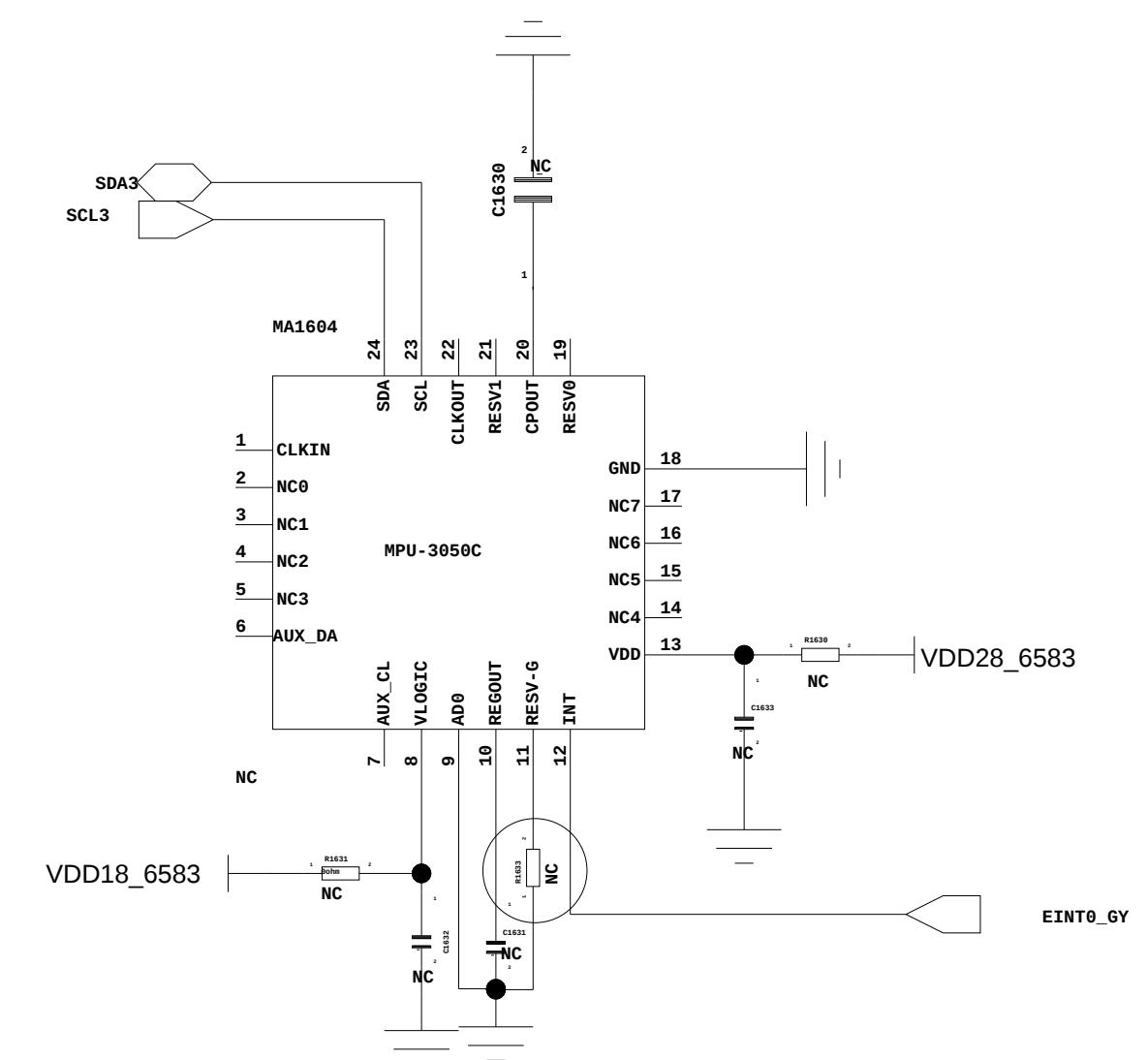
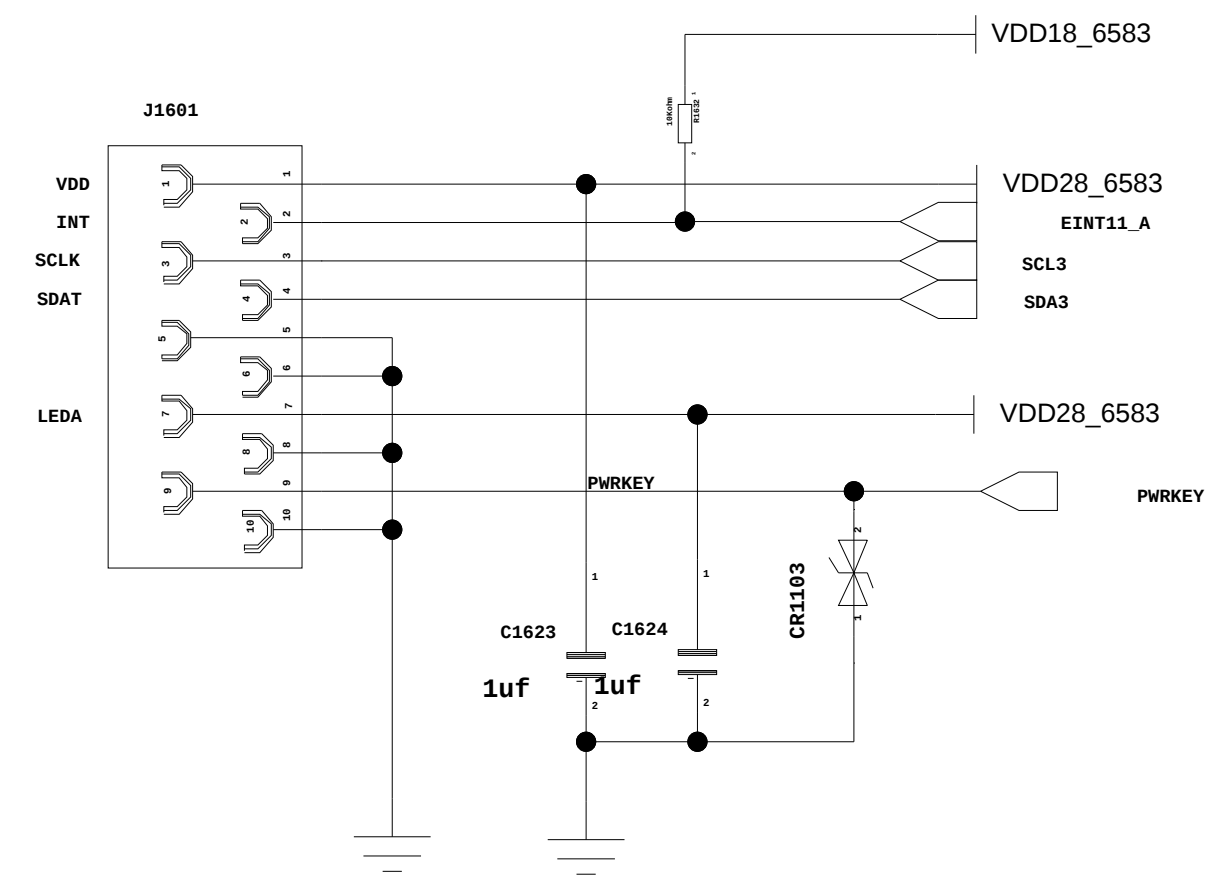
G - SENSOR

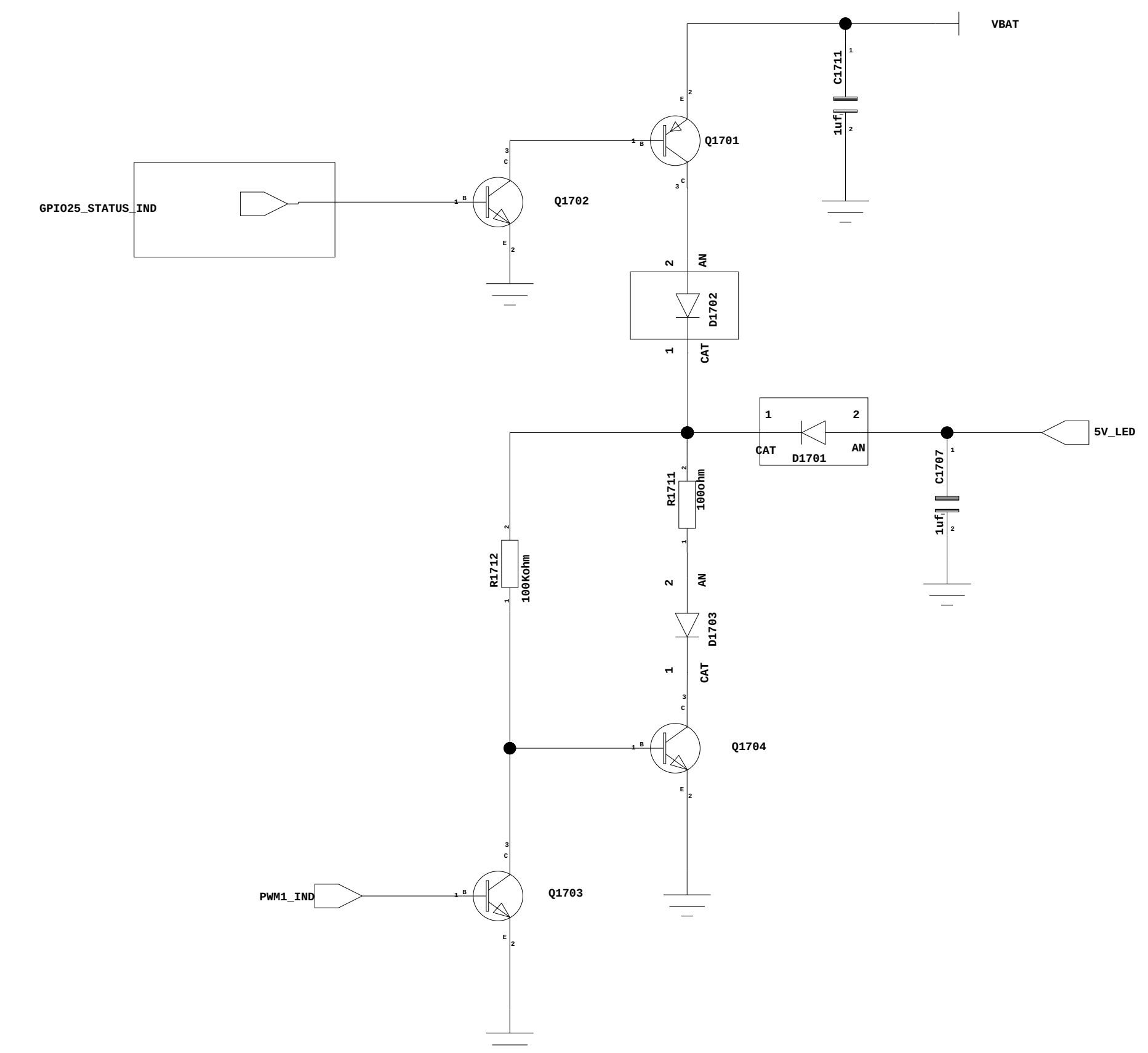


E - COMPASS



ALS&PS Sensor&Powerkey

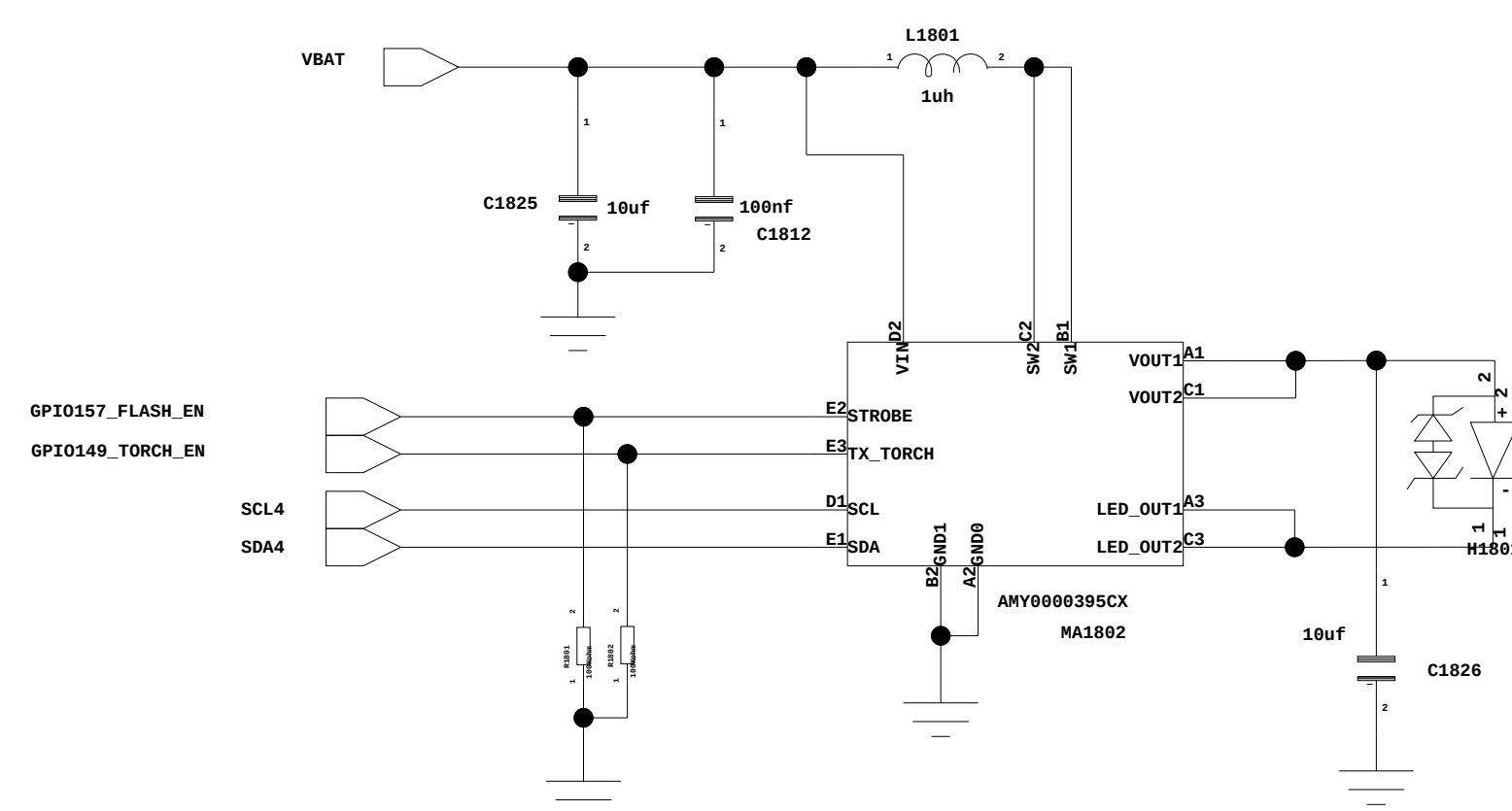




The schematic diagram illustrates the electrical connections for the U1701 module. Key components and connections include:

- VBUS Section:**
 - VBUS is connected to VBUS_1, which is linked to a 9V_LED and a 60nF capacitor (R1714).
 - VBUS is also connected to a 3.3Kohm resistor (R1703) leading to CHR_LDO, and a 330Kohm resistor (R1702) leading to a 39K 1% resistor (R1701) and a 39kohn resistor, which is connected to VCDT.
- VBAT Section:**
 - VBAT is connected to a 9V_LED and a 60nF capacitor (R1704).
 - VBAT is also connected to a 9.880ohm resistor (R1707) and a 10uF capacitor (C1705).
- Control and Status Signals:**
 - SDA6 and SCL6 are connected to the module.
 - GPIO_USB_DRVVBUS, GPIOI23_CHG_DIS, and GPIO26_CHG_STAT are connected to the module.
 - DTG, E2, and STAT are connected to the module.
 - DISABLE and VREG are connected to the module.
- Internal Components:**
 - The module contains a FAN5405UCX regulator.
 - Internal capacitors include C1704 (4.7uF), C1702 (10uF), C1703 (100nF), and C1705 (10uF).
 - Internal resistors include R1708 (180Kohm), R1709 (220Kohm), R1710 (60nF), R1711 (220Kohm), R1712 (220Kohm), R1713 (220Kohm), R1714 (60nF), R1715 (220Kohm), R1716 (220Kohm), R1717 (220Kohm), R1718 (220Kohm), R1719 (60nF), R1720 (220Kohm), R1721 (220Kohm), R1722 (220Kohm), R1723 (220Kohm), R1724 (220Kohm), R1725 (220Kohm), R1726 (220Kohm), R1727 (220Kohm), R1728 (220Kohm), R1729 (220Kohm), R1730 (220Kohm), R1731 (220Kohm), R1732 (220Kohm), R1733 (220Kohm), R1734 (220Kohm), R1735 (220Kohm), R1736 (220Kohm), R1737 (220Kohm), R1738 (220Kohm), R1739 (220Kohm), R1740 (220Kohm), R1741 (220Kohm), R1742 (220Kohm), R1743 (220Kohm), R1744 (220Kohm), R1745 (220Kohm), R1746 (220Kohm), R1747 (220Kohm), R1748 (220Kohm), R1749 (220Kohm), R1750 (220Kohm), R1751 (220Kohm), R1752 (220Kohm), R1753 (220Kohm), R1754 (220Kohm), R1755 (220Kohm), R1756 (220Kohm), R1757 (220Kohm), R1758 (220Kohm), R1759 (220Kohm), R1760 (220Kohm), R1761 (220Kohm), R1762 (220Kohm), R1763 (220Kohm), R1764 (220Kohm), R1765 (220Kohm), R1766 (220Kohm), R1767 (220Kohm), R1768 (220Kohm), R1769 (220Kohm), R1770 (220Kohm), R1771 (220Kohm), R1772 (220Kohm), R1773 (220Kohm), R1774 (220Kohm), R1775 (220Kohm), R1776 (220Kohm), R1777 (220Kohm), R1778 (220Kohm), R1779 (220Kohm), R1780 (220Kohm), R1781 (220Kohm), R1782 (220Kohm), R1783 (220Kohm), R1784 (220Kohm), R1785 (220Kohm), R1786 (220Kohm), R1787 (220Kohm), R1788 (220Kohm), R1789 (220Kohm), R1790 (220Kohm), R1791 (220Kohm), R1792 (220Kohm), R1793 (220Kohm), R1794 (220Kohm), R1795 (220Kohm), R1796 (220Kohm), R1797 (220Kohm), R1798 (220Kohm), R1799 (220Kohm), R1800 (220Kohm), R1801 (220Kohm), R1802 (220Kohm), R1803 (220Kohm), R1804 (220Kohm), R1805 (220Kohm), R1806 (220Kohm), R1807 (220Kohm), R1808 (220Kohm), R1809 (220Kohm), R1810 (220Kohm), R1811 (220Kohm), R1812 (220Kohm), R1813 (220Kohm), R1814 (220Kohm), R1815 (220Kohm), R1816 (220Kohm), R1817 (220Kohm), R1818 (220Kohm), R1819 (220Kohm), R1820 (220Kohm), R1821 (220Kohm), R1822 (220Kohm), R1823 (220Kohm), R1824 (220Kohm), R1825 (220Kohm), R1826 (220Kohm), R1827 (220Kohm), R1828 (220Kohm), R1829 (220Kohm), R1830 (220Kohm), R1831 (220Kohm), R1832 (220Kohm), R1833 (220Kohm), R1834 (220Kohm), R1835 (220Kohm), R1836 (220Kohm), R1837 (220Kohm), R1838 (220Kohm), R1839 (220Kohm), R1840 (220Kohm), R1841 (220Kohm), R1842 (220Kohm), R1843 (220Kohm), R1844 (220Kohm), R1845 (220Kohm), R1846 (220Kohm), R1847 (220Kohm), R1848 (220Kohm), R1849 (220Kohm), R1850 (220Kohm), R1851 (220Kohm), R1852 (220Kohm), R1853 (220Kohm), R1854 (220Kohm), R1855 (220Kohm), R1856 (220Kohm), R1857 (220Kohm), R1858 (220Kohm), R1859 (220Kohm), R1860 (220Kohm), R1861 (220Kohm), R1862 (220Kohm), R1863 (220Kohm), R1864 (220Kohm), R1865 (220Kohm), R1866 (220Kohm), R1867 (220Kohm), R1868 (220Kohm), R1869 (220Kohm), R1870 (220Kohm), R1871 (220Kohm), R1872 (220Kohm), R1873 (220Kohm), R1874 (220Kohm), R1875 (220Kohm), R1876 (220Kohm), R1877 (220Kohm), R1878 (220Kohm), R1879 (220Kohm), R1880 (220Kohm), R1881 (220Kohm), R1882 (220Kohm), R1883 (220Kohm), R1884 (220Kohm), R1885 (220Kohm), R1886 (220Kohm), R1887 (220Kohm), R1888 (220Kohm), R1889 (220Kohm), R1890 (220Kohm), R1891 (220Kohm), R1892 (220Kohm), R1893 (220Kohm), R1894 (220Kohm), R1895 (220Kohm), R1896 (220Kohm), R1897 (220Kohm), R1898 (220Kohm), R1899 (220Kohm), R1900 (220Kohm), R1901 (220Kohm), R1902 (220Kohm), R1903 (220Kohm), R1904 (220Kohm), R1905 (220Kohm), R1906 (220Kohm), R1907 (220Kohm), R1908 (220Kohm), R1909 (220Kohm), R1910 (220Kohm), R1911 (220Kohm), R1912 (220Kohm), R1913 (220Kohm), R1914 (220Kohm), R1915 (220Kohm), R1916 (220Kohm), R1917 (220Kohm), R1918 (220Kohm), R1919 (220Kohm), R1920 (220Kohm), R1921 (220Kohm), R1922 (220Kohm), R1923 (220Kohm), R1924 (220Kohm), R1925 (220Kohm), R1926 (220Kohm), R1927 (220Kohm), R1928 (220Kohm), R1929 (220Kohm), R1930 (220Kohm), R1931 (220Kohm), R1932 (220Kohm), R1933 (220Kohm), R1934 (220Kohm), R1935 (220Kohm), R1936 (220Kohm), R1937 (220Kohm), R1938 (220Kohm), R1939 (220Kohm), R1940 (220Kohm), R1941 (220Kohm), R1942 (220Kohm), R1943 (220Kohm), R1944 (220Kohm), R1945 (220Kohm), R1946 (220Kohm), R1947 (220Kohm), R1948 (220Kohm), R1949 (220Kohm), R1950 (220Kohm), R1951 (220Kohm), R1952 (220Kohm), R1953 (220Kohm), R1954 (220Kohm), R1955 (220Kohm), R1956 (220Kohm), R1957 (220Kohm), R1958 (220Kohm), R1959 (220Kohm), R1960 (220Kohm), R1961 (220Kohm), R1962 (220Kohm), R1963 (220Kohm), R1964 (220Kohm), R1965 (220Kohm), R1966 (220Kohm), R1967 (220Kohm), R1968 (220Kohm), R1969 (220Kohm), R1970 (220Kohm), R1971 (220Kohm), R1972 (220Kohm), R1973 (220Kohm), R1974 (220Kohm), R1975 (220Kohm), R1976 (220Kohm), R1977 (220Kohm), R1978 (220Kohm), R1979 (220Kohm), R1980 (220Kohm), R1981 (220Kohm), R1982 (220Kohm), R1983 (220Kohm), R1984 (220Kohm),

