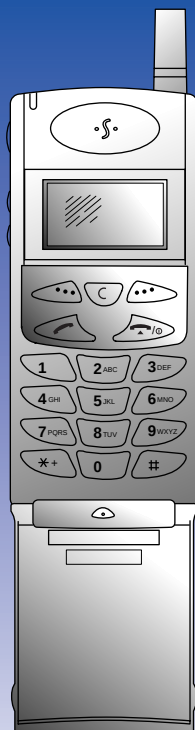


**SAMSUNG**

# DUAL BAND Mobile Cellular Phone SGH-2200

# ***SERVICE*** *Manual*

## DUAL BAND Mobile Cellular Phone



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1. Exectrical Parts List
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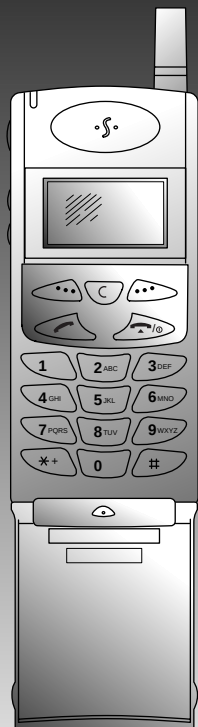


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# DUAL BAND Mobile Cellular Phone SGH-2200

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# 1. Exectrical Parts List

| Design LOC | Q | DESCRIPTION                          | SEC         | REMARK |
|------------|---|--------------------------------------|-------------|--------|
| ZD2        | 1 | DIODE-SWITCHING,MCL4154              | 0401-001033 |        |
| ZD8        | 1 | DIODE-ZENER,UDZ6.8B                  | 0403-001172 |        |
| D4         | 1 | DIODE-SCHOTTKY,PRLL5819              | 0404-001005 |        |
| ZD1        | 1 | DIODE-SCHOTTKY,UPS5817               | 0404-001044 |        |
| ZD9        | 1 | DIODE-SCHOTTKY,UPS5817               | 0404-001044 |        |
| ZD12       | 1 | DIODE-TVS,SM05                       | 0406-001005 |        |
| ZD3        | 1 | DIODE-TVS,SM12                       | 0406-001012 |        |
| ZD10       | 1 | DIODE-TVS,SMS05C                     | 0406-001051 |        |
| ZD5        | 1 | DIODE-TVS,SMF05                      | 0406-001084 |        |
| ZD6        | 1 | DIODE-TVS,SMF05                      | 0406-001084 |        |
| ZD7        | 1 | DIODE-TVS,SMF05                      | 0406-001084 |        |
| ZD8        | 1 | DIODE-TVS,SMF05                      | 0406-001084 |        |
| D5         | 1 | DIODE-ARRAY,DAN222                   | 0407-001002 |        |
| D6         | 1 | DIODE-ARRAY,DAN222                   | 0407-001002 |        |
| D1         | 1 | DIODE-ARRAY,DA221                    | 0407-001006 |        |
| D2         | 1 | DIODE-ARRAY,UMN1                     | 0407-001007 |        |
| Q3         | 1 | TR-SMALL SIGNAL,2SC4081              | 0501-000218 |        |
| Q4         | 1 | TR-SMALL SIGNAL,2SD2114K             | 0501-002011 |        |
| Q7         | 1 | TR-SMALL SIGNAL,2SD2114K             | 0501-002011 |        |
| Q10        | 1 | TR-SMALL SIGNAL,BFP420               | 0501-002096 |        |
| Q9         | 1 | TR-SMALL SIGNAL,BFP520               | 0501-002226 |        |
| Q14        | 1 | TR-DIGITAL,DTC144EE                  | 0504-000168 |        |
| Q15        | 1 | TR-DIGITAL,DTC144EE                  | 0504-000168 |        |
| Q16        | 1 | TR-DIGITAL,DTC144EE                  | 0504-000168 |        |
| Q5         | 1 | TR-DIGITAL,DTC114YE                  | 0504-001012 |        |
| Q8         | 1 | TR-DIGITAL,DTC114YE                  | 0504-001012 |        |
| U32        | 1 | TR-ARRAY,UMZ1N                       | 0506-000151 |        |
| U7         | 1 | TR-ARRAY,UMC5NTL                     | 0506-001004 |        |
| LED1       | 1 | LED,CHIP,Y/GRN                       | 0601-000276 |        |
| U31        | 1 | IC-CMOS LOGIC,7W74FU                 | 0801-002001 |        |
| U39        | 1 | IC-CMOS LOGIC,7W74FU                 | 0801-002001 |        |
| U34        | 1 | IC-CMOS LOGIC,7W126FU                | 0801-002315 |        |
| U33        | 1 | IC-CMOS LOGIC,7W08FU                 | 0801-002397 |        |
| U38        | 1 | IC-CMOS LOGIC,7W08FU                 | 0801-002397 |        |
| U8         | 1 | IC-EEPROM,24LC128                    | 1103-001090 |        |
| U4         | 1 | IC-SRAM,KM616U4110                   | 1106-001274 |        |
| U6         | 1 | IC-FLASH MEMORY,MBM29LV160B          | 1107-001158 |        |
| U27        | 1 | IC-POWER AMP,PF01411                 | 1201-001299 |        |
| U30        | 1 | IC-POWER AMP,PF0414B                 | 1201-001411 |        |
| U19        | 1 | IC-OP AMP,MAX4040                    | 1201-001425 |        |
| U16        | 1 | IC-POS.FIXED REG.,LP2980AIM5X-3.3    | 1203-001305 |        |
| U13        | 1 | IC-VOLTAGE REGULATOR,LP2981AIM5X-3.0 | 1203-001454 |        |
| U9         | 1 | IC-RESET,MAX809REUR-T                | 1203-001511 |        |
| U44        | 1 | IC-BATTERY,LT1510-5CGN               | 1203-001515 |        |
| U14        | 1 | IC-VOLTAGE REGULATOR,LP2982AIM5X-3.0 | 1203-001701 |        |