FLASH_LIGHT

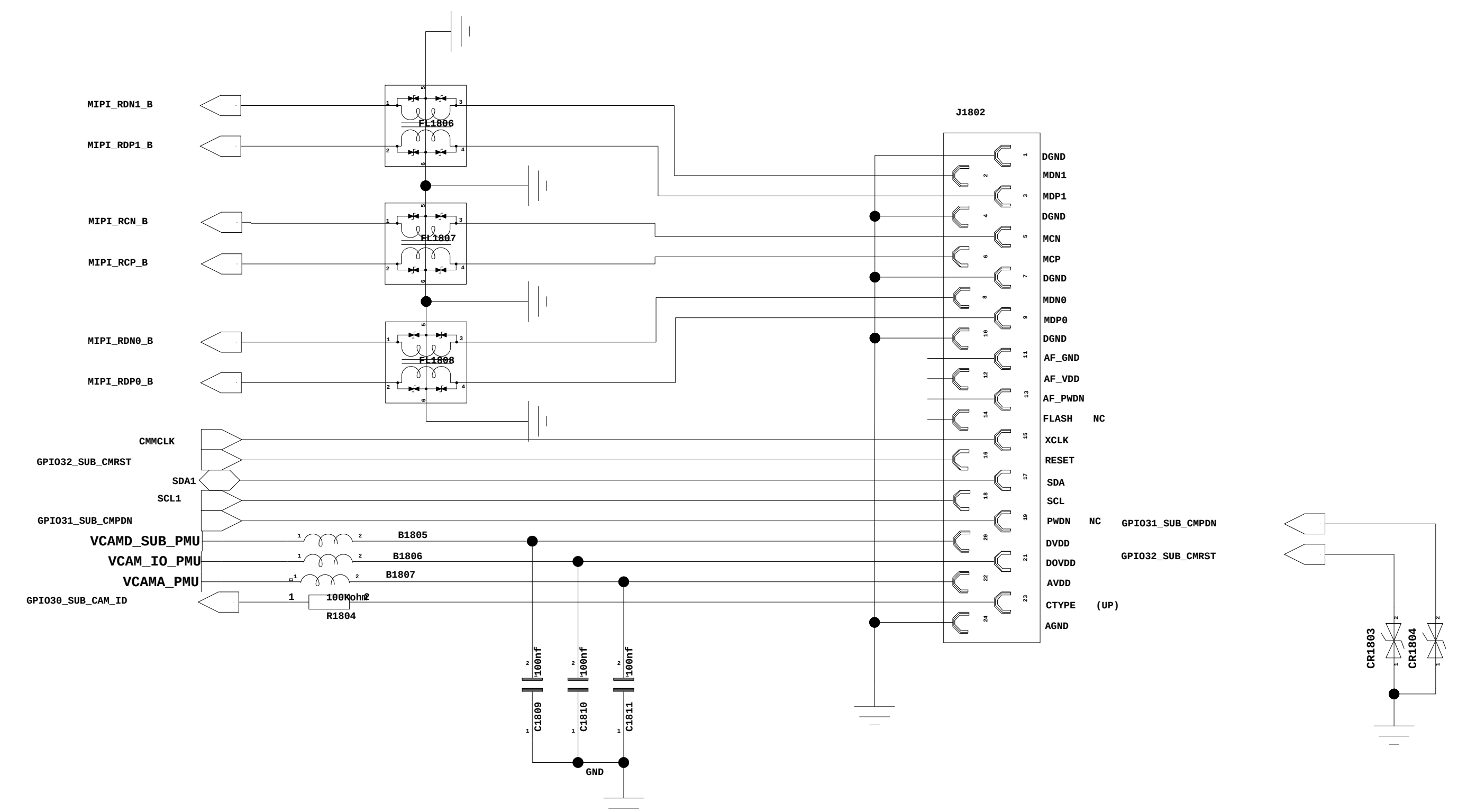


3A current, single vbat net from Battery connector

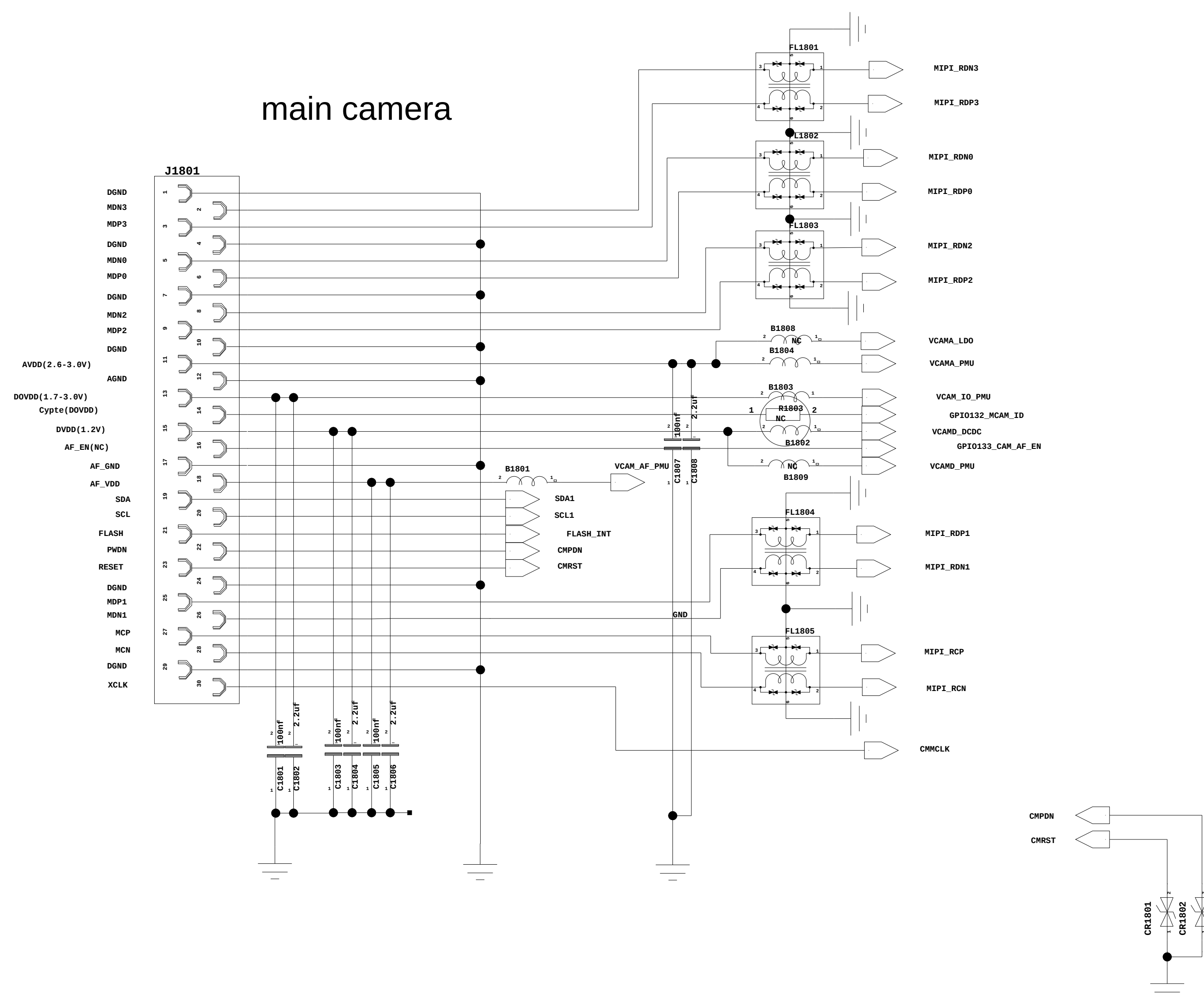
IIC4 need to check function fine or not?

SUB camera

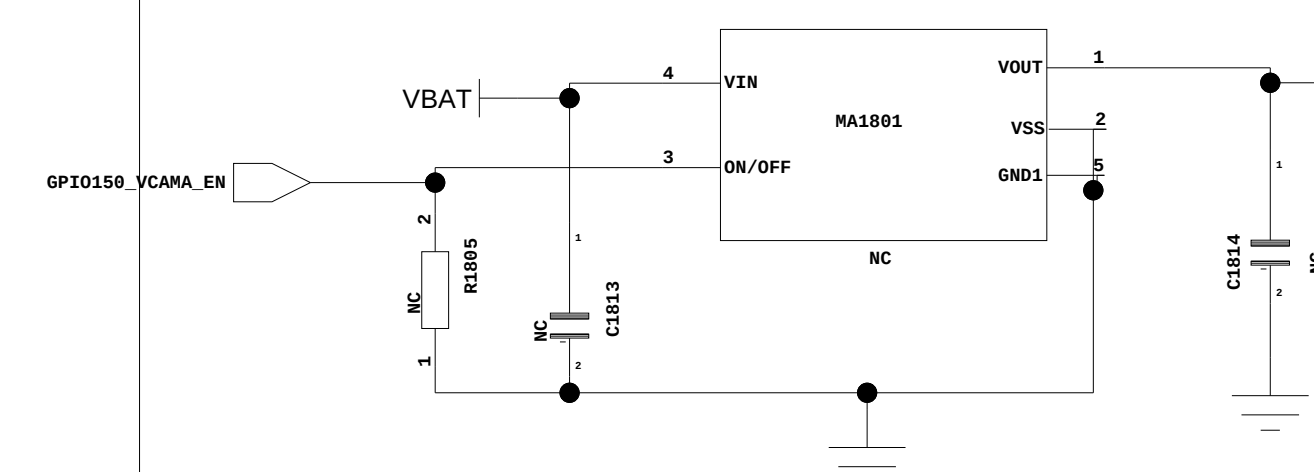
SUB camera



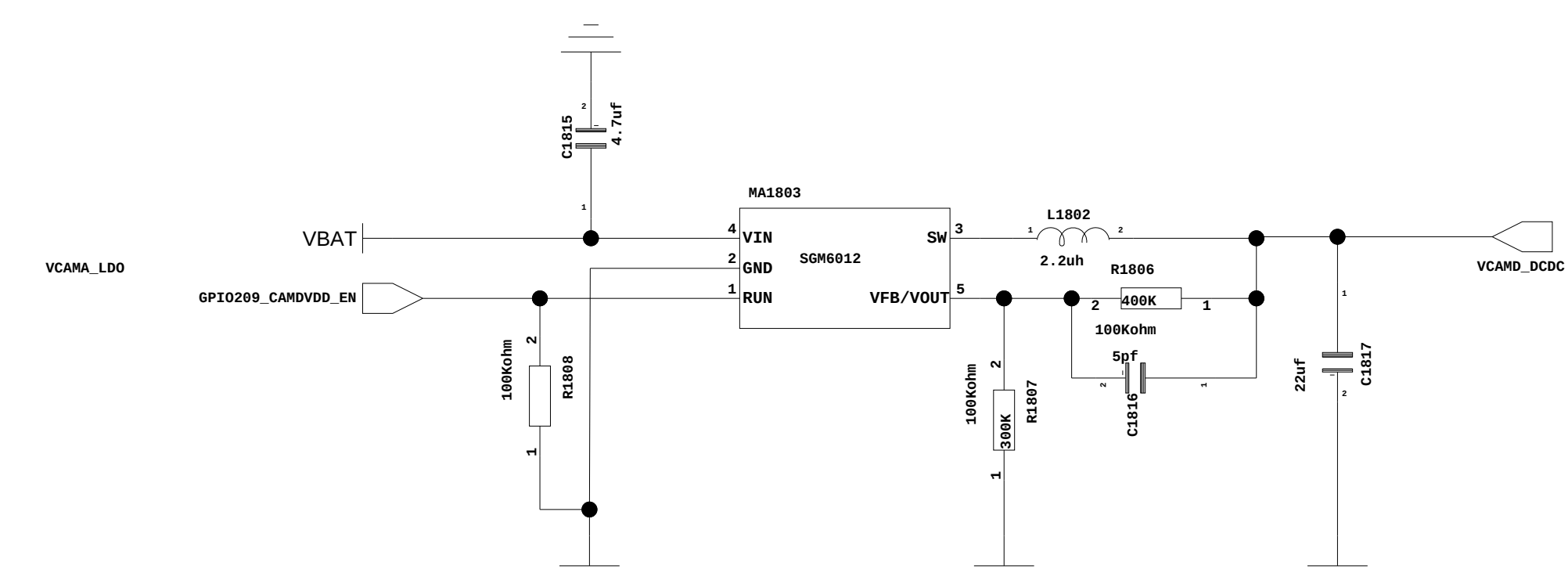
main camera



LDO



DC - DC



1 BB CLK change from CLK1_BB to CLK2_BB
2 SIM hot_plug EINT change to MD2(V25/W28),&delete EINT1,EINT2
3 hook net change from auxin1 to auxin2
4 EINT8_M change to AH9 PORT,&NETNAME Change to EINT13_M
5 NETNAME GP1028_STATUS_IND change to PORT B1
6 GP1015_SUB_CAR_ID change to F25
7 delete MN301 R304 C3297 and net manu1_reset,pwrkey_sr0

2013-07-23

8 change netname GP1028_STAUS_IND to GP10216_STATUS_IND
9 change netname GP1015_SUB_CAR_ID to GP10208_SUB_CAR_ID
10 change netname GP101_IPHONE to GP10173_IPHONE
11 ADD NOTE change R281 to 6201 1% 50K
12 Change Q401 to NC,&Change R409 to 0 ohm

2013-08-27

1 R1705change to NC, R1713change to 220K

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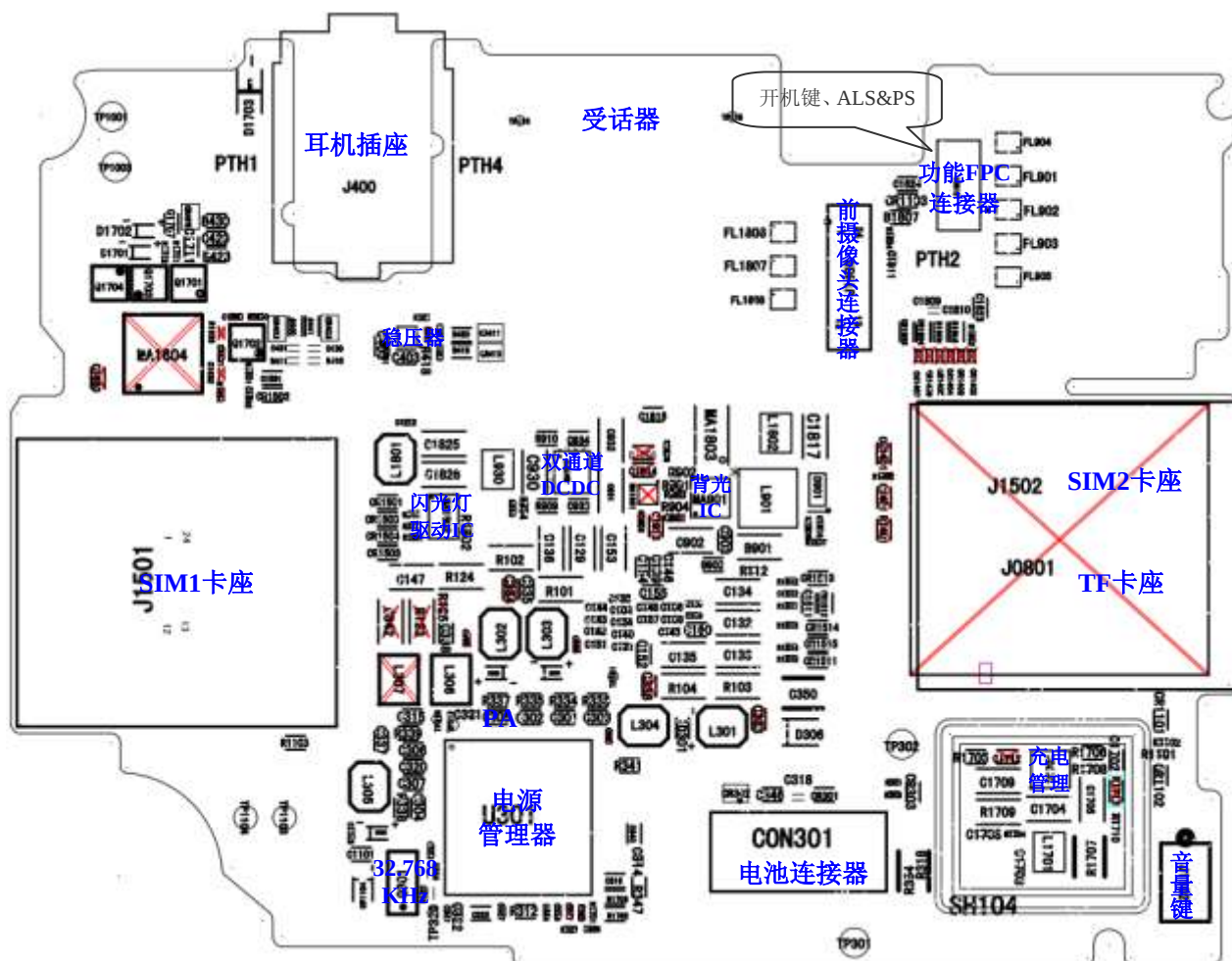
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1 机型图片

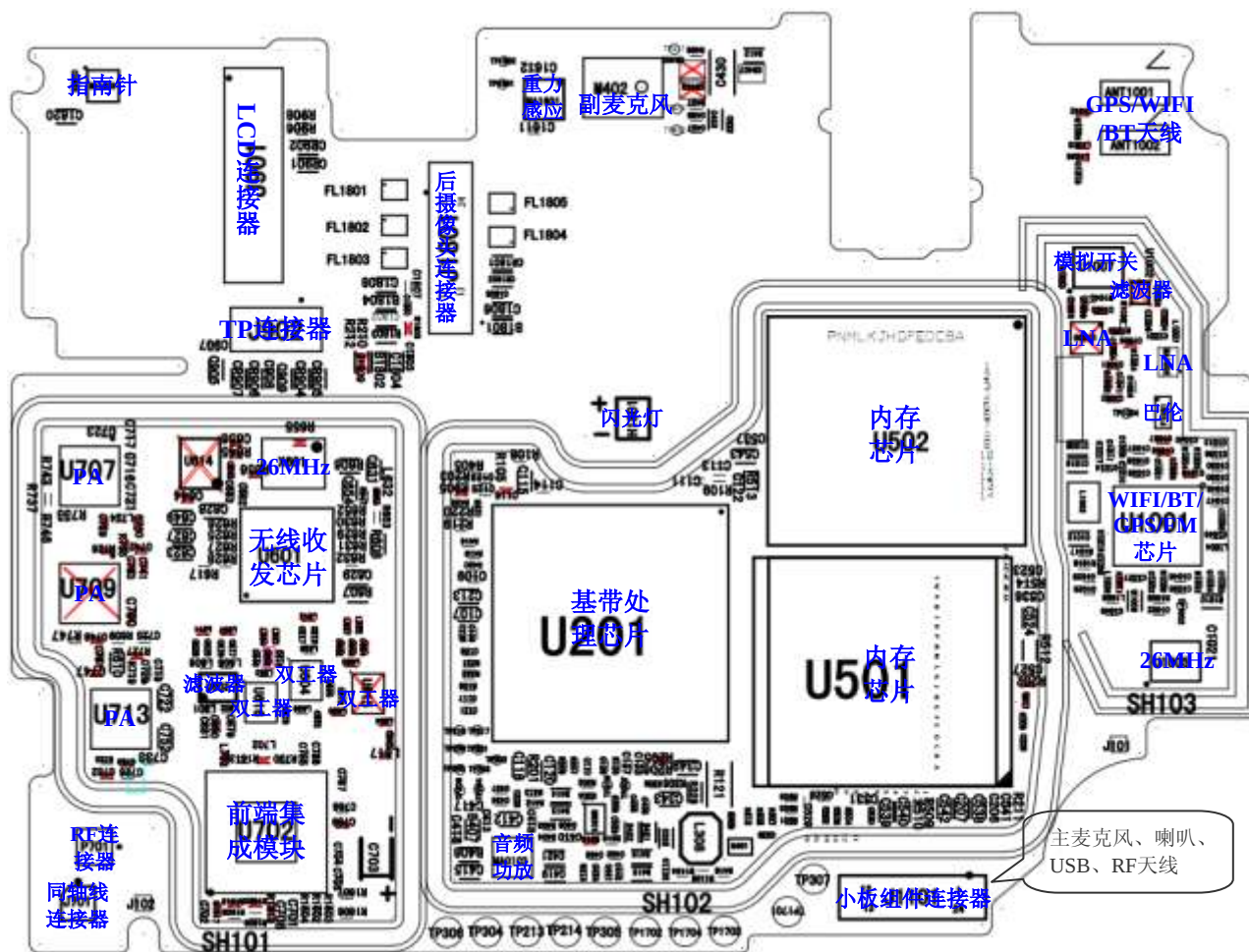
1.1 手机外观图片



1.2 手机 PCB 板图片

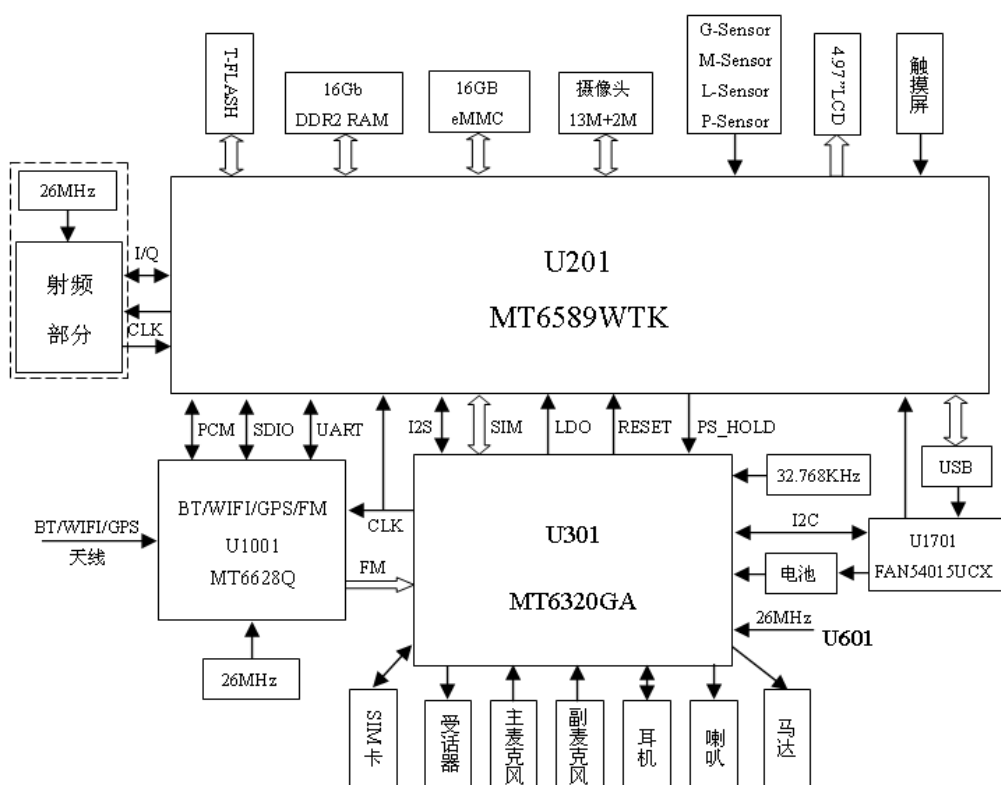


主板正面



主板反面

1.3 系统硬件框图



2 逻辑电路

2.1 电源管理

电源管理部分主要由电源管理U0301（MT6320GA）及其它电路组成。

2.1.1 U301 管脚定义

管脚	定义	描述	管脚	定义	描述
A1	GND_LDO	Ground for LDO	K5	SCL_0	I2C0's clock signal
A10	VBAT_VSRAM	Battery power supply input of VSRAM	K6	SCL_1	I2C1's clock signal
A11	VBAT_VCORE	Battery power supply input of VCORE	K8	GND_VPA	Ground of VPA
A12	VBAT_VCORE	Battery power supply input of VCORE	K9	GND_VCORE	Ground of VCORE
A13	VBAT_VPROC	Battery power supply input of VPROC	L1	SIMLS2_SRST	SIMLS2 SRST
A14	VBAT_VPROC	Battery power supply input of VPROC	L10	GND_LDO	Ground for LDO
A15	VM	SW node of VM	L11	GND_LDO	Ground for LDO
A16	VM	SW node of VM	L13	VMCH	VMCH output voltage
A17	VBAT_VM	Battery power supply input of VM	L15	VGP1	VGP1 output voltage
A18	VBAT_VM	Battery power supply input of VM	L16	VGP2	VGP2 output voltage
A2	SRCLKEN_MD2	26MHz CLK enable for MD2	L17	VMCH	VMCH output voltage
A3	SYSRSTB	Watchdog reset from AP	L18	VUSB	VUSB output voltage
A4	SRCVOLTEN	26MHz CLK enable for AP/MD1 and low power mode	L2	SIMLS2_SIO	SIMLS2 data signal
A6	DVD18_IO	Power of VI018 IO/CORE	L3	SIMLS1_SIO	SIMLS1 data signal
A7	SPI_CLK	SPI interface's clock	L4	SCL_2	I2C2's clock signal
A9	RTC_32K1V8	VI018 domain 32kHz clock output	L5	SDA_2	I2C2's data signal
B1	DVDD18_DIG	Power of VDIG18	L6	SDA_1	I2C1's data signal
B10	VSRAM	SW node of VSRAM	L8	GND_LDO	Ground for LDO
B11	VCORE	SW node of VCORE	L9	GND_LDO	Ground for LDO
B12	VCORE	SW node of VCORE	M1	DVDD18_IO	Power of VI018 IO/CORE
B13	VPROC	SW node of VRPOC	M10	GND_LDO	Ground for LDO
B14	VPROC	SW node of VRPOC	M11	GND_LDO	Ground for LDO
B16	VBAT_VM	Battery power supply input of VM	M15	VIBR	VIBR output voltage
B18	ISINK2	Current sink channel 2 output	M16	VGP3	VGP3 output voltage
B2	VMSEL2	AP PWM1/VM STRAPPING 1	M2	SIM2_AP_SIO	SIM2_AP data signal
B3	HOMEKEY	HOMEKEY button	M3	SIM1_AP_SIO	SIM1_AP data signal
B4	SIM1_AP_SRST	AP/PMIC SIM1 SRST	M4	KP_ROW5	KP ROW5
B5	SIM2_AP_SRST	AP/PMIC SIM2 SRST	M5	KP_ROW6	KP ROW6
B6	SPI_MOSI	SPI interface's serial data signal Default is input only	M6	GND_IO	Ground of VI018
B7	SPI_SSN	SPI interface's chip select signal to identify which device is selected	M8	GND_LDO	Ground for LDO
B8	WRAP_EVENT	Event signal to return IPs' status to BB	M9	GND_LDO	Ground for LDO
B9	ADC_DAT	I2S Interface data signal for audio Uplink	N1	KP_ROW1	KP ROW1
C1	PWM	AP PWM3	N15	VTCX0_2	VTCX0_2 output voltage
C15	VM_FM	Feedback of VM	N16	VGP4	VGP4 output voltage
C17	ISINK0	Current sink channel 0 output	N18	VBAT_LD0S2	LD02 vbat power
C18	ISINK1	Current sink channel 1 output	N2	KP_ROW0	KP ROW0
C2	VMSEL1	AP PWM2/VM STRAPPING 2	N5	KP_COL5	KP COL5

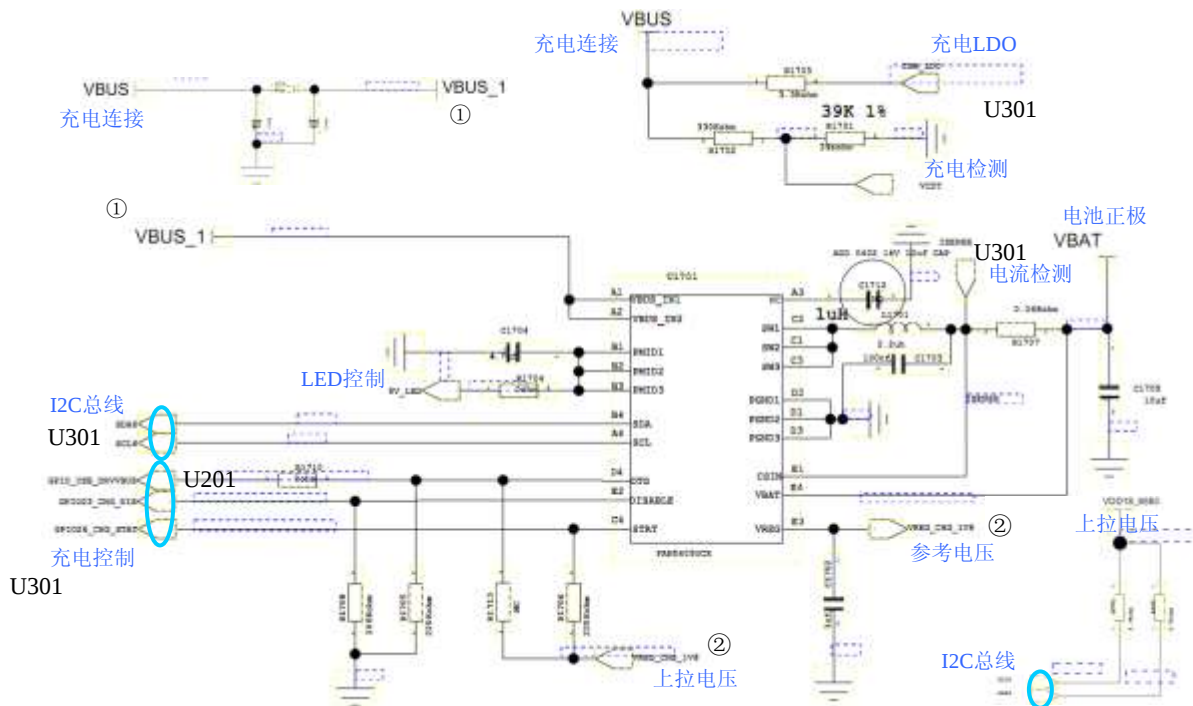
C3	INT	Dfeault:Output 0 Interrupt too BB,high active	P11	GND_LDO	Ground for LDO
C4	SRCLKEN_P RI	26MHz CLK enable for MD2	P14	VCAMA	VCAMA output voltage
C6	DAC_DAT	I2S Interface data signal for audio Downlink	P17	VRF28_2	VRF28_2 output voltage
C7	DAC_WS	I2S interface word sync signal for Audio Downlink	P18	VBAT_LDOS1	LD01 vbat power
C9	FSOURCE	EFUSE power source	P2	KP_ROW7	KP ROW7
D1	VBAT_VRF18	Battery power supply input of VRF18	P4	KP_COL6	KP COL6
D13	VSRAM_FB	Feedback of VSRAM	P5	KP_COL7	KP COL7
D14	VCORE_FB	Feedback of VCORE	P8	AVDD18_AUD	1.8V power input for Audio
D15	FLASH	Flashlight open drain output	R1	KP_ROW2	KP ROW2
D16	VGP5	VGP5 output voltage	R10	CLK_26M	26MHz CLK
D18	VBAT_LDOS4	LD04 output voltage	R11	AVDD28_AUD	2.8V power input for Audio
D2	VPA_FB	Feedback of VPA	R12	AU_VIN0_P	Analog input 1 positive
D5	SPI_MISO	SPI interface's serial data signal.Default is output only	R15	VTCX0_1	VTCX0_1 output voltage
D6	DAC_CK	I2S Interface clock signal for Audio Downlink	R16	VRF28_1	VRF28_1 output voltage
D7	ADC_CK	I2S Interface clock signal for Audio Uplink	R2	KP_COL1	KP COL1
D8	SIM1_AP_SC LK	AP/PMIC SIM1 clock	R3	KP_ROW3	KP ROW3
E1	VBAT_VRF18 _2	Battery power supply input of VRF18_2	R4	KP_COL4	KP COL4
E10	GND_VPROC	Ground of VPROC	R8	AVSS18_AUD	Ground for AVDD18_AUD
E11	GND_VM	Ground of VM	T1	KP_COL2	KP COL2
E13	VPROC_FB	Feedback of VPROC	T11	AVSS28_AUD	Ground for AVDD18_AUD
E14	KPLED	Keypad LED open drain output	T12	AU_VIN0_N	Analog input 1 negative
E15	GND_DRV	GND for flashlight,keypad LED and ISINK drivers	T14	VAST	VAST output voltage
E18	VEMC_1V8	VEMC_1V8 output voltage	T16	PMU_TESTMODE	PMU testmode signal(tie to GND in normal operation)
E2	VRF18_1	SW node of VRF18_1	T17	VA	VA output voltage
E3	VRF18_1_FB	Feedback of VRF18_1	T18	AVDD18_LDO	VAST iput power
E4	VRF18_2_FB	Feedback of VRF18_2	T2	KP_COL3	KP COL3
E6	GND_I0	Ground of VI018	T3	KP_ROW4	KP ROW4
E7	SIM2_AP_SC LK	AP/PMIC SIM1 clock	T7	HPR	Headphone R-ch output
F1	VBAT_VI018	Battery power supply input of VI018	T8	GND_LDO	Ground for LDO
F10	GND_VPROC	Ground of VPROC	T9	HSP	Voice driver positive
F11	GND_VM	Ground of VM	U1	KP_COLO	KP COLO
F13	GND_VPROC_ FB	Remote sense on ground of VPROC	U11	AU_VIN2_N	Analog input 3 negative
F15	VGP6	VGP6 output voltage	U12	AU_VIN2_P	Analog input 3 positive
F2	VRF18_2_FB	SW node of VRF18_2	U13	ACCDDET	Accessory detection input
F4	VI018_FB	Feedback of VI018	U15	TREF	Reference voltage for battery temperature sensing
F6	GND_DIG	Ground of VD1G18	U16	AVDD28_CHRLDO	Charger LD028 output
F7	ADC_WS	I2S Interface word sync signal for Audio Uplink	U17	CS_N	Fuel gauge negative current sense point

F8	GND_VSRAM	Ground of VSRAM	U18	CHG_DM	USB data pin "DM" in CHR
F9	GND_VCORE	Ground of VCORE	U2	RTC_XOSC32_EN B	The pin to select 32kHz clock source Tie to low:32kHz clock is generated from crystal oscillator and needs to place 32K crystal on phone Tie to high:32kHz clock needs to be sent from the external
G1	VBAT_VPA	Battery power supply input of VPA	U3	RTC_GPIO	RTC domain 32kHz clock output
G13	RESETB	System reset release signal	U4	GND_SPK	Ground for VBAT_SPK
G15	PWERKEY	Power key signal	U8	HSN	Voice driver negative
G16	VSIM1	VSIM1 output voltage	U9	AU_FLYN	Flying capacitor bootom
G17	VSIM2	VSIM2 output voltage	V1	XOUT	1.One of 32K crystal connection port while using crystal to generate 32kHz clock 2.External 32kHz clock input with 32kHz crystal absence
G18	VBAT_LDOS6	LD06 vbat power	V11	AU_VIN1_N	Analog input 2 negative
G2	VIO18	SW node of VIO18	V12	AU_VIN1_P	Analog input 2 positive
G9	GND_VCORE	Ground of VCORE	V13	AU_MICBIAS0	Microphone Bias for main and 2nd Microphone
H1	DVDD_VSIMLS2	Power of VSIMLS2	V14	GND_VREF	Bandgap reference ground
H13	PMU_EN	Exiternal PMIC enable control signal	V15	VERF	Bandgap reference voltage
H17	VBAT_LDOS5	LD05 vbat power	V16	BATON	Battery NTC pin for battery and its temperature sensing
H18	VIO28	VIO28 output voltage	V17	CS_P	Fuel gauge positive current sense point
H2	VPA_FB	SW node of VPA	V18	CHG_DP	USB data pin "DP" in CHR
H5	GND_VIO18	Ground of VIO18	V2	AVDD33_RTC	RTC LDO output. Supply of RTC macro where backup battery can be added
H7	GND_VRF18_2	Ground of VRF18_2	V5	AVS12N_AUD	NCP-1.2V output
H8	GND_VRF18	Ground of VRF18_2	V6	GND_LDO	Ground for LDO
J1	DVDD_VSIMLS1	Power of VSIMLS1	V7	AU_REFN	Reference point for capless Audio,connect to GND
J10	GND_VPROC	Ground of VPROC	V8	HPL	Headphone L-ch output
J11	GND_VM	Ground of VM	W1	XIN	1.One of 32K crystal connection port while using crystal to generate 32kHz clock 2.Tie to ground with 32kHz crystal absence
J16	PCH_DET	Pre-charge indicator oper drain terminal	W10	VBAT_AUD	Battery Power Supply Input for audio
J2	SIMLS1_SRST	SIMLS1 SRST	W12	AVSS28_AUD	Ground for AVDD28_AUD
J3	SIMLS1_SCLK	SIMLS1 SCLK	W13	AU_MICBIAS1	Microphone Bias for earphone
J6	GND_VPA	Ground of VPA	W15	ISENSE	Positive terminal for battery's charging current sensing resistor
J8	GND_VIO18	Ground of VIO18	W16	BATSNS	Negative terminal for battery's charging current sensing resistor
J9	GND_VCORF	Ground of VCORF	W17	VCDT	Fractional charger input voltage for charge detection
K10	GND_VPROC	Ground of VPROC	W18	GND_LDO	Ground for LDO

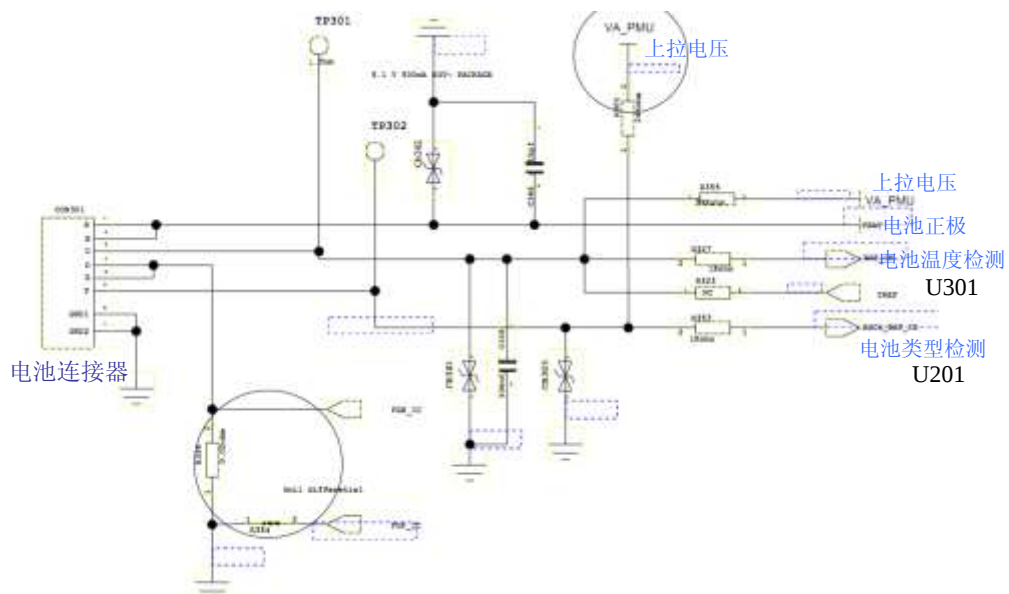
K11	GND_VM	Ground of VM	W2	SPK_N	Negative output for Internal Speaker Amp
K12	VEMC_3V3	VEMC_3V3 output voltage	W3	SPK_P	Positive output for Internal Speaker Amp
K15	VDRV	Charger current drive output	W4	VBAT_SPK	Power source for speaker L-ch
K18	VBAT_LD0S3	LD03 vbat power	W6	AU_FMINR	Right-channel FM input
K2	SIMLS2_SCLK	SIMLS2 SCLK	W7	AU_FMINL	Left-channel FM input
K4	SDA_0	I2CO's data signal	W9	AU_FLYP	Flying capacitor top

2.1.2 充电电路

充电电路是由电源管理芯片U301（MT6320GA）、充电管理芯片U1701（FAN54015UCX）及其外围电路来完成。



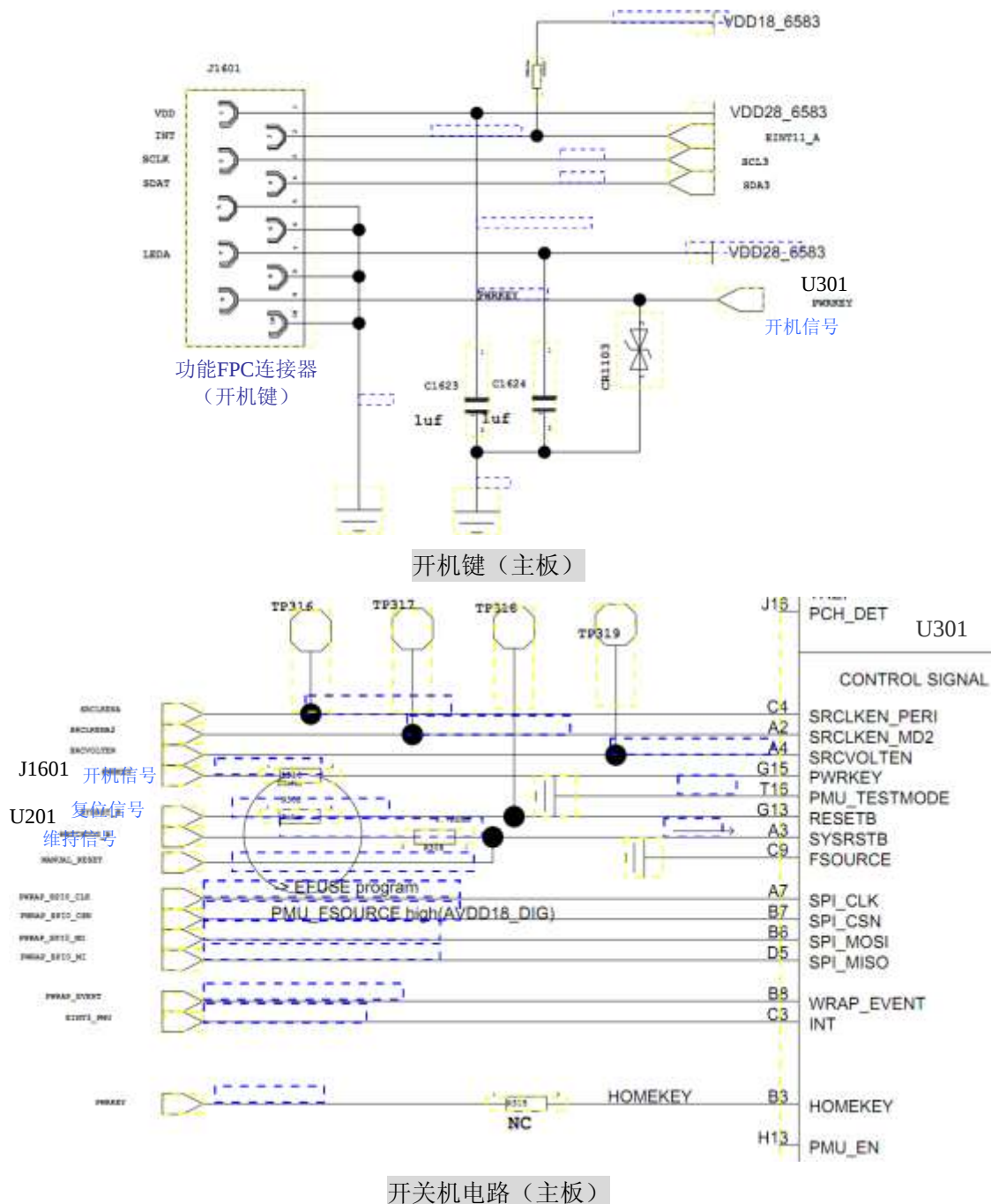
充电电路（主板）



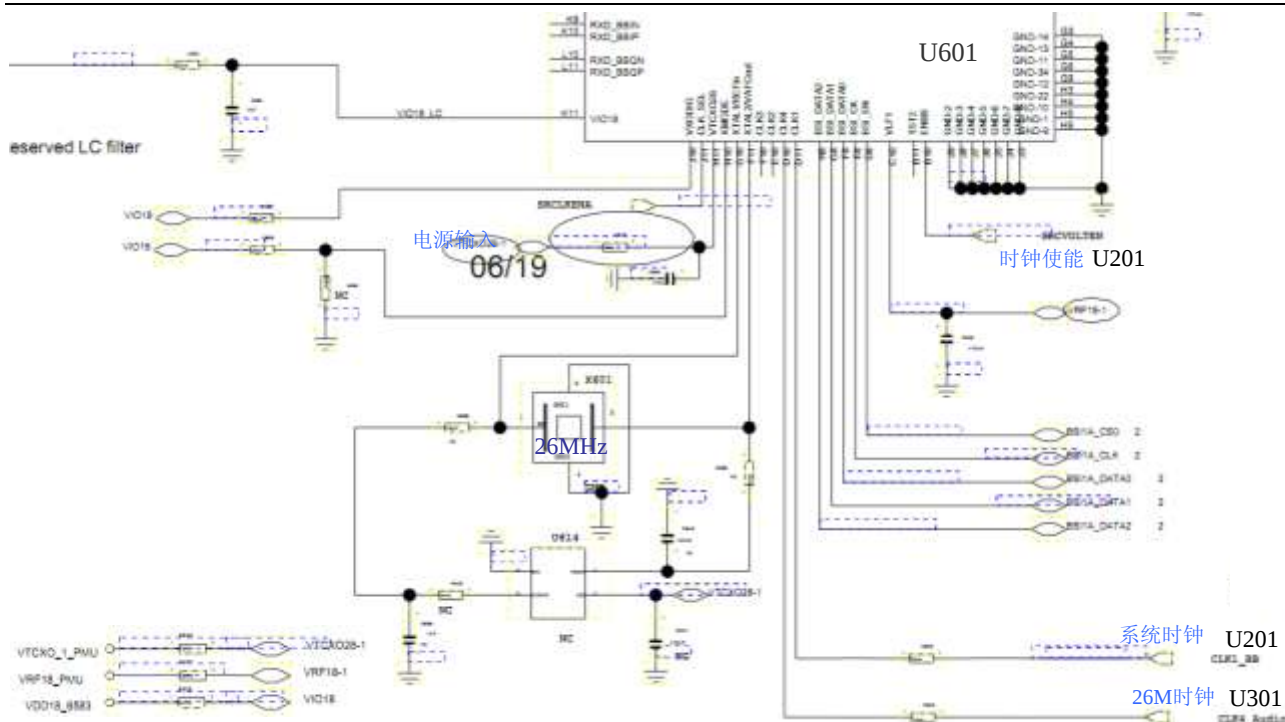
电池连接器（主板）

2.2 开机过程

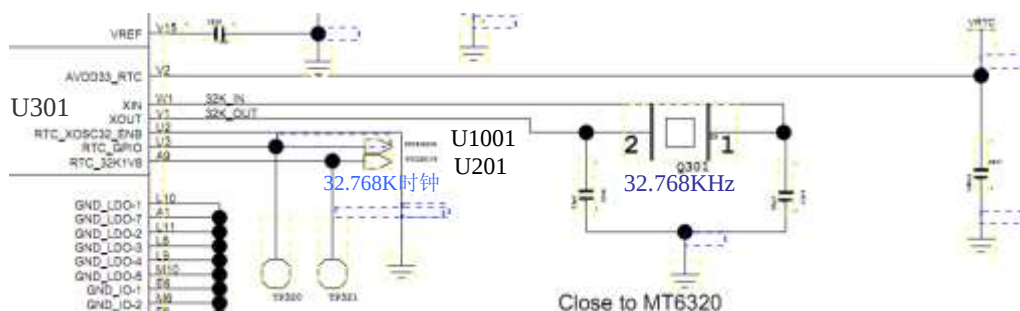
当按下开关机键时, U301的PWRKEY (G15脚) 由高电平变为低电平, U301开始工作, U301内部LDO产生VCORE、VI018、VA、VI028、VAST、VPROC、VSRAM、VM、VMEC、VMC、VMCH、VTCX0等电压信号为U201、U501等提供工作电源。