| Design LOC | Q | DESCRIPTION                               | SEC         | REMARK |
|------------|---|-------------------------------------------|-------------|--------|
| U15        | 1 | IC-VOLTAGE REGULATOR,LP2982AIM5X-3.0      | 1203-001701 |        |
| U17        | 1 | IC-VOLTAGE REGULATOR,LP2982AIM5X-3.0      | 1203-001701 |        |
| U18        | 1 | IC-VOLTAGE REGULATOR,LP2982AIM5X-3.0      | 1203-001701 |        |
| U20        | 1 | IC-VOLTAGE REGULATOR,LP2982AIM5X-3.0      | 1203-001701 |        |
| U12        | 1 | IC-DC/DC CONVERTER,MAX1676                | 1203-001702 |        |
| U36        | 1 | IC-DC/DC CONVERTER,LTC1555CGN             | 1203-001740 |        |
| U2         | 1 | IC-DATA COMM.,AD6421AST                   | 1205-001645 |        |
| U10        | 1 | IC-COMM. CONTROLLER,AD6426XST             | 1205-001646 |        |
| U26        | 1 | IC-TRANSCEIVER,HD155121F                  | 1205-001653 |        |
| U24        | 1 | IC-SYNTHESIZER,LMX2336LTMX                | 1209-001161 |        |
| U23        | 1 | IC-ETC, LINEAR,HD155171T                  | 1209-001208 |        |
| TH1        | 1 | THERMISTOR-NTC,47Kohm,5%,4050K,2.0mW/C,TP | 1404-001005 |        |
| V1         | 1 | VARISTOR.5.6V,-,1.6x0.8mm,TP              | 1405-001019 |        |
| V2         | 1 | VARISTOR.5.6V,-,1.6x0.8mm,TP              | 1405-001019 |        |
| V3         | 1 | VARISTOR.5.6V,-,1.6x0.8mm,TP              | 1405-001019 |        |
| R142       | 1 | R-CHIP,100ohm,5%,1/16W,DA,TP,1005         | 2007-000138 |        |
| R143       | 1 | R-CHIP,100ohm,5%,1/16W,DA,TP,1005         | 2007-000138 |        |
| R225       | 1 | R-CHIP,100ohm,5%,1/16W,DA,TP,1005         | 2007-000138 |        |
| R26        | 1 | R-CHIP,100ohm,5%,1/16W,DA,TP,1005         | 2007-000138 |        |
| R261       | 1 | R-CHIP,100ohm,5%,1/16W,DA,TP,1005         | 2007-000138 |        |
| R301       | 1 | R-CHIP,100ohm,5%,1/16W,DA,TP,1005         | 2007-000138 |        |
| R61        | 1 | R-CHIP,100ohm,5%,1/16W,DA,TP,1005         | 2007-000138 |        |
| R62        | 1 | R-CHIP,100ohm,5%,1/16W,DA,TP,1005         | 2007-000138 |        |
| R63        | 1 | R-CHIP,100ohm,5%,1/16W,DA,TP,1005         | 2007-000138 |        |
| R66        | 1 | R-CHIP,100ohm,5%,1/16W,DA,TP,1005         | 2007-000138 |        |
| R67        | 1 | R-CHIP,100ohm,5%,1/16W,DA,TP,1005         | 2007-000138 |        |
| R68        | 1 | R-CHIP,100ohm,5%,1/16W,DA,TP,1005         | 2007-000138 |        |
| R69        | 1 | R-CHIP,100ohm,5%,1/16W,DA,TP,1005         | 2007-000138 |        |
| R73        | 1 | R-CHIP,220ohm,5%,1/16W,DA,TP,1005         | 2007-000139 |        |
| R74        | 1 | R-CHIP,220ohm,5%,1/16W,DA,TP,1005         | 2007-000139 |        |
| R104       | 1 | R-CHIP,1Kohm,5%,1/16W,DA,TP,1005          | 2007-000140 |        |
| R18        | 1 | R-CHIP,1Kohm,5%,1/16W,DA,TP,1005          | 2007-000140 |        |
| R268       | 1 | R-CHIP,1Kohm,5%,1/16W,DA,TP,1005          | 2007-000140 |        |
| R269       | 1 | R-CHIP,1Kohm,5%,1/16W,DA,TP,1005          | 2007-000140 |        |
| R272       | 1 | R-CHIP,1Kohm,5%,1/16W,DA,TP,1005          | 2007-000140 |        |
| R78        | 1 | R-CHIP,1Kohm,5%,1/16W,DA,TP,1005          | 2007-000140 |        |
| R81        | 1 | R-CHIP,1Kohm,5%,1/16W,DA,TP,1005          | 2007-000140 |        |
| R83        | 1 | R-CHIP,1Kohm,5%,1/16W,DA,TP,1005          | 2007-000140 |        |
| R84        | 1 | R-CHIP,1Kohm,5%,1/16W,DA,TP,1005          | 2007-000140 |        |
| R85        | 1 | R-CHIP,1Kohm,5%,1/16W,DA,TP,1005          | 2007-000140 |        |
| R86        | 1 | R-CHIP,1Kohm,5%,1/16W,DA,TP,1005          | 2007-000140 |        |
| R87        | 1 | R-CHIP,1Kohm,5%,1/16W,DA,TP,1005          | 2007-000140 |        |
| R113       | 1 | R-CHIP,2.2Kohm,5%,1/16W,DA,TP,1005        | 2007-000141 |        |
| R31        | 1 | R-CHIP,2.2Kohm,5%,1/16W,DA,TP,1005        | 2007-000141 |        |
| R32        | 1 | R-CHIP,2.2Kohm,5%,1/16W,DA,TP,1005        | 2007-000141 |        |
| R43        | 1 | R-CHIP,2.2Kohm,5%,1/16W,DA,TP,1005        | 2007-000141 |        |