VTCX028-1 (VTCX0_1_PMU) 为U601提供电源, X601产生频率为26MHz时钟, 送入U601的G10和F11脚, 经U601内部放大处理后, 从D10、D11脚输出, 经C614、C615分别输出至U301 (R10脚) 和U201 (AJ14、AJ19脚)。而X301产生32.768KHz实时时钟, 送入U301的W1、V1脚, 经U301内部放大处理后, 从U3、A9脚分别输出至U1001 (F10脚) 和U201 (P25脚)。



系统时钟 (主板)



实时时钟 (主板)

U301的SYSRST_B (G13脚) 产生复位信号, 使U201 (R29脚) 复位, 而U201的E25脚产生复位信号, 使U502 (K5脚) 复位后, U201从U502中启动开机程序, 手机开机。

当按键维持一定的时间, U201的WATCHDOG_B (R28脚) 产生高电平, 经R308输入U301 (A3脚), 维持手机的正常供电。

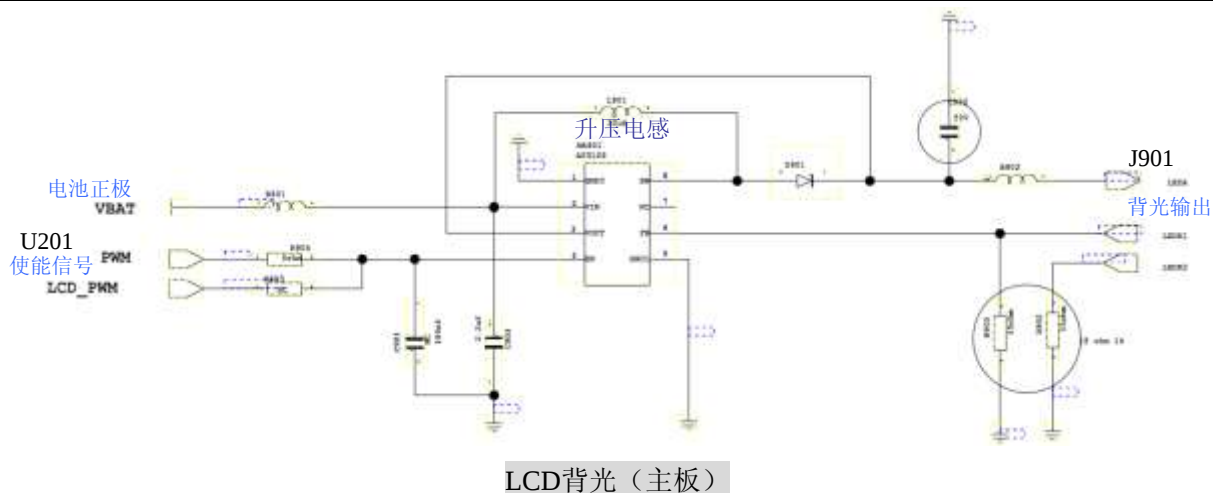
2.3 显示和触摸屏电路

2.3.1 显示电路

LCD液显模块是采用4.97"、16.7M色、1080x1920像素的TFT-IPS屏。TFT (Thin Film Transistor) 即薄膜场效应晶体管, 属于有源矩阵类型液晶显示器AM-LCD 中的一种, TFT在液晶的背部设置特殊光管, 可以“主动的”对屏幕上的各个独立的像素进行控制, 这也就是所谓的主动造成矩阵TFT(active-matrix-TFT) 的来历, TFT彩屏比STN彩屏反应速度快、画质好, 完全能满足多媒体处理的要求, 一般TFT的反应时间约为80ms, 可视角度一般可达130度左右。

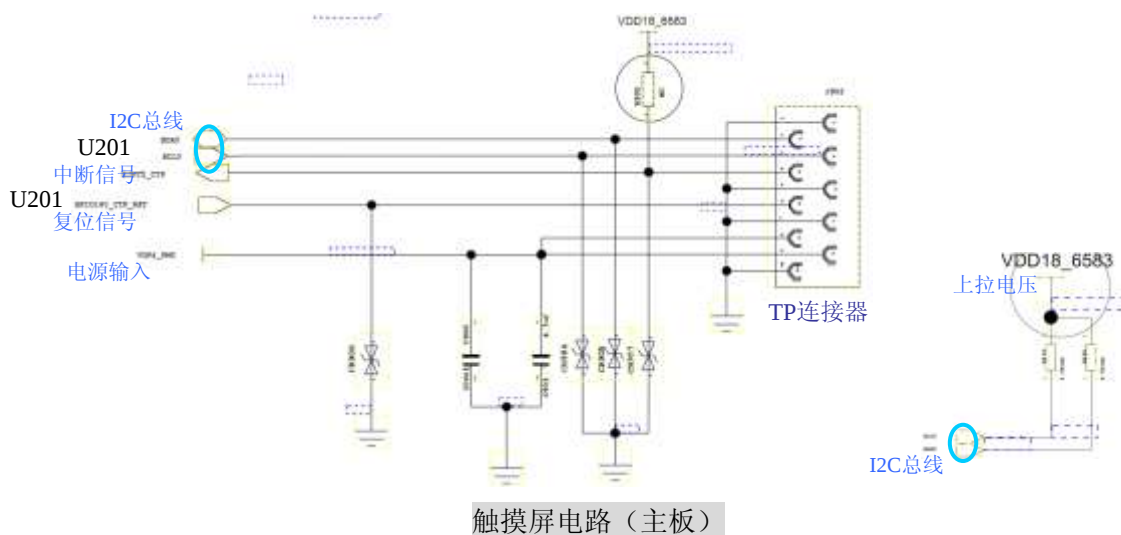


LCD背光电路由U201控制,当EN脚为高电平时,MA901开始工作,将VBAT升压点亮LCD液晶模块上的LED。

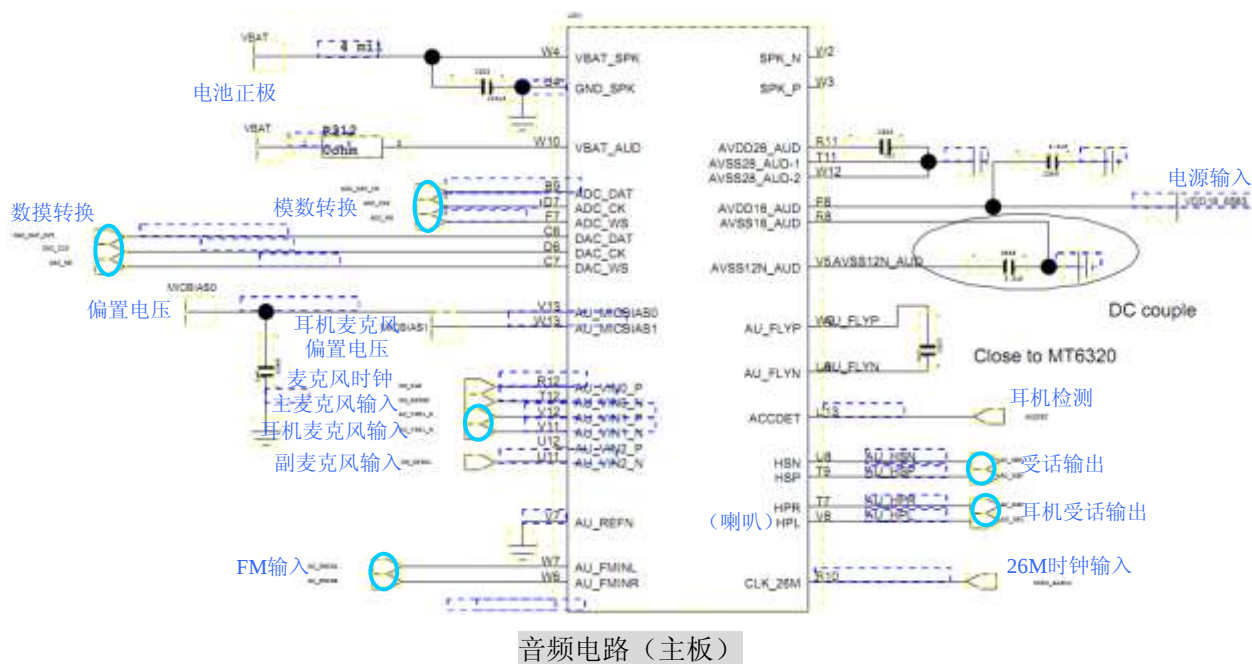


2.4 触摸屏电路

触摸屏经板对板连接器（J902）由基带处理芯片（U201）控制。



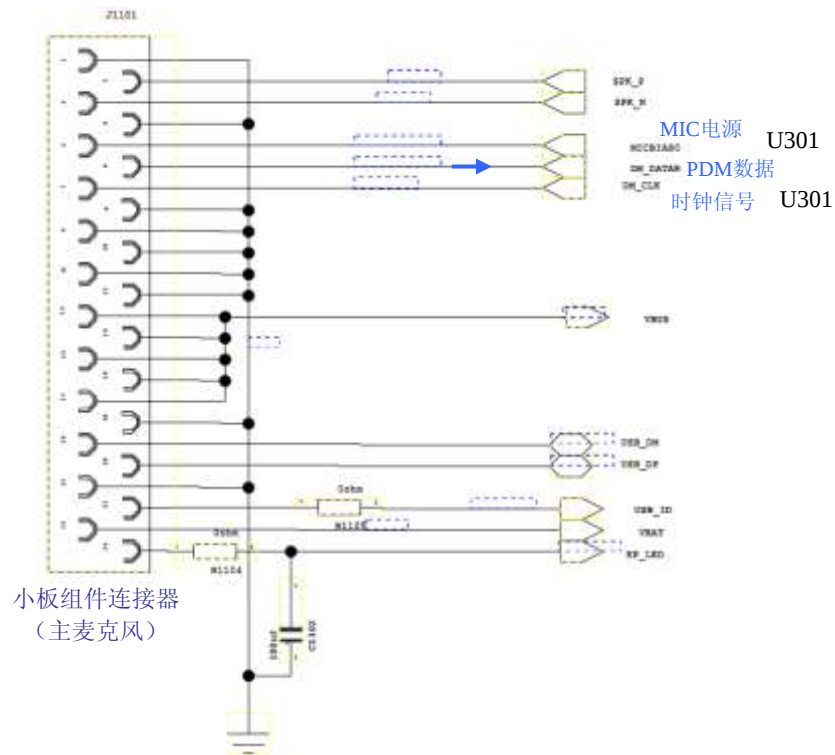
2.5 音频电路



2.5.1 主机发受话

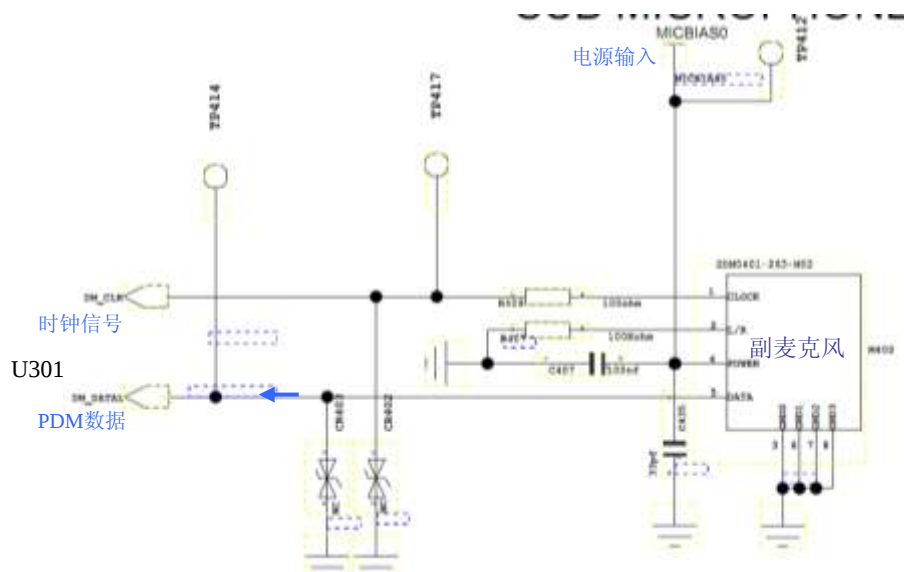
1) 发话

主麦克风将语音信号转化为电压信号后，经过小板组件、J1101送入U301的T12脚放大等处理后，通过I2S接口与U201通信。其中U301的R12脚经J1101、小板组件为麦克风提供时钟信号，U301的V13脚经J1101（主板）、小板组件为麦克风提供电源。



主麦克风电路（主板）

副麦克风（M402）将语音信号转化为电压信号后，送入U301的U11脚进行相应的放大等处理后，通过I2S接口与U201通信。其中U301的R12脚经J1101（主板）、小板组件为麦克风提供时钟信号，U301的V13脚经J1101（主板）、小板组件为麦克风提供电源。

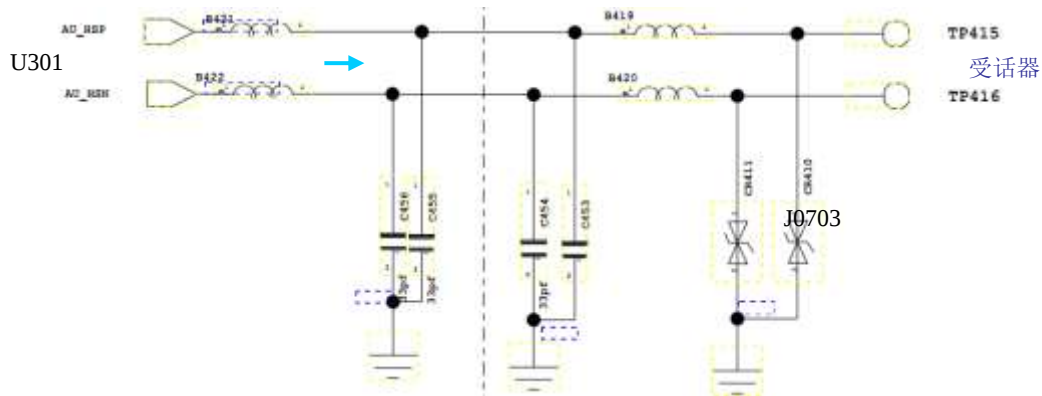


副麦克风电路（主板）

U201处理后的语音信号通过TX_IP、TX_IN、TX_QP、TX_QN送入射频部分发射出去，从而实现发话。

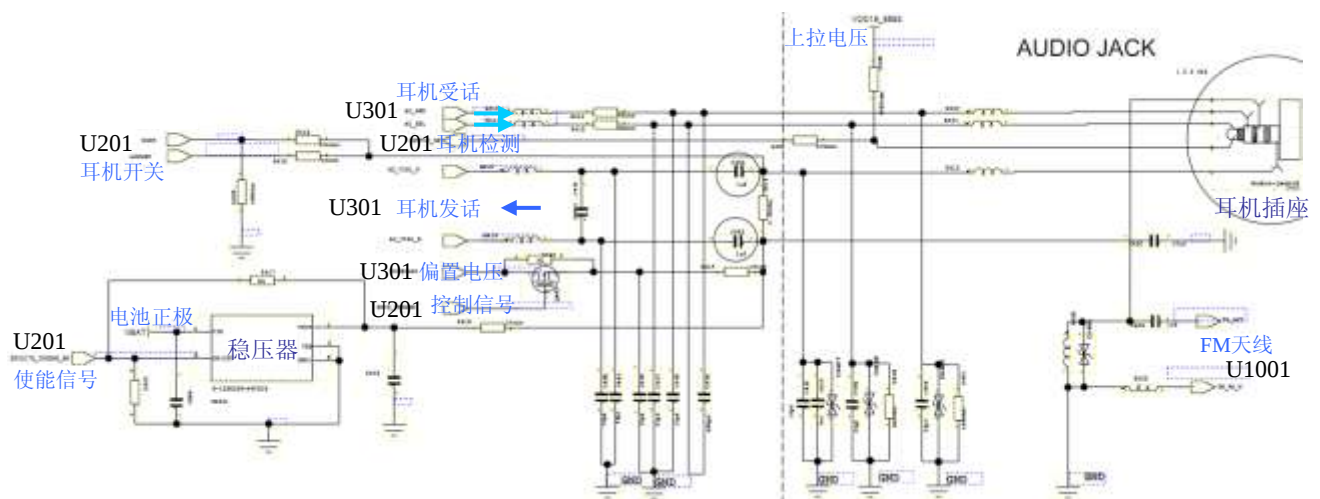
2) 受话

从射频部分收到的信号通过RX_IP、RX_IN、RX_QP、RX_QN送入U201进行相应处理后，通过I2S与U301进行通信。信号经U301放大等处理后，从U8脚、T9脚输出正负两组相位相反的语音电压信号，经过B421、B422、B419、B420等的滤波后，驱动受话器工作。



受话电路（主板）

2.5.2 耳机发受话



耳机电路（主板）

耳机插入耳机插座（J400）后，耳机插座的4、6脚短接，6脚（EINT10_HP）由高电平变为低电平，U301检测到AD10脚为低电平时，经过U301内部处理，将主机发受话等切换到耳机部分。

1) 耳机发话

耳机上的麦克风将语音信号转化为电压信号后，经过B412、C434、C465、B415、B416等滤波后，将语音信号传至U301的V11和V12脚进行放大等处理后，通过I2S与U201进行通信，U201通过TX_IP、TX_IN、TX_QP、TX_QN送入射频部分发射出去，从而实现耳机发话。

2) 耳机受话

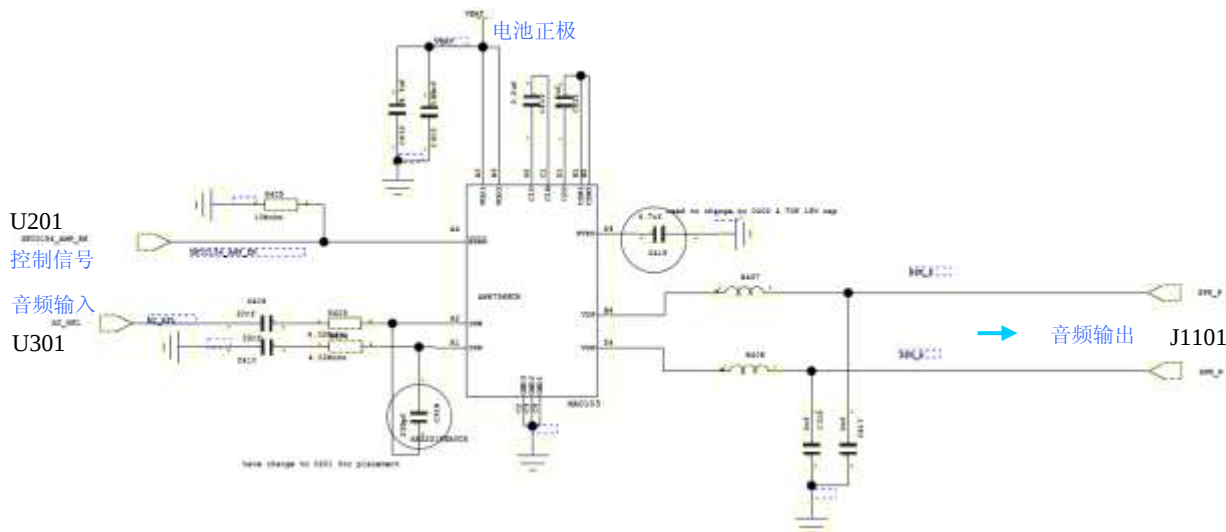
当耳机插入耳机插座，从射频部分收到的信号通过RX_IP、RX_IN、RX_QP、RX_QN送入U201进行相应处理后，通过I2S与U301进行通信。信号经U301放大等处理后，从T7脚、V8脚输出正负两组相位相反的语音电压信号，经过B413、B414、R412、R413、B440、B441等滤波处理后，驱动耳机受话器工作。

3) 耳机开关

当按下耳机上的按钮，耳机插座（J400）的第1脚与第2脚短接，1脚由高电平变为低电平，U301的U13脚检测到此变化，经U301内部处理后，作相应的动作，如：挂断电话等。

2.5.3 蜂鸣电路

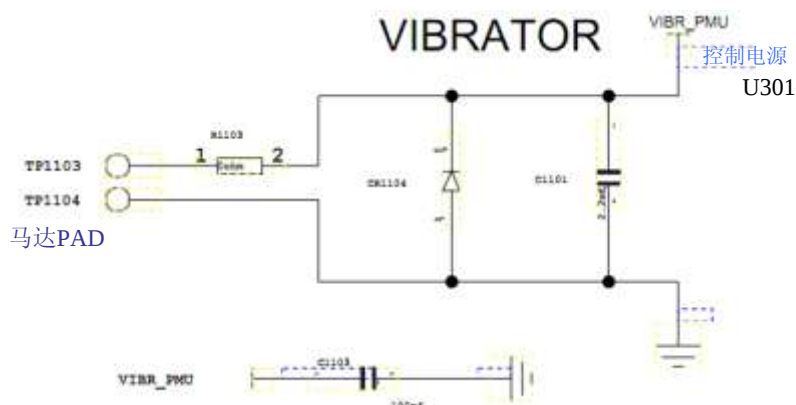
扬声器的音频信号从U301的V8脚输出，经C409、R403送入MA0103的C1脚，经过MA0103（受U201控制）音频放大后，最终从B4脚、D4脚输出正负两组相位相反的音频电压信号，经B407、B408、J1101、小板组件等滤波处理后，驱动蜂鸣器工作。



蜂鸣电路（主板）

2.6 马达电路

U301的M15脚为外部马达控制脚，用于控制马达的振动。CR1104为防止马达反感应电动势传递给U301，起到续流保护作用。

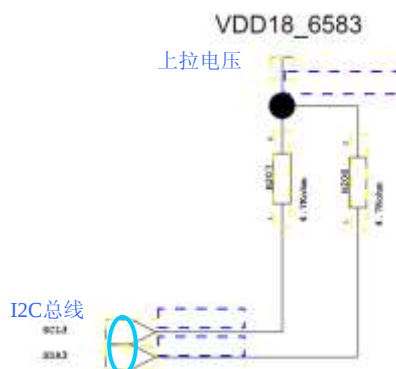
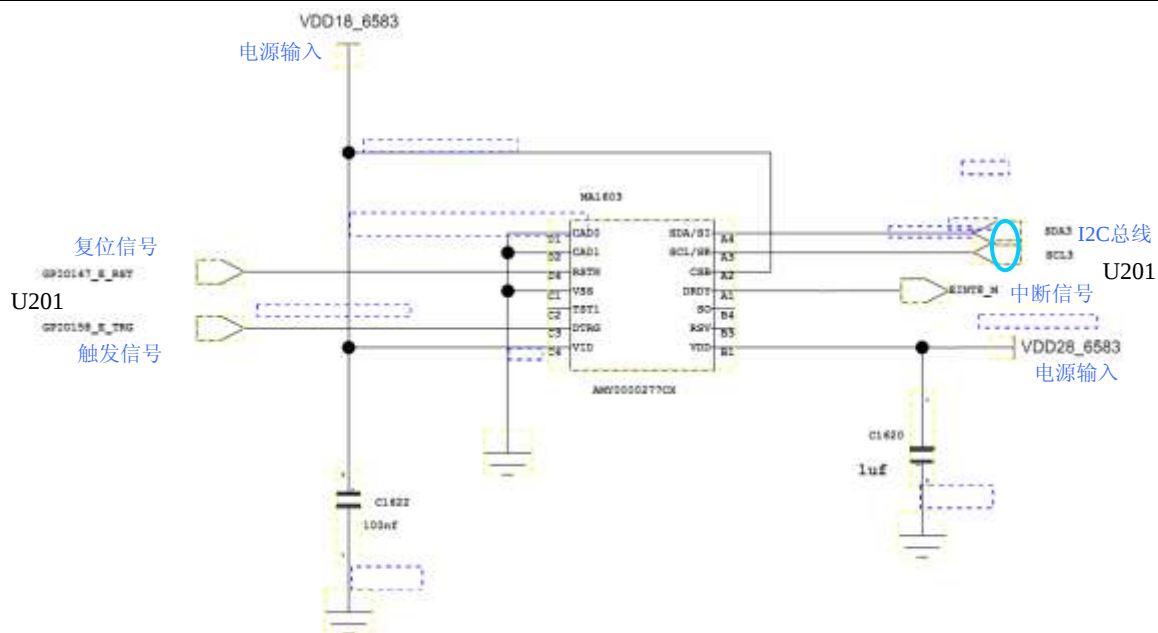


马达电路（主板）

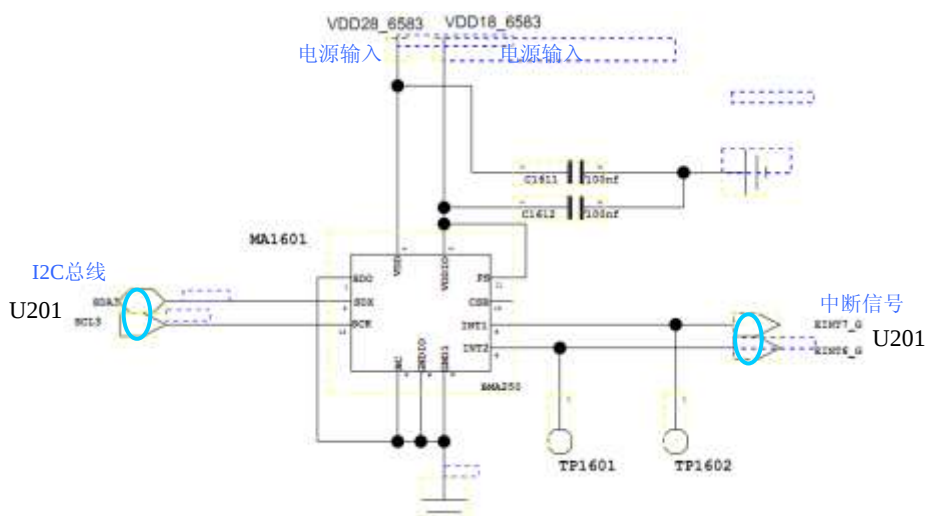
2.7 Sensor 电路

Sensor电路分为三部分：指南针、重力感应和光感&距离感应。Sensor的供电电压为VDD28_6583和VDD18_6583。

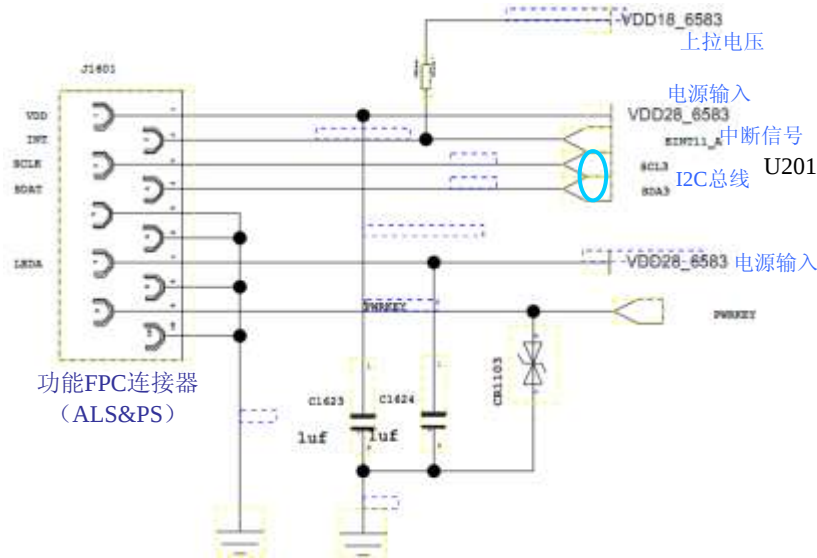
2.7.1 指南针电路



2.7.2 重力感应电路



2.7.3 光感&距离感应电路



距离感应电路（主板）

2.8 BT、WIFI、GPS、FM 电路

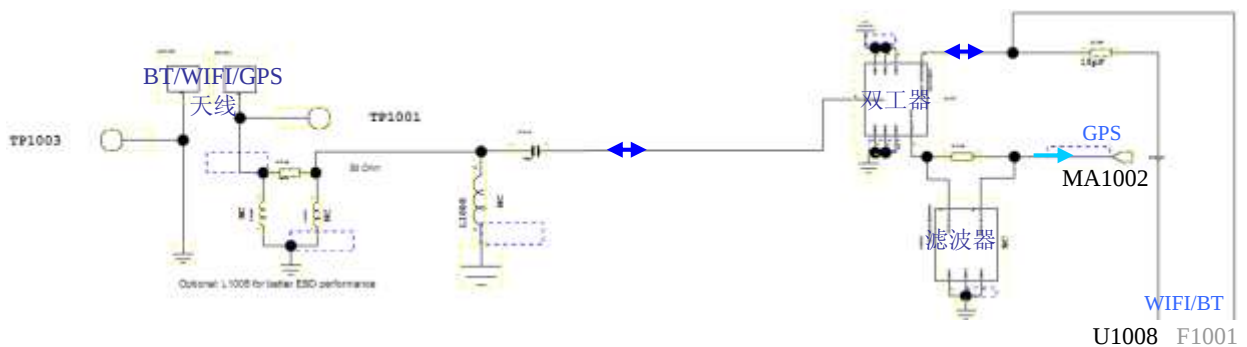
BT、WIFI、GPS、FM使用的是MT6628Q芯片（U1001），MT6628Q是BT、WIFI、GPS、FM四合一的模块。

2.8.1 U1001 管脚定义

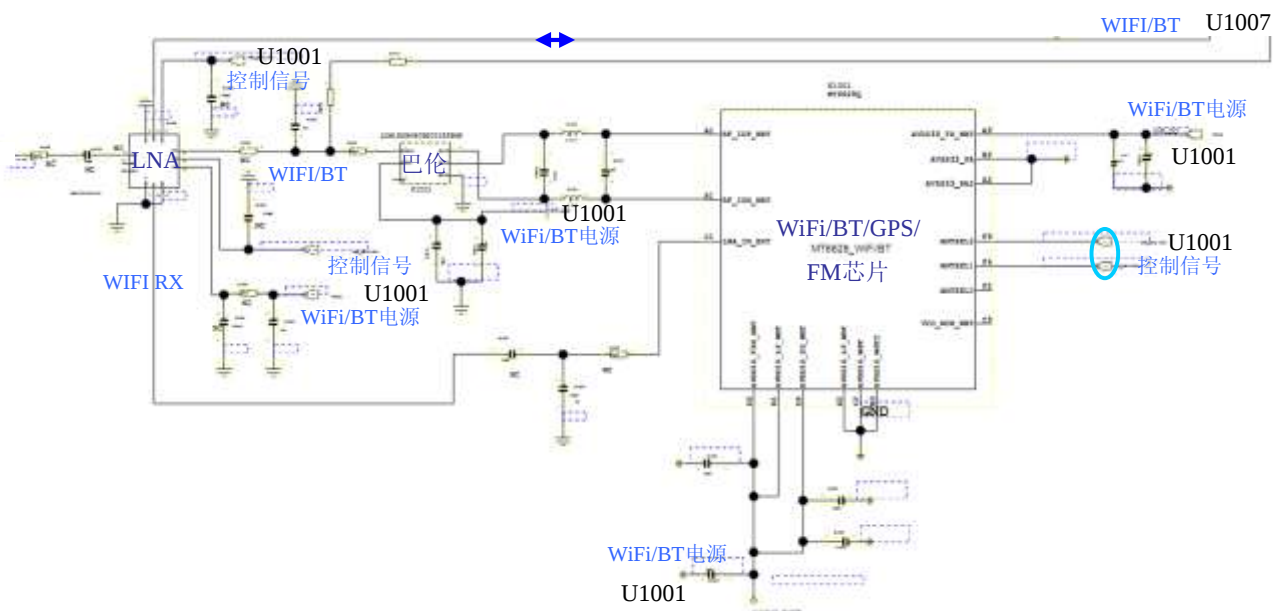
管脚	定义	描述	管脚	定义	描述
G5	DVDD	1.2V core power	A1	RF_IOP_WBT	WiFi/BT RF port
E6	DVDD	1.2V core power	B1	RF_IOP_WBT	WiFi/BT RF port
C9	DVDD	1.2V core power	D1	LNA_IN_EXT	External LNA input
G6	DVSS	Ground	A3	AVDD33_TX_WBT	WiFi/BT RF power
F7	DVSS	Ground	D2	AVDD16_TRX_WBT	WiFi/BT RF power
C10	DVSS1	Ground	D4	AVDD16_SX_WBT	WiFi/BT RF power
C8	DVDDIO	I/O power	E1	AVDD16_LF_WBT	WiFi/BT RF power
H4	DVDDIO_SDIO	SDIO I/O power	A2	AVSS33_PA	Ground
G3	PMU_EN	PMU enable	B2	AVSS33_PA	Ground
H3	PMU_DSB	Disable PMU deep sleep mode	B3	AVSS16_WBT	Ground
L1	VREF	Reference bandgap voltage	C2	AVSS16_WBT	Ground
L2	AVDD55_MISC	VBAT for internal circuit	E2	AVSS16_LF_WBT	Ground
K1	AVSS55_MISC	MISC ground	C3	VCO_MON_WBT	WiFi/BT power
G2	AVDD25_V2P5	Internal 2.5V power	A4	OSC_IN	XTAL input
J3	AVDD25_V2P5NA	Internal 2.5V power	A5	AVDD28_OSC	XTAL power
L3	LXBK	Switching node of buck	B5	AVSS28_OSC	Ground
K3	AVDD55_SMPS	Battery voltage	G8	FSOURCE_WR	eFuse power pin
J4	AVSS55_SMPS	Switching regulator ground	B8	XTEST	Test mode enable
J2	AVDD17_CLDO_IN	1.7V CLDO input	L7	SYSREST_B	External system reset active low
H1	AVDD28_TLDO_SW	Power source for TCX0	F3	ANTSEL2	ANTSEL_2:Antenna select no.2
K2	CLDO	1.2V core power LDO output	F4	ANTSEL1	ANTSEL_1:Antenna select no.1
J1	AVDD28_TLDO	2.8V TCX0 LDO output	F2	ANTSEL0	ANTSEL_0:Antenna select no.0
L4	WFLDO	3.3V WiFi LDO output	F1	RF_I_CAL	EXT_INT_N:External interrupt input from Host
H2	AUX_REF	ADC top reference voltage input	G4	OSC_EN	OSC_EN:OSC enable in clock daisy chain
L5	AVDD28_PLL	2.8V PLL power	H7	SDIO_CLK	SDIO_CLK:SDIO interface
K5	AVSS28_PLL	2.8V PLL ground	J7	SDIO_CMD	SD_CMD:SDIO interface
F10	RTCCLK	RTC 32kHz clock input	J6	SDIO_DAT3	SDIO_DAT3:SDIO interface
E10	RTCCLK_0	RTC 32kHz clock output	H5	SDIO_DAT2	SDIO_DAT2:SDIO interface

G9	VCCRTC	RTC power	J5	SDIO_DAT1	SDIO_DAT1:SDIO interface
G7	AVSSRTC	RTC ground	H6	SDIO_DAT0	SDIO_DAT0:SDIO interface
A6	AVDD16_RF_GPS	GPS RF power	F9	UART_RXD	UART_RXD:UART RX data
B6	AVSS16_HF_GPS	Ground	E8	UART_TXD	UART_TXD:UART TX data
C6	AVSS16_LF_GPS	Ground	D9	UART_RTS	UART_RTS:UART flow control
A7	RF_IN_GPS	GPS RF input	E9	UART_CTS	UART_CTS:UART flow control
C7	TEST_GPS	GPS RF test pin	A10	PCM_CLK	PCM_CLK:PCM interface clock
J10	SANT_P	Short antenna FM RF input	D10	PCM_SYNC	PCM_SYNC:PCM interface sync
H10	SALNA_IN_N_VSS	Short antenna FM RF input	B10	PCM_OUT	PCM_OUT:PCM interface output data
K10	LNA_IN_N_VSS	Long antenna FM RF input	A9	PCM_IN	PCM_IN:PCM interface input data
L10	LANT_P	Long antenna FM RF input	B9	AGPS_SYNC	SYNC:AGPS SYNC
K8	AUROUT	FM audio output	F8	I2S_CLK	I2S_CLK:FM I2S interface clock
L8	AULOUT	FM audio output	E7	I2S_WS	I2S_WS:FM I2S word select
H9	AVDD28_FM	FM power	D7	I2S_DATA_OUT	I2S_DATA_OUT:FM I2S data output
J8	AVSS28_FM	Ground	H8	WIFI_INT_B	WIFI_INT_B:WLAN host interrupt
J9	AVSS28_FM	Ground	K7	BGF_INT_B	BGF_INT_B:BT, GPS&FM host interrupt

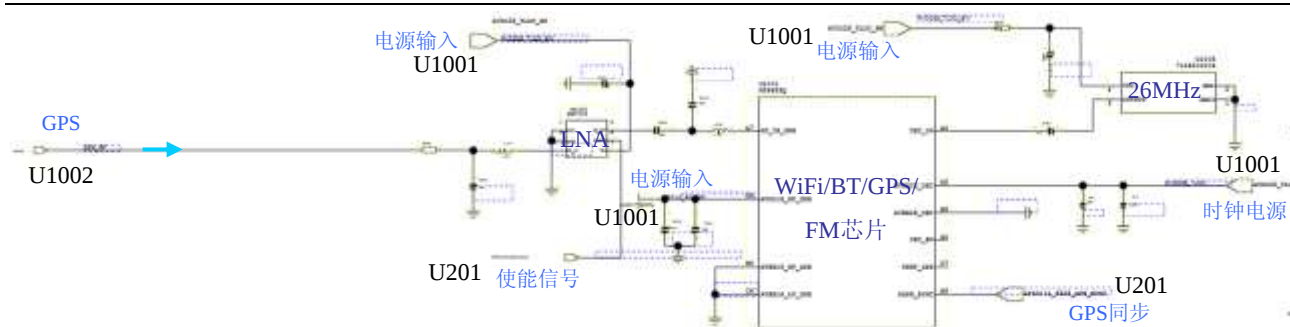
2.8.2 BT、WIFI、GPS、FM 电路



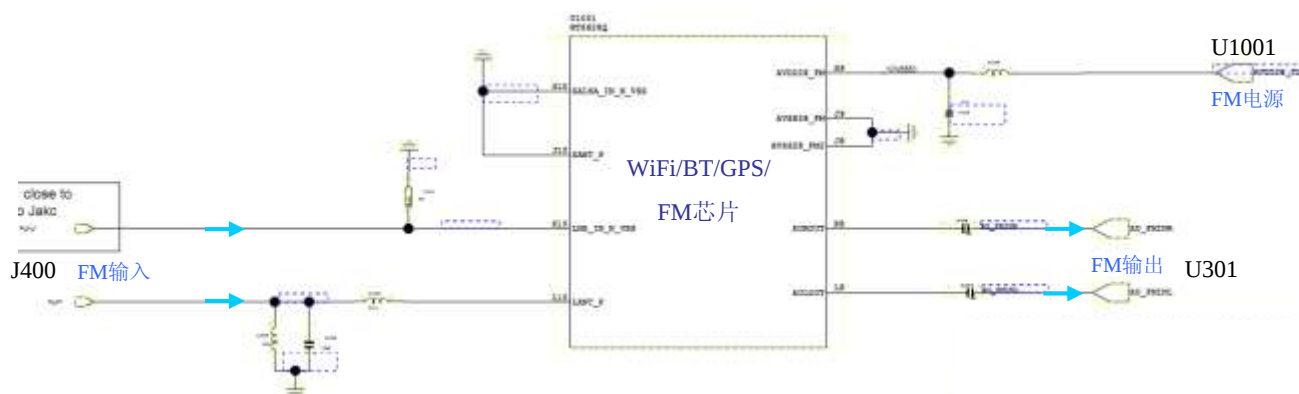
WIFI/BT/GPS天线电路 (主板)



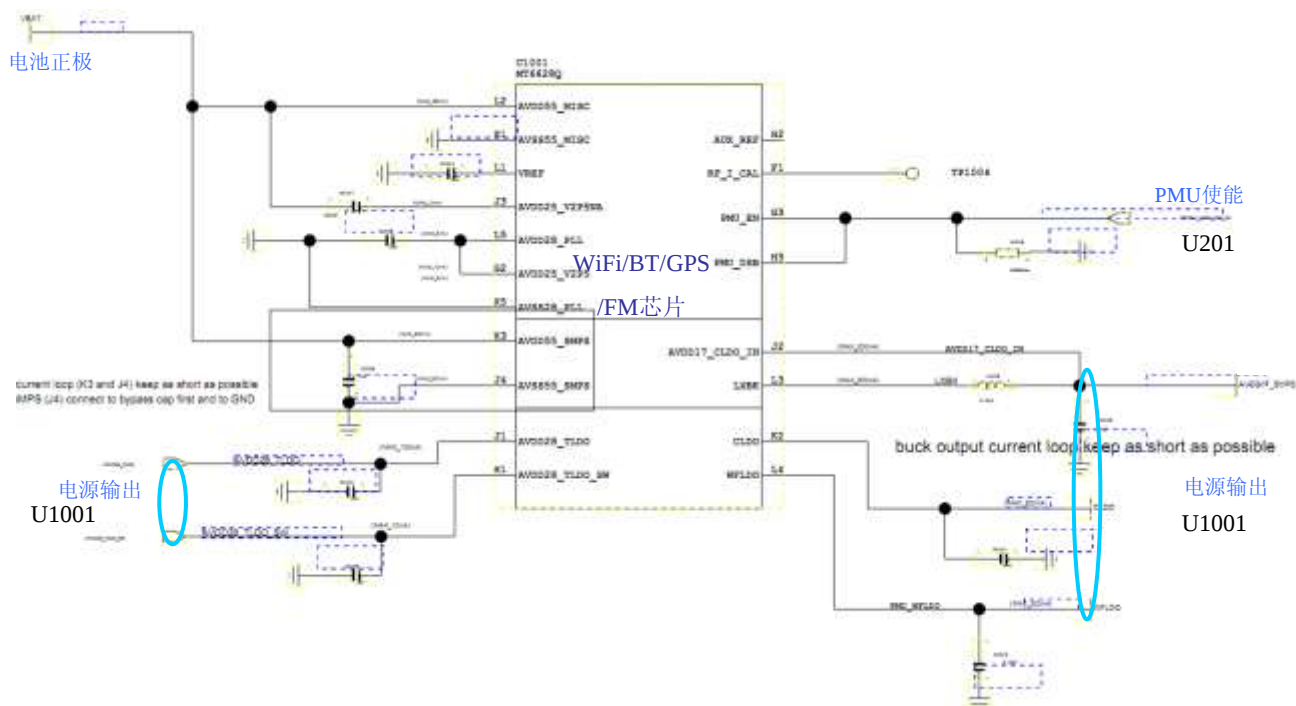
WIFI/BT电路 (主板)



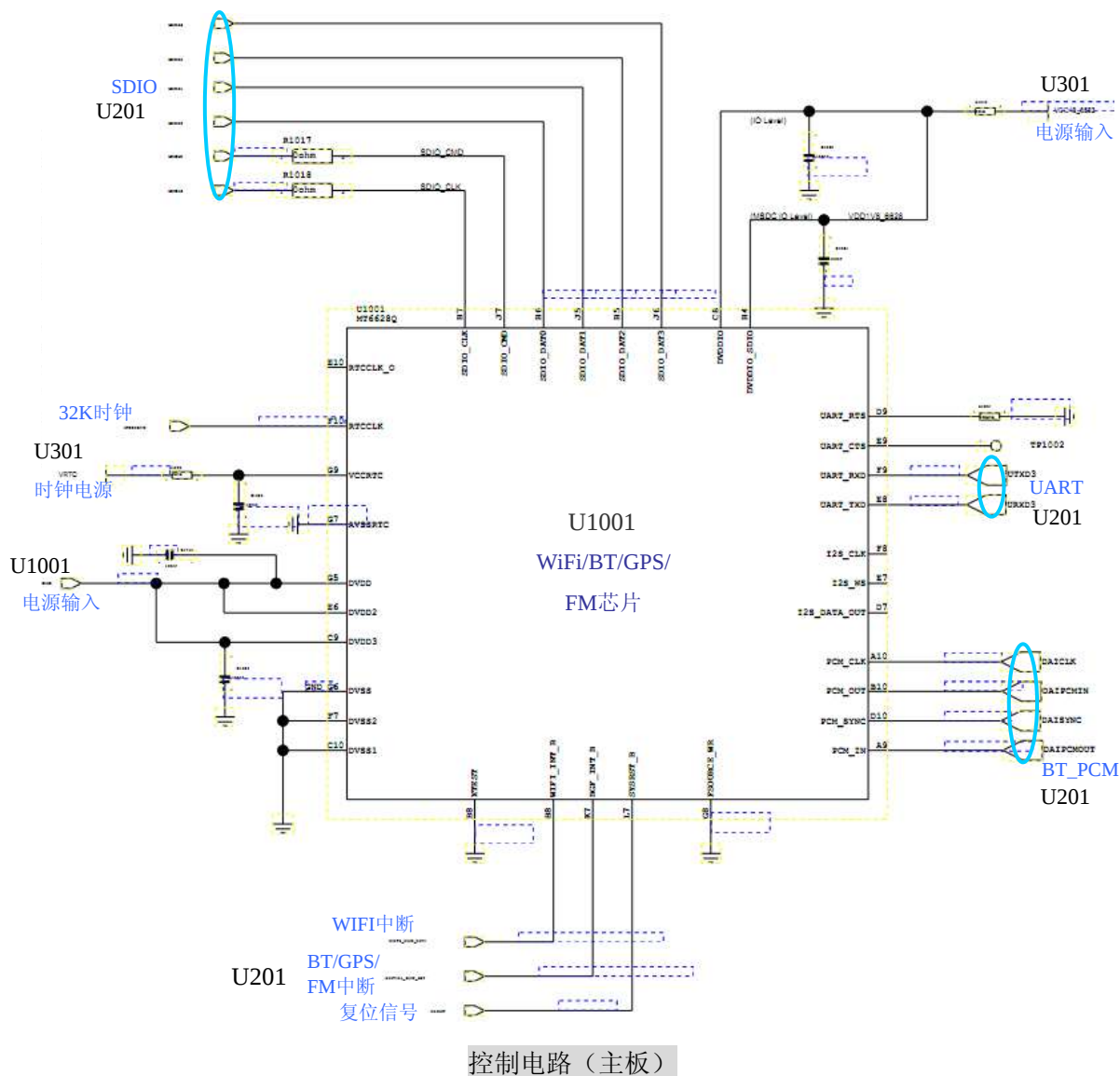
GPS电路 (主板)