| Design LOC | Q | DESCRIPTION                        | SEC         | REMARK |
|------------|---|------------------------------------|-------------|--------|
| R90        | 1 | R-CHIP,2.2Kohm,5%,1/16W,DA,TP,1005 | 2007-000141 |        |
| R105       | 1 | R-CHIP,2.7Kohm,5%,1/16W,DA,TP,1005 | 2007-000142 |        |
| R130       | 1 | R-CHIP,4.7Kohm,5%,1/16W,DA,TP,1005 | 2007-000143 |        |
| R21        | 1 | R-CHIP,4.7Kohm,5%,1/16W,DA,TP,1005 | 2007-000143 |        |
| R22        | 1 | R-CHIP,4.7Kohm,5%,1/16W,DA,TP,1005 | 2007-000143 |        |
| R23        | 1 | R-CHIP,4.7Kohm,5%,1/16W,DA,TP,1005 | 2007-000143 |        |
| R24        | 1 | R-CHIP,4.7Kohm,5%,1/16W,DA,TP,1005 | 2007-000143 |        |
| R27        | 1 | R-CHIP,4.7Kohm,5%,1/16W,DA,TP,1005 | 2007-000143 |        |
| R71        | 1 | R-CHIP,4.7Kohm,5%,1/16W,DA,TP,1005 | 2007-000143 |        |
| R72        | 1 | R-CHIP,4.7Kohm,5%,1/16W,DA,TP,1005 | 2007-000143 |        |
| R89        | 1 | R-CHIP,4.7Kohm,5%,1/16W,DA,TP,1005 | 2007-000143 |        |
| R79        | 1 | R-CHIP,8.2Kohm,5%,1/16W,DA,TP,1005 | 2007-000147 |        |
| R101       | 1 | R-CHIP,10Kohm,5%,1/16W,DA,TP,1005  | 2007-000148 |        |
| R306       | 1 | R-CHIP,10Kohm,5%,1/16W,DA,TP,1005  | 2007-000148 |        |
| R307       | 1 | R-CHIP,10Kohm,5%,1/16W,DA,TP,1005  | 2007-000148 |        |
| R128       | 1 | R-CHIP,15Kohm,5%,1/16W,DA,TP,1005  | 2007-000151 |        |
| R283       | 1 | R-CHIP,47Kohm,5%,1/16W,DA,TP,1005  | 2007-000157 |        |
| R44        | 1 | R-CHIP,47Kohm,5%,1/16W,DA,TP,1005  | 2007-000157 |        |
| R168       | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R231       | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R232       | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R233       | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R235       | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R239       | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R240       | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R242       | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R25        | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R28        | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R282       | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R29        | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R302       | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R305       | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R40        | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R41        | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R42        | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R46        | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R47        | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R88        | 1 | R-CHIP,100Kohm,5%,1/16W,DA,TP,1005 | 2007-000162 |        |
| R132       | 1 | R-CHIP,0ohm,5%,1/16W,DA,TP,1005    | 2007-000171 |        |
| R292       | 1 | R-CHIP,0ohm,5%,1/16W,DA,TP,1005    | 2007-000171 |        |
| R299       | 1 | R-CHIP,0ohm,5%,1/16W,DA,TP,1005    | 2007-000171 |        |
| R300       | 1 | R-CHIP,0ohm,5%,1/16W,DA,TP,1005    | 2007-000171 |        |
| R304       | 1 | R-CHIP,0ohm,5%,1/16W,DA,TP,1005    | 2007-000171 |        |
| R48        | 1 | R-CHIP,0ohm,5%,1/16W,DA,TP,1005    | 2007-000171 |        |
| R93        | 1 | R-CHIP,0ohm,5%,1/16W,DA,TP,1005    | 2007-000171 |        |
| R94        | 1 | R-CHIP,0ohm,5%,1/16W,DA,TP,1005    | 2007-000171 |        |