FM电路 (主板)

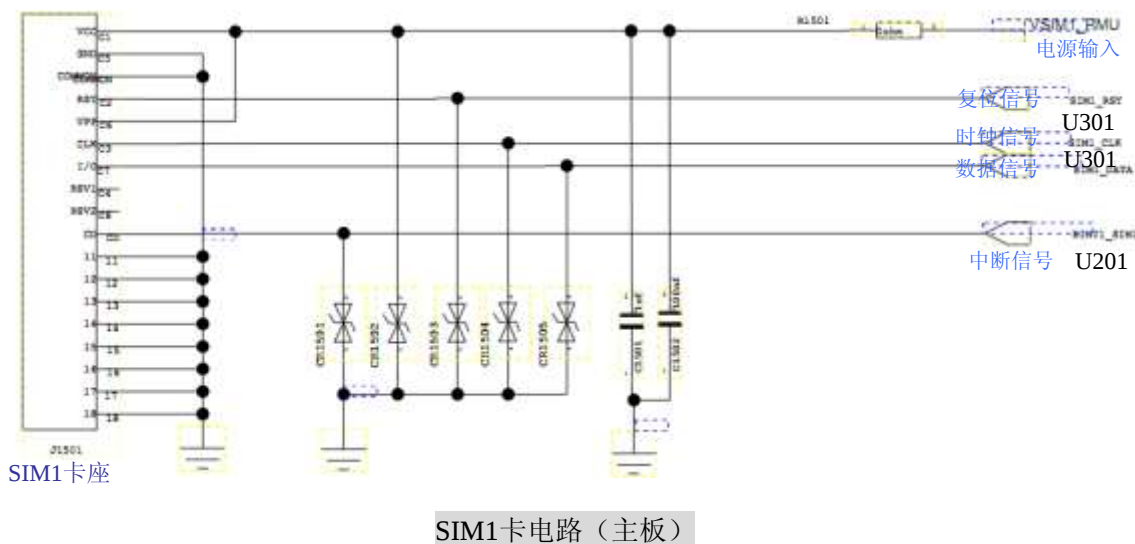


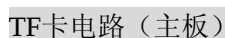
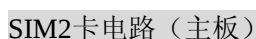
供电电路 (主板)



2.9 SIM 卡电路

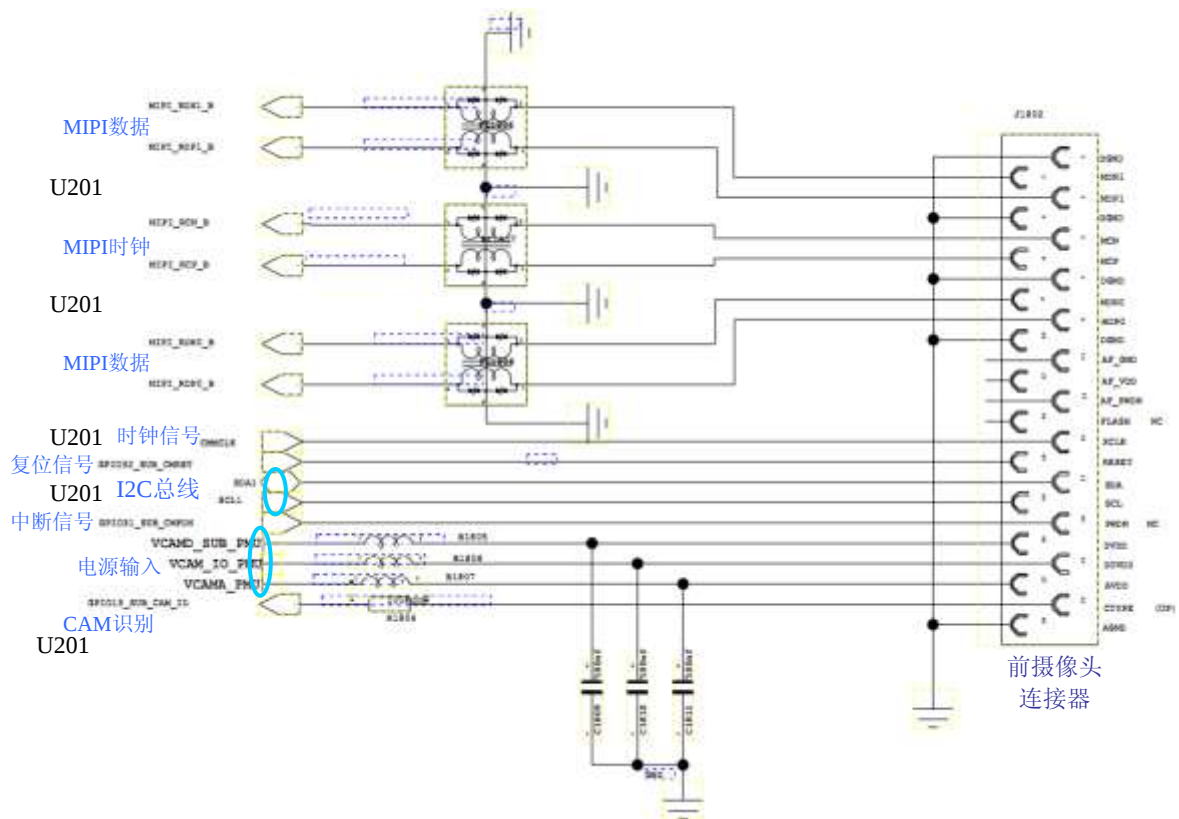
SIM卡是通过SIM卡座 (J1501、J1502) 与U301的SIM接口通信, U301再通过SIM接口与U201通信。



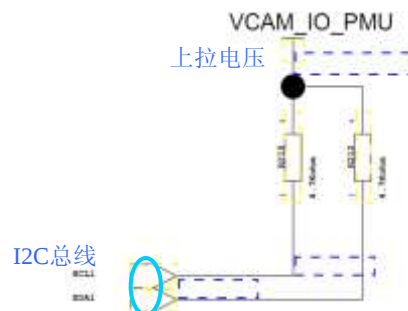


摄像电路分为2M、13M两个摄像头，供电共用有两组电压：VGP2_PMU和VCAMA_PMU。1.3M还有一组VGP5 FCAM VDD供电电压，8M还有两组VGP1 PMU、VGP3 PMU供电电压。

2.11.1 前摄像控制电路

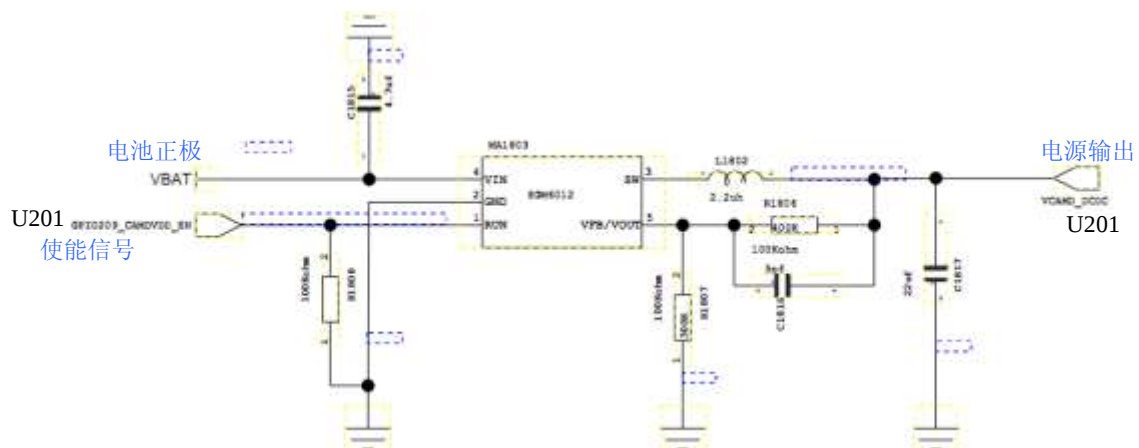


前拍照电路（主板）

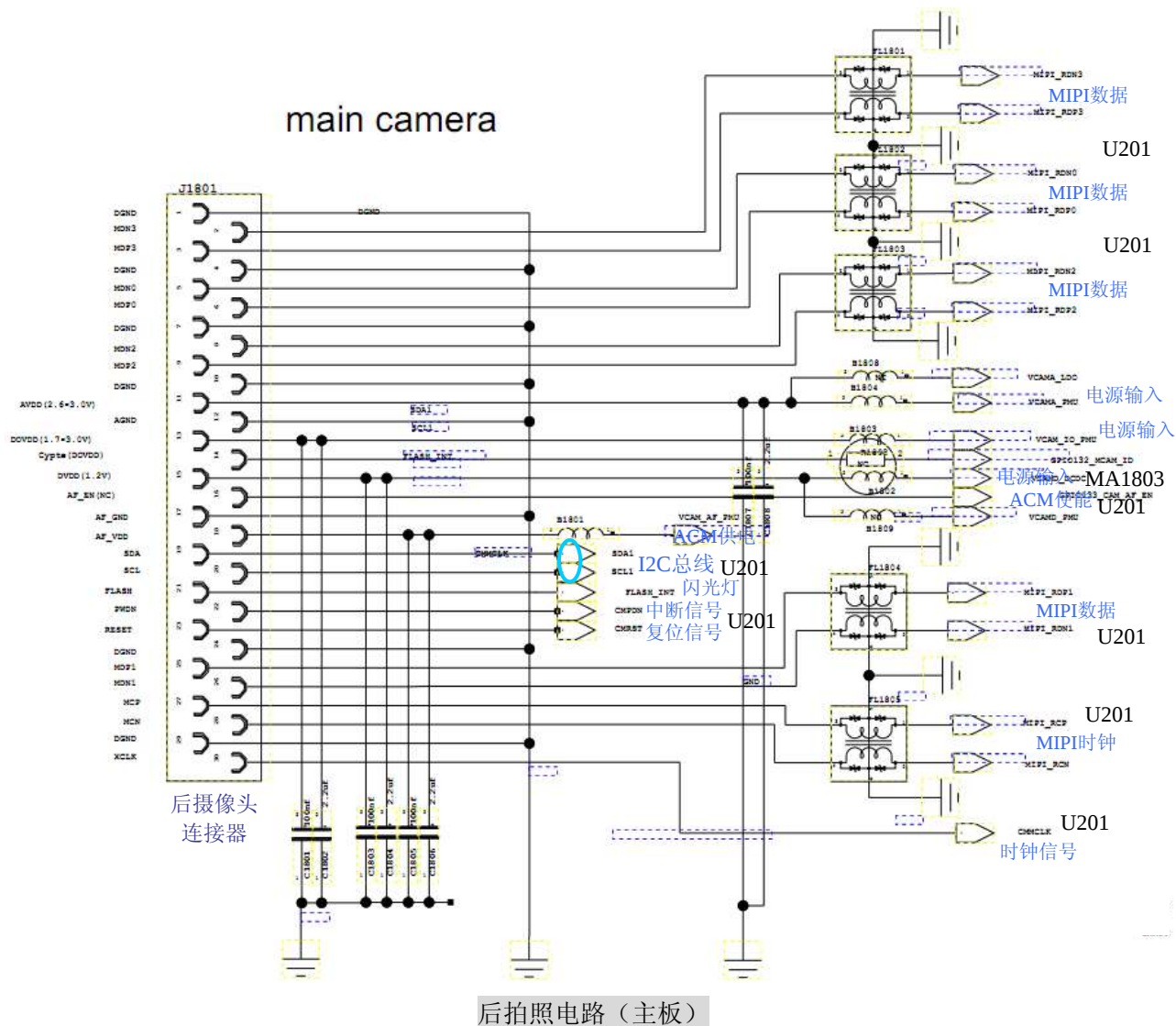


I2C电路（主板）

2.11.2 后摄像控制电路

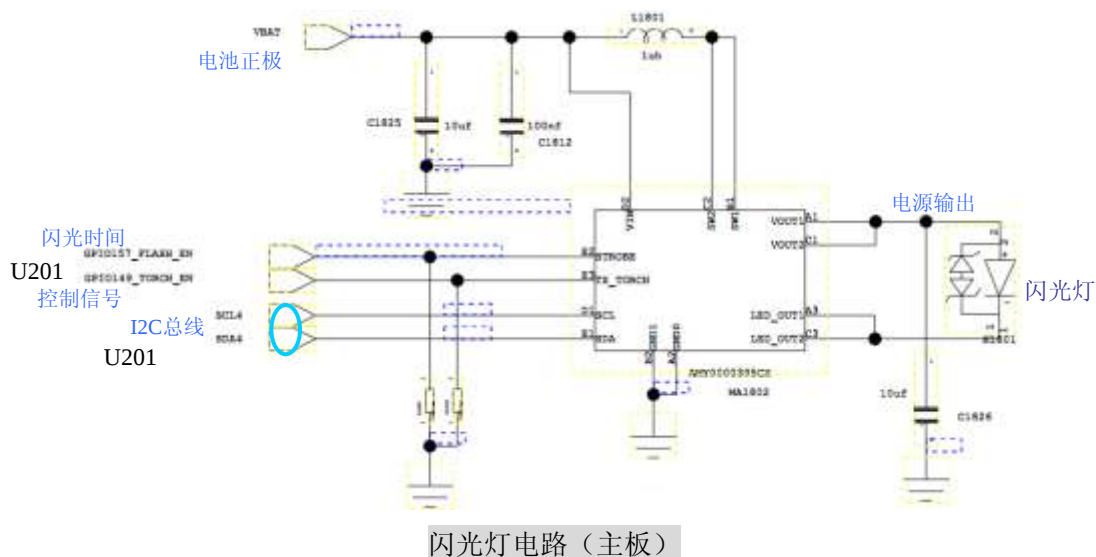


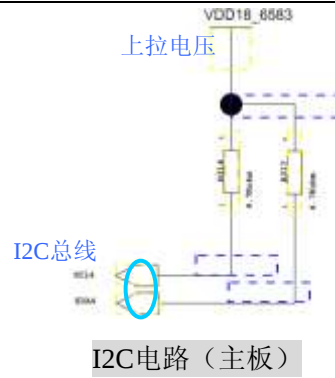
供电电路（主板）



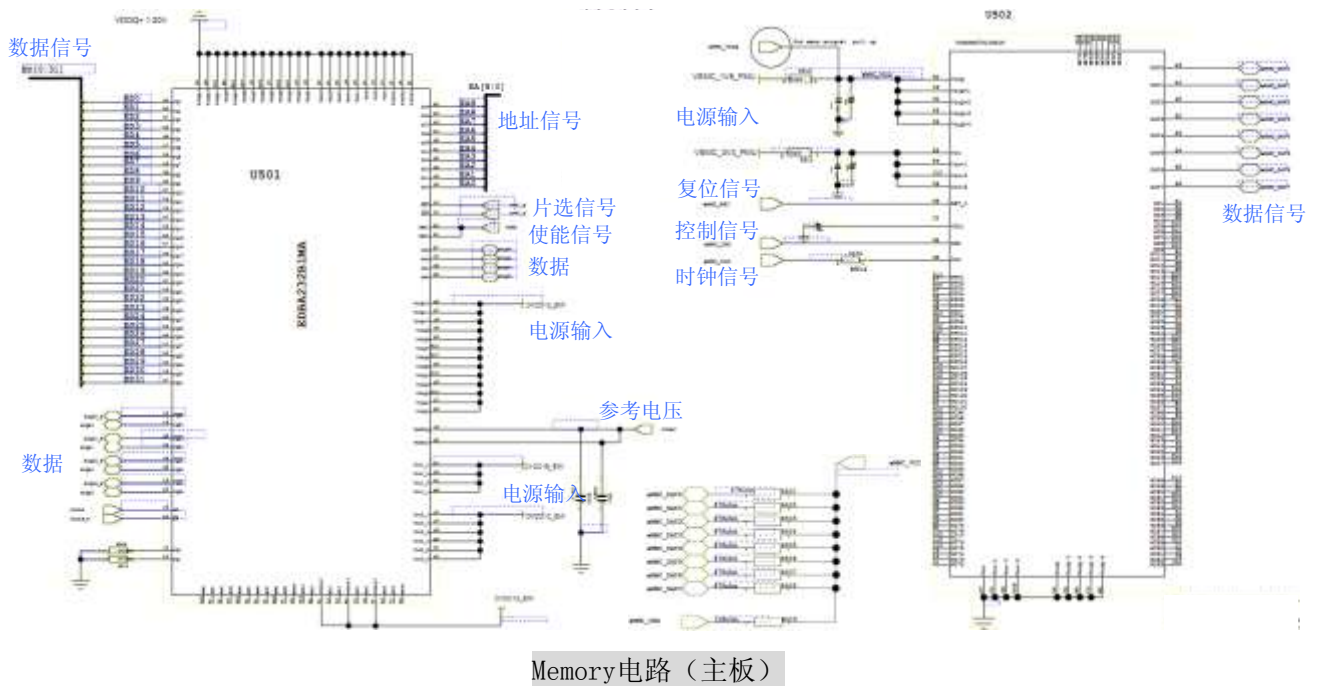
2.12 闪光灯电路

为了减少自然环境对摄像效果的影响，手机配备了内置的闪光灯，闪光灯驱动芯片使用的是AS3647芯片（MA1802）。

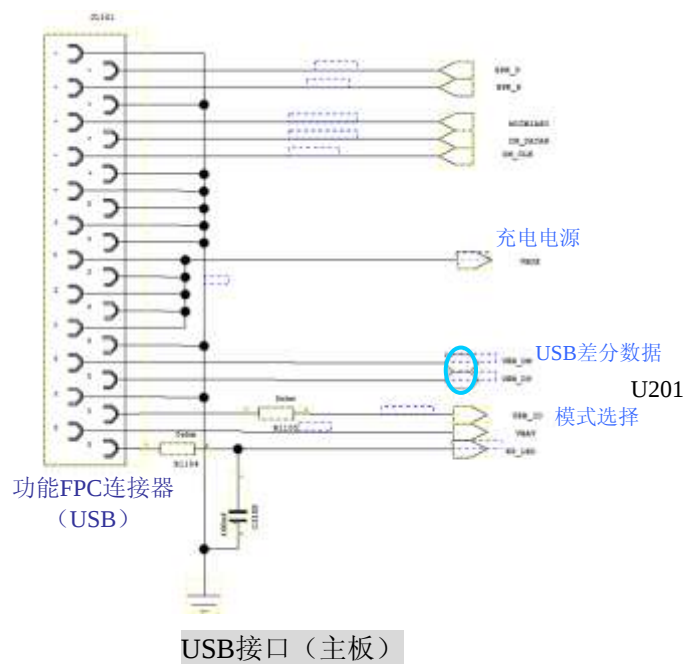




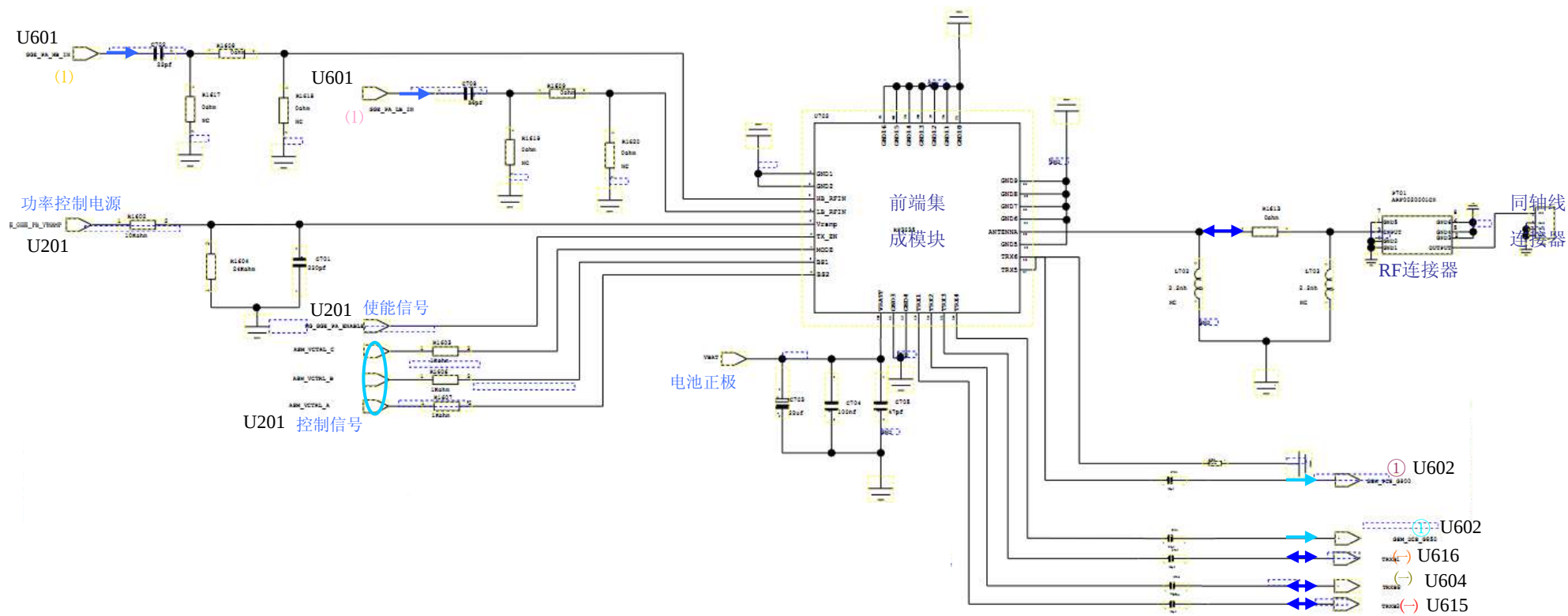
2.11 Memory 电路



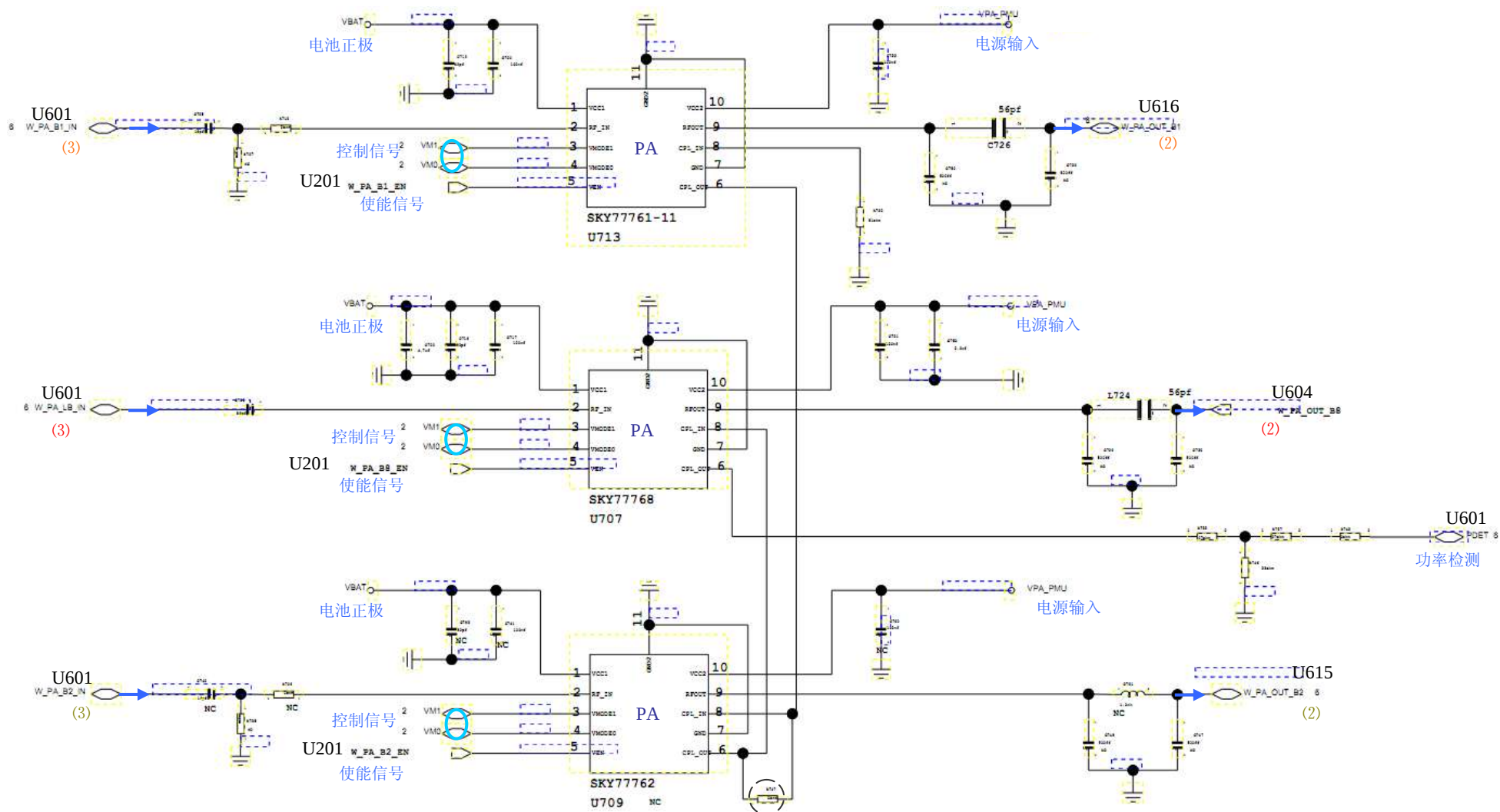
2.12 USB 接口电路

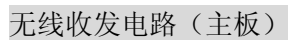


3 射频电路

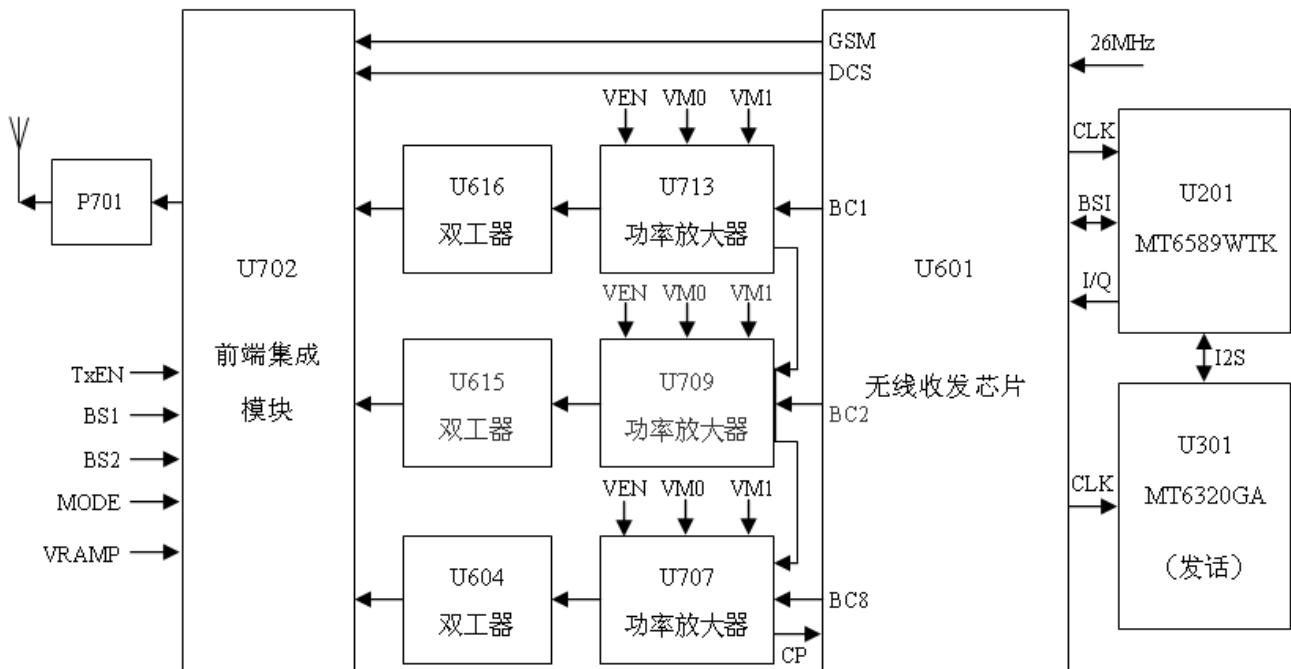


前端集成电路 (主板)





3.1 发射电路



语音信号由U301进行编码等处理后，通过I2S接口与U201通信，U201进行相应处理后，通过TX_IP（AF18脚）、TX_IN（AF17脚）、TX_QP（AF19脚）、TX_QN（AF20脚）送入U601的A8、B8、A7、B7脚，进行放大、混频、调制等处理后，分五路输出（U601-B3、B1、A1、A2、B2脚）：

一路(GSM)：直接输入U702的4脚（前端集成模块，受U201控制）进行功率放大、滤波等处理。

二路(DCS)：直接输入U702的3脚（前端集成模块，受U201控制）进行功率放大、滤波等处理。

三路(BC1)：经过U713（功率放大，受U201控制）、U616（双工器），再输入U702的15脚（前端集成模块，受U201控制）进行功率放大、滤波等处理。

四路(BC2)：经过U709（功率放大，受U201控制）、U615（双工器），再输入U702的13脚（前端集成模块，受U201控制）进行功率放大、滤波等处理。

五路(BC8)：经过U707（功率放大，受U201控制）、U604（双工器），再输入U702的14脚（前端集成模块，受U201控制）进行功率放大、滤波等处理。

U707/U709/U713工作模式

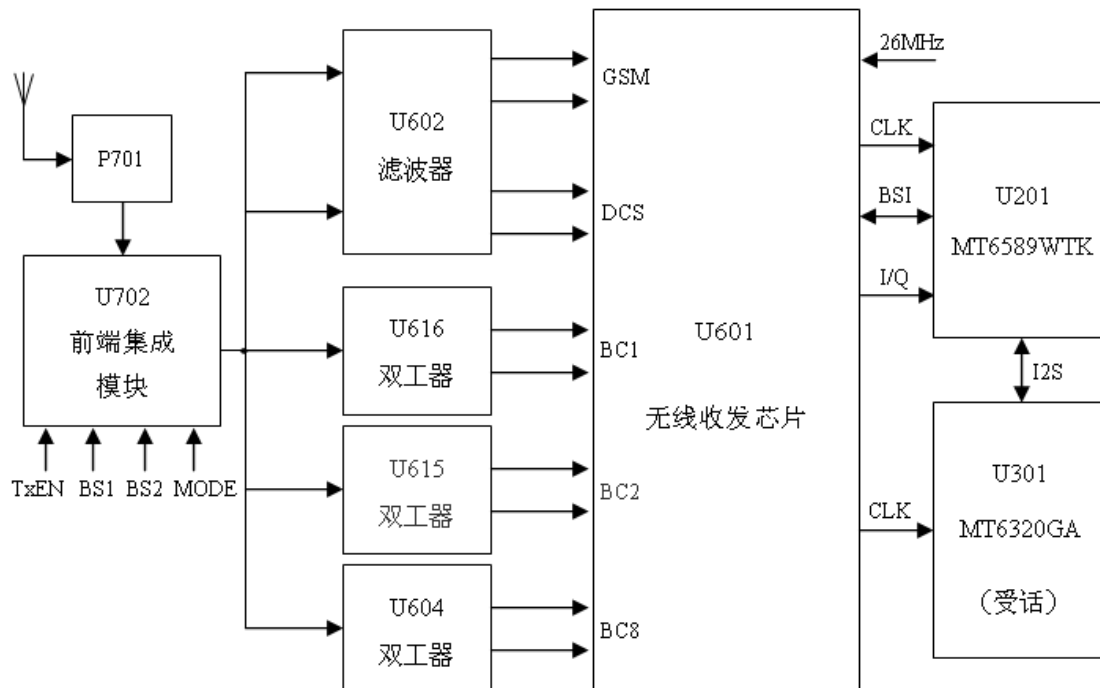
POWER MODE	VEN	VMODE0	VMODE1
Power Down	L	L	L
Standby	L	X	X
High Power	H	L	X
Medium Power	H	H	L
Low Power	H	H	H

处理后的信号，U702在U201控制下选择相应的频率通道从第20脚输出，经P701（射频连接器）、同轴线、匹配电路和天线发射出去。

U702工作模式

Mode	TXEN	MODE	BS1	BS2
Off	0	0	0	0
Low Band GMSK	1	0	1	0
High Band GMSK	1	0	0	1
WTRx1	0	1	0	0
WTRx2	0	0	1	0
WTRx3	0	0	0	1
WTRx4	0	0	1	1
WTRx5	0	1	1	0
WTRx6	0	1	0	1

3.2 接收电路



从天线接收到信号，经过匹配电路、同轴线、射频连接器（P701），从U702的20脚输入，U702在U201控制下选择相应的频率通道分五路输出（U702-16和17、15、13、14脚）：

一、二路（850/1800和900/1900）：经U602滤波处理后，把单端非均衡信号变为双端均衡信号，分两路输出，分别从F2、E2和E1、D1脚输入U601。

三路（BC1）：经U616滤波处理后，把单端非均衡信号变为双端均衡信号，从G1、G2脚输入U601。

四路（BC2）：经U615滤波处理后，把单端非均衡信号变为双端均衡信号，从E1、D1脚输入U601。

五路（BC8）：经U604滤波处理后，把单端非均衡信号变为双端均衡信号，从K1、J2脚输入U601。

信号经U601放大、解调等处理后，通过RX_IP（L8脚）、RX_IN（K7脚）、RX_QP（L6脚）、RX_QN（K6脚）送入U201的AJ16、AH16、AH18、AH17脚进行相应处理后，通过I2S接口与U301通信，U301进行解码等处理后，经受话器将电信号转化为语音信号，驱动受话器发声。

4 主要芯片管脚构造

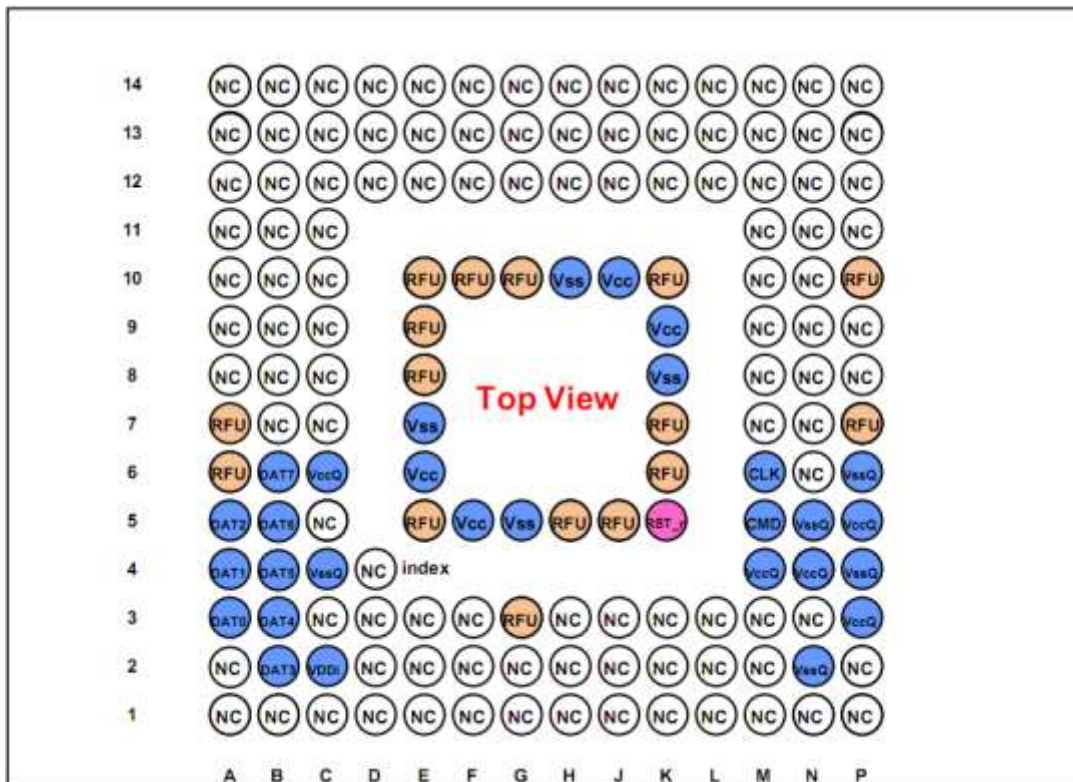
U301管脚构造 (TOP)

4.3 U501 管脚构造

134Ball FBGA										
	1	2	3	4	5	6	7	8	9	10
A	DNU	DNU	NB	NB	NB	NB	NB	NB	DNU	DNU
B	DNU	NC	NC	NB	VDDQ	VDDQ	DQ31	DQ29	DQ26	DNU
C	VDD1	VSS	ZQ1	NB	VSS	VSSQ	VDDQ	DQ25	VSSQ	VDDQ
D	VSS	VDD2	ZQ0	NB	VDDQ	DQ30	DQ27	DQS3	DQS3	VSSQ
E	VSSCA	CA9	CA8	NB	DQ28	DQ24	DM3	DQ15	VDDQ	VSSQ
F	VDDCA	CA6	CA7	NB	VSSQ	DQ11	DQ13	DQ14	DQ12	VDDQ
G	VDD2	CA5	VREFCA	NB	DQS1	DQS1	DQ10	DQ9	DQ8	VSSQ
H	VDDCA	VSS	CK	NB	DM1	VDDQ	NB	NB	NB	NB
J	VSSCA	NC	CK	NB	VSSQ	VDDQ	VDD2	VSS	VREFDQ	NB
K	CKE0	CKE1	NC	NB	DM0	VDDQ	NB	NB	NB	NB
L	CS0	CS1	NC	NB	DQS0	DQS0	DQ5	DQ6	DQ7	VSSQ
M	CA4	CA3	CA2	NB	VSSQ	DQ4	DQ2	DQ1	DQ3	VDDQ
N	VSSCA	VDDCA	CA1	NB	DQ19	DQ23	DM2	DQ0	VDDQ	VSSQ
P	VSS	VDD2	CA0	NB	VDDQ	DQ17	DQ20	DQS2	DQS2	VSSQ
R	VDD1	VSS	NC	NB	VSS	VSSQ	VDDQ	DQ22	VSSQ	VDDQ
T	DNU	NC	NC	NB	VDD2	VDD1	DQ16	DQ18	DQ21	DNU
U	DNU	DNU	NB	NB	NB	NB	NB	NB	DNU	DNU

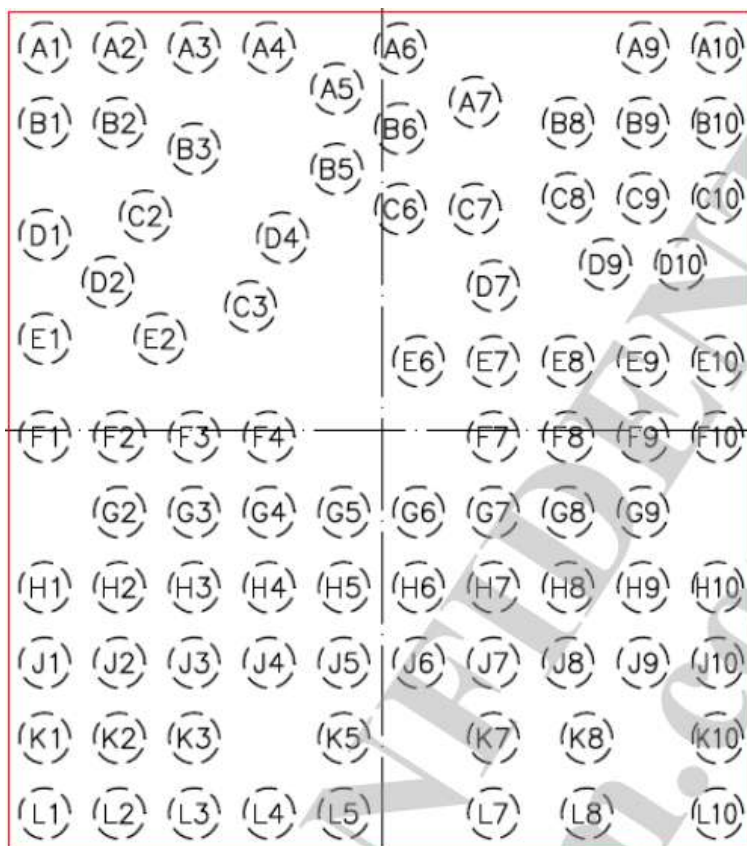
U501管脚构造（TOP）

4.4 U502 管脚构造



U502管脚构造（TOP）

4.5 U1001 管脚构造



U1001管脚构造（TOP）

4.6 U601 管脚构造

	1	2	3	4	5	6	7	8	9	10	11	
A	TX_HB2	TX_HB3		VTXHF	TMEA5		TX_BBQP	TX_BBIP		DCX0_32KH	DCX0_32K	A
B	TX_HB1	TX_LB1	TX_LB2	RCAL	DET	V28	TX_BBQN	TX_BBIN	VLF2	EN_BB	TST2	B
C	TXO_GND		TXO_GND	GND	DET_GND	GND	GND	GND	GND	VLF1		C
D	LNA_1N	GND	GND	GND	GND	TXBP11		BSI_EN	GND	CLK4	CLK1	D
E	LNA_1P	LNA_2N	GND	GND				BSI_CK	GND	CLK2		E
F		LNA_2P	GND	GND	GND	GND		BSI_DATA0	GND	CLK3	XTAL2	F
G	LNA_3N	LNA_3P	GND	GND	GND	GND		BSI_DATA1	GND	XTAL1		G
H	LNA_4N	LNA_4P	GND	GND	GND			BSI_DATA2	GND	XMODE	VTCX028	H
J		LNA_5P	GND	GND	GND	GND	GND	GND	GND	VXODIG	CLK_SEL	J
K	LNA_5N	LNA_D1N	LNA_D2N	LNA_D3N	VRXHF	RX_BBQN	RX_BBIN	TST1	RXD_BBIN	RXD_BBIP	VIO18	K
L	LNA_D1P		LNA_D2P	LNA_D3P		RX_BBQP		RX_BBIP		RXD_BBQN	RXD_BBQP	L
	1	2	3	4	5	6	7	8	9	10	11	

U601管脚构造（TOP）

5 常见故障维修思路

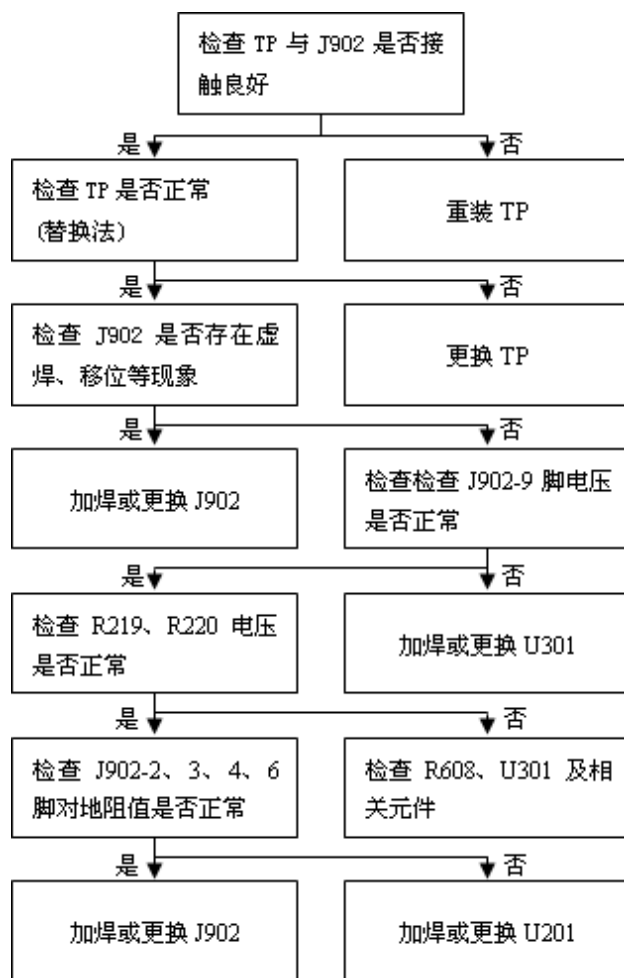
5.1 无显示



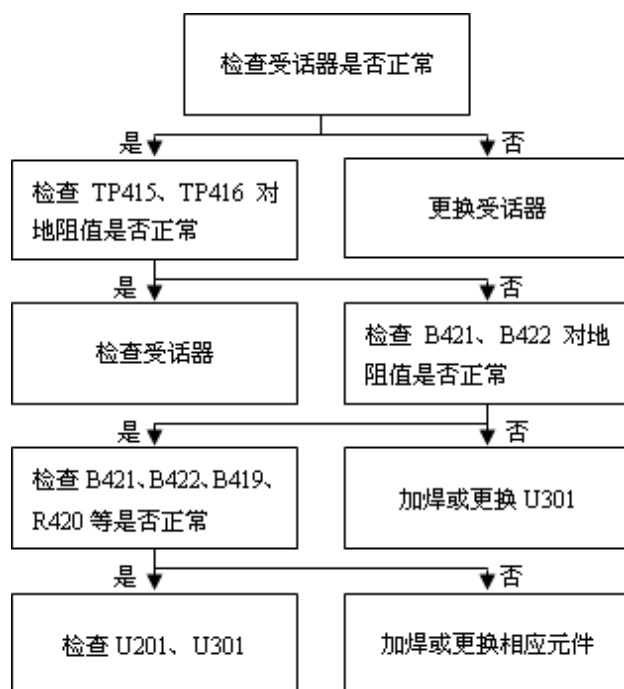
5.2 无背光



5.3 触摸屏无效

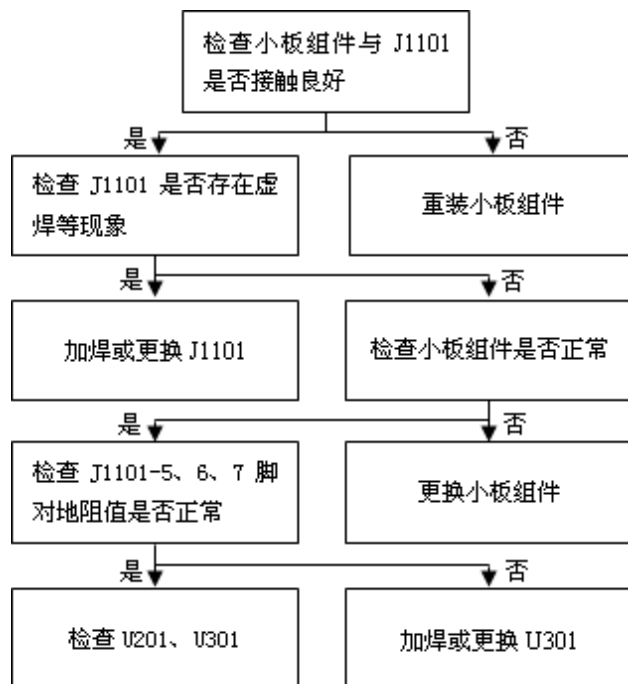


5.4 无受话

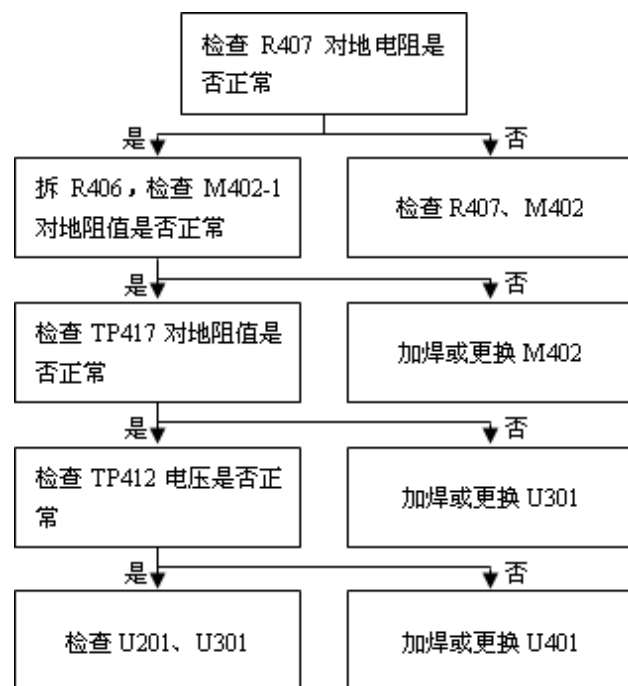


5.5 无发话

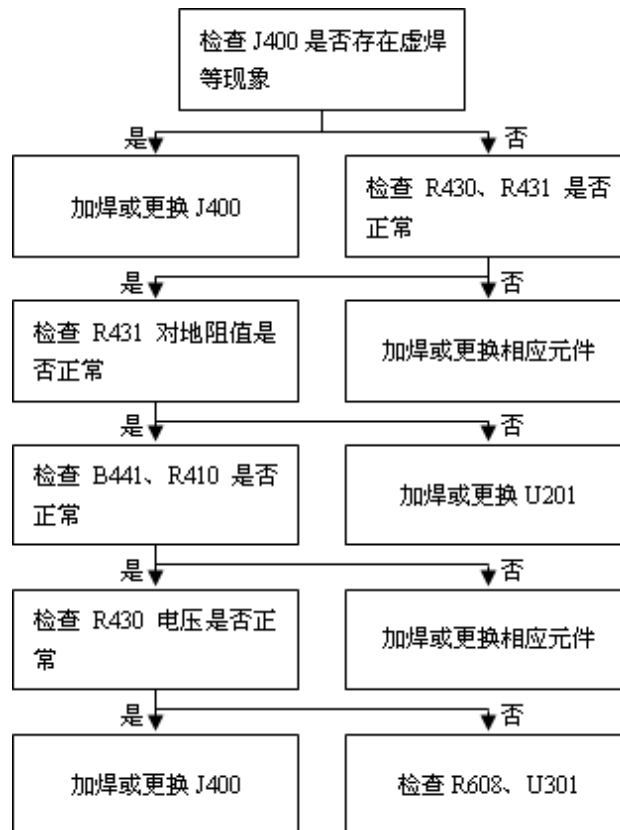
5.5.1 主咪头无发话



5.5.2 副咪头无发话



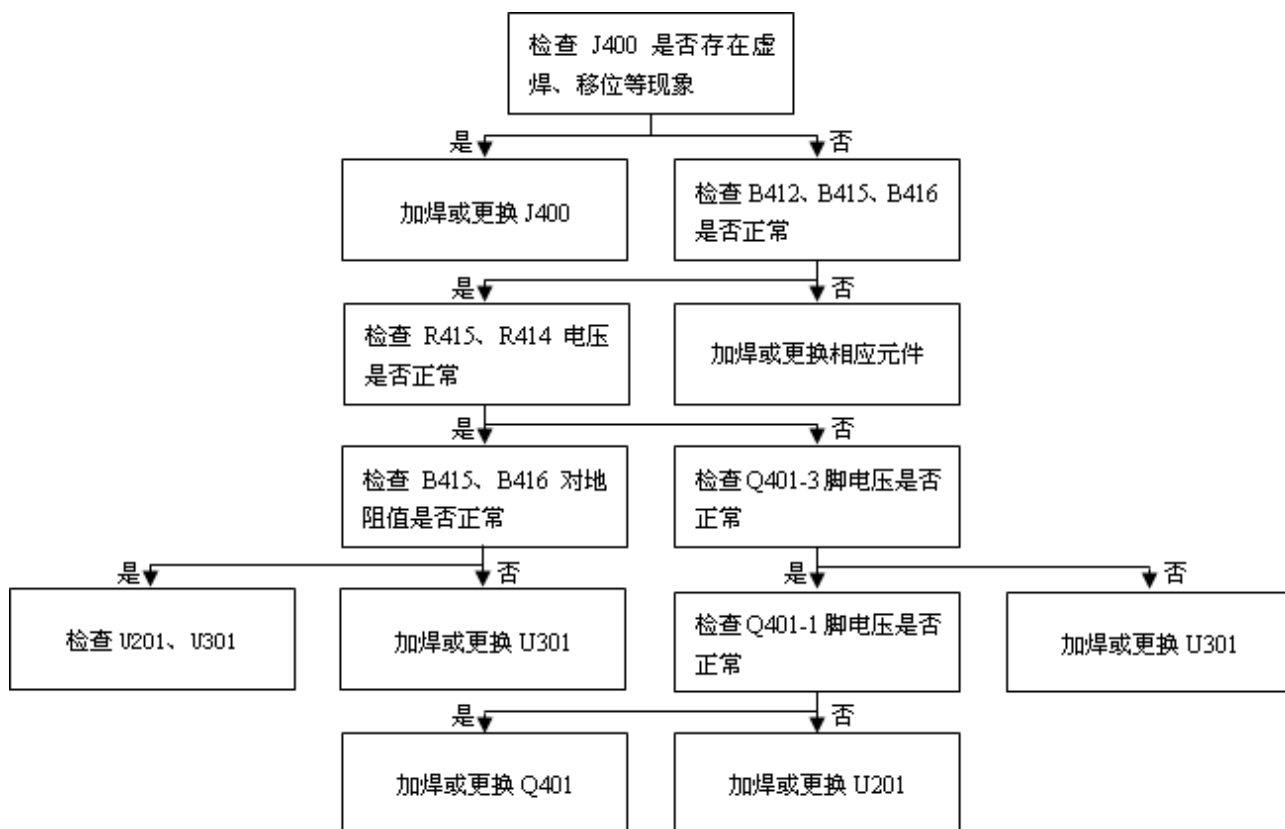
5.6 无耳机功能



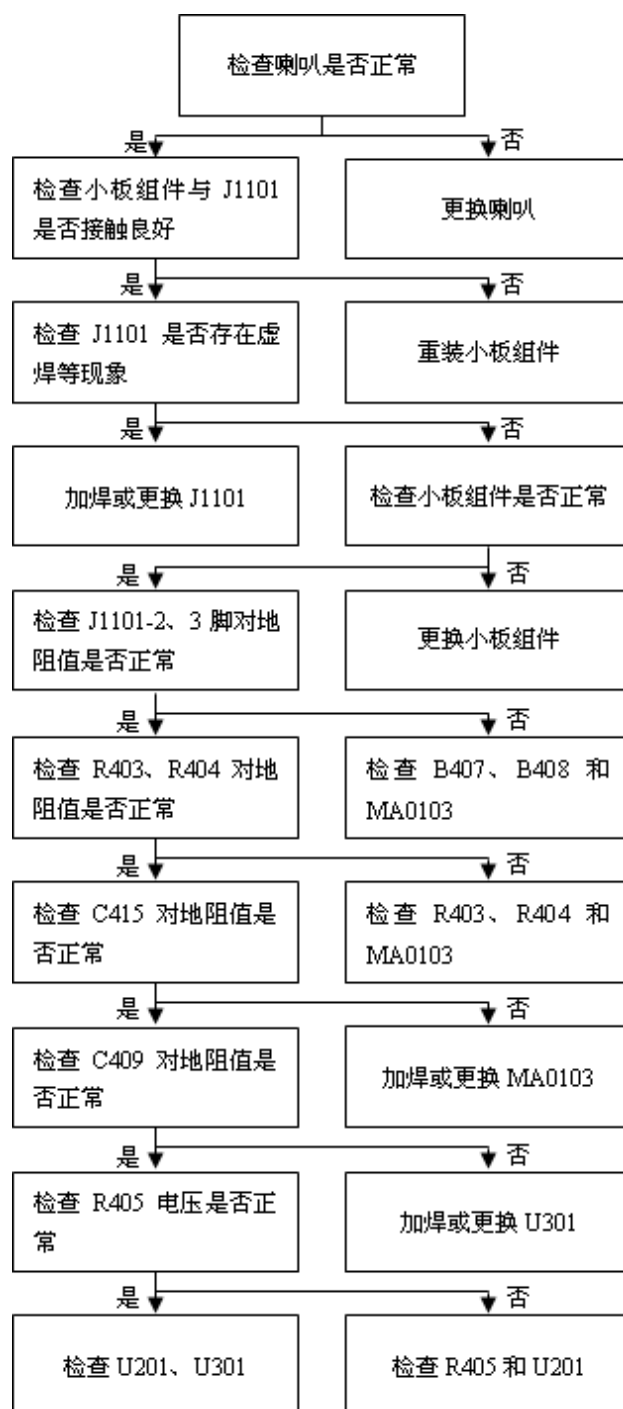
5.7 耳机无受话



5.8 耳机无发话

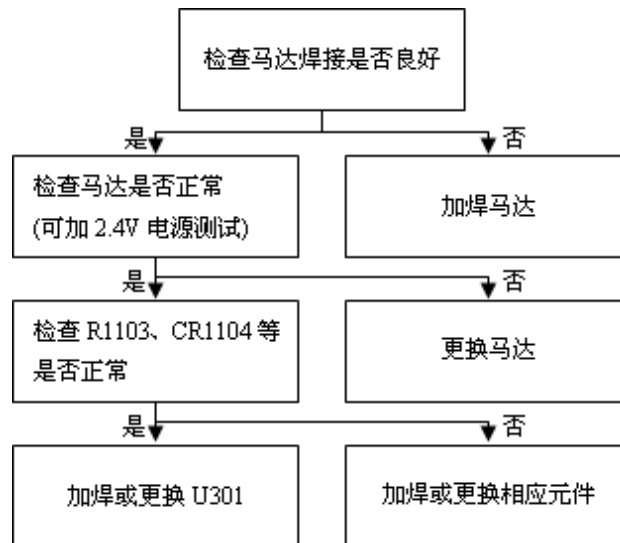


5.9 无铃声

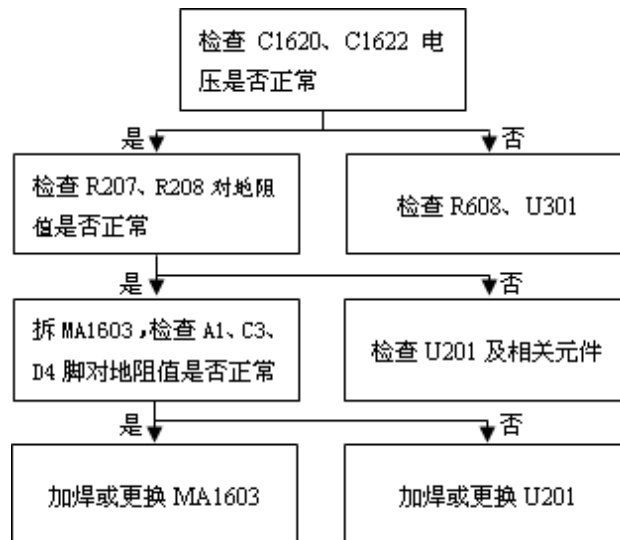




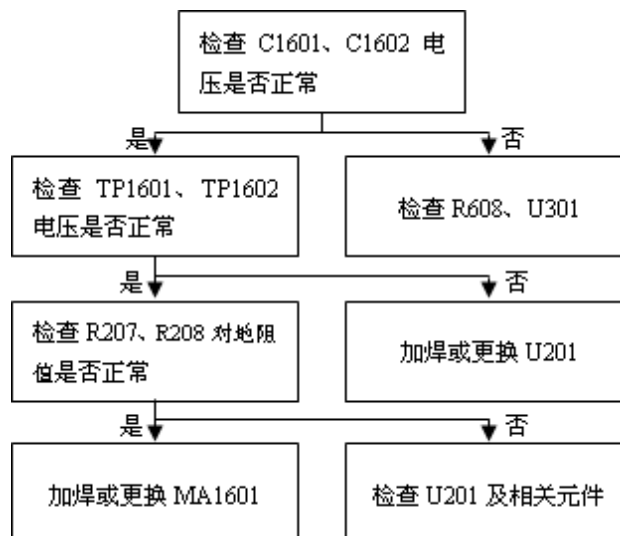
5.10 无振动



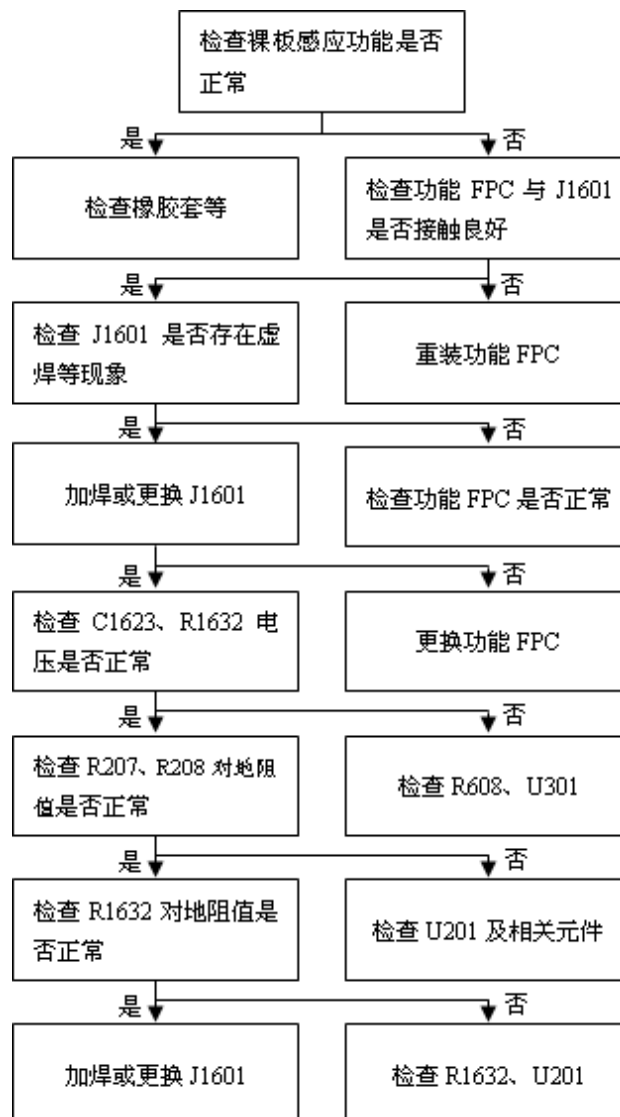
5.11 无指南针



5.12 无传感功能

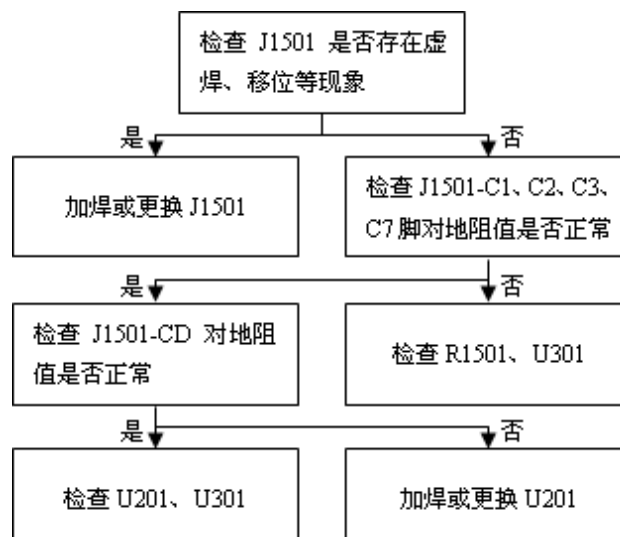


5.13 无距离感应功能

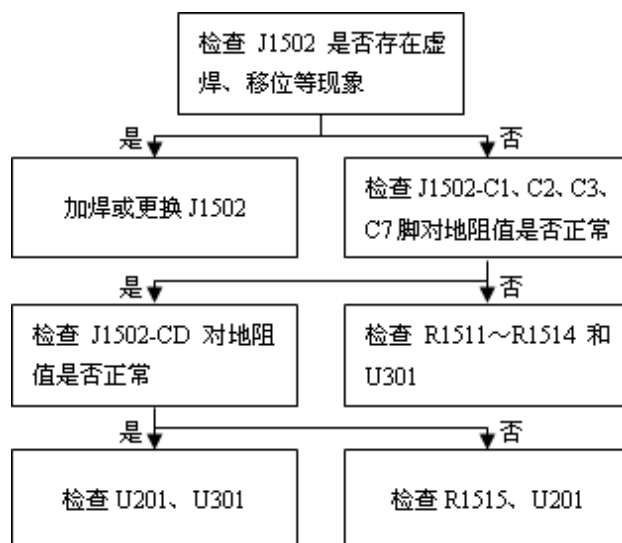


5.14 不识 SIM 卡

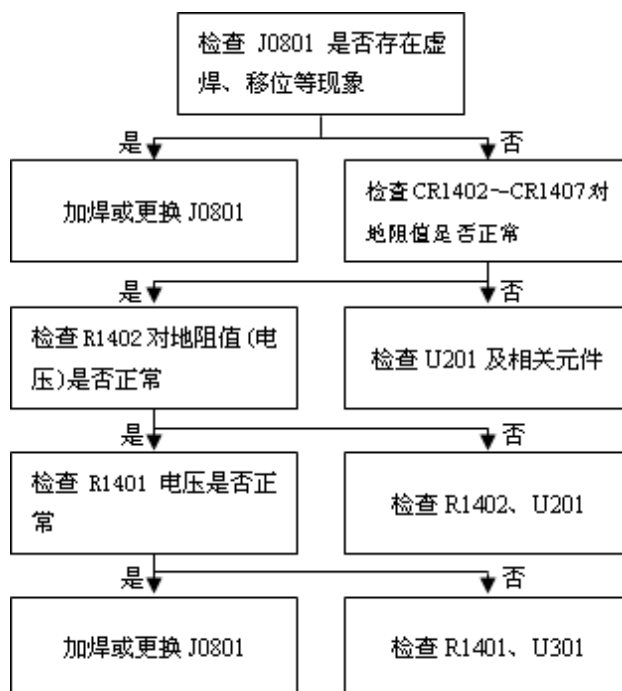
5.14.1 不识 SIM1 卡



5.14.1 不识SIM2卡



5.15 不识TF卡

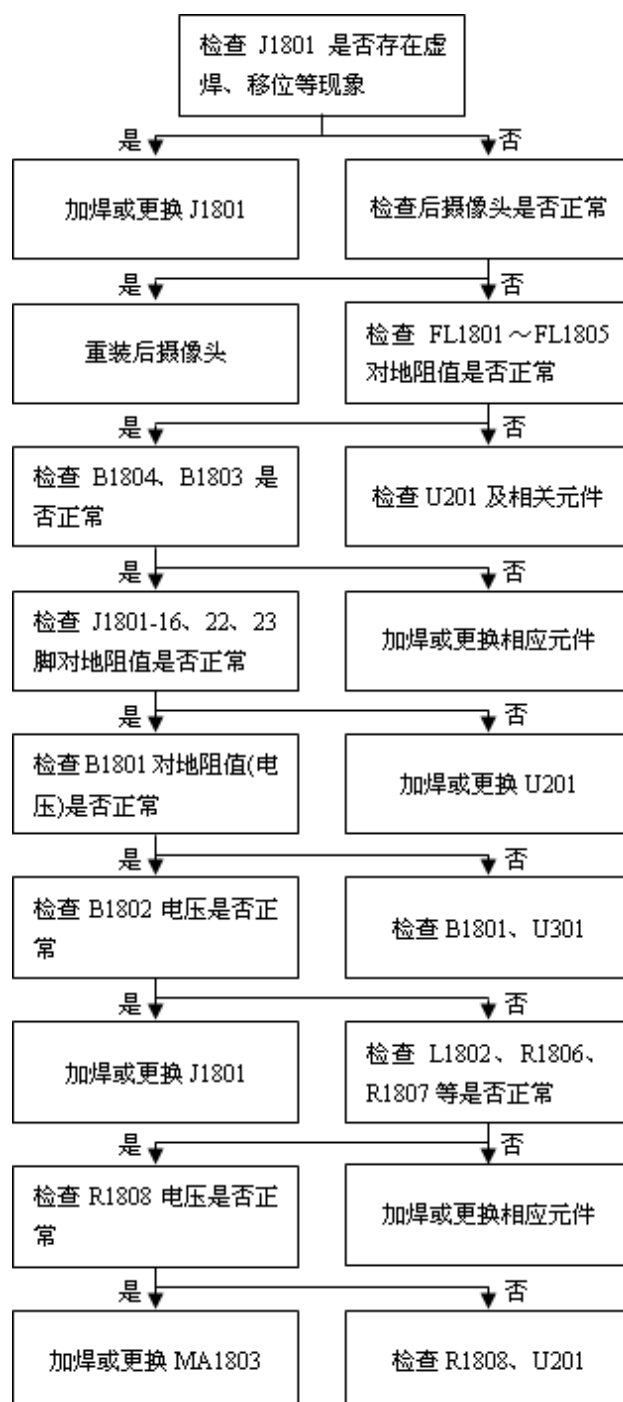


5.16 拍照不良

5.16.1 前拍照不良



5.16.2 后拍照不良



5.16.3 前后拍照不良