| Design LOC | Q | DESCRIPTION                        | SEC         | REMARK |
|------------|---|------------------------------------|-------------|--------|
| R95        | 1 | R-CHIP,0ohm,5%,1/16W,DA,TP,1005    | 2007-000171 |        |
| R102       | 1 | R-CHIP,10ohm,5%,1/16W,DA,TP,1005   | 2007-000172 |        |
| R118       | 1 | R-CHIP,10ohm,5%,1/16W,DA,TP,1005   | 2007-000172 |        |
| R119       | 1 | R-CHIP,10ohm,5%,1/16W,DA,TP,1005   | 2007-000172 |        |
| R120       | 1 | R-CHIP,10ohm,5%,1/16W,DA,TP,1005   | 2007-000172 |        |
| R121       | 1 | R-CHIP,10ohm,5%,1/16W,DA,TP,1005   | 2007-000172 |        |
| R122       | 1 | R-CHIP,10ohm,5%,1/16W,DA,TP,1005   | 2007-000172 |        |
| R123       | 1 | R-CHIP,10ohm,5%,1/16W,DA,TP,1005   | 2007-000172 |        |
| R124       | 1 | R-CHIP,10ohm,5%,1/16W,DA,TP,1005   | 2007-000172 |        |
| R125       | 1 | R-CHIP,10ohm,5%,1/16W,DA,TP,1005   | 2007-000172 |        |
| R247       | 1 | R-CHIP,10ohm,5%,1/16W,DA,TP,1005   | 2007-000172 |        |
| R259       | 1 | R-CHIP,10ohm,5%,1/16W,DA,TP,1005   | 2007-000172 |        |
| R263       | 1 | R-CHIP,10ohm,5%,1/16W,DA,TP,1005   | 2007-000172 |        |
| R264       | 1 | R-CHIP,22ohm,5%,1/16W,DA,TP,1005   | 2007-000173 |        |
| R265       | 1 | R-CHIP,22ohm,5%,1/16W,DA,TP,1005   | 2007-000173 |        |
| R116       | 1 | R-CHIP,47ohm,5%,1/16W,DA,TP,1005   | 2007-000174 |        |
| R117       | 1 | R-CHIP,47ohm,5%,1/16W,DA,TP,1005   | 2007-000174 |        |
| R169       | 1 | R-CHIP,10Mohm,5%,1/16W,DA,TP,1608  | 2007-000305 |        |
| R290       | 1 | R-CHIP,470ohm,5%,1/16W,DA,TP,1005  | 2007-000932 |        |
| R291       | 1 | R-CHIP,470ohm,5%,1/16W,DA,TP,1005  | 2007-000932 |        |
| R141       | 1 | R-CHIP,82ohm,5%,1/16W,DA,TP,1005   | 2007-001217 |        |
| R134       | 1 | R-CHIP,18ohm,5%,1/16W,DA,TP,1005   | 2007-001288 |        |
| R135       | 1 | R-CHIP,18ohm,5%,1/16W,DA,TP,1005   | 2007-001288 |        |
| R136       | 1 | R-CHIP,18ohm,5%,1/16W,DA,TP,1005   | 2007-001288 |        |
| R137       | 1 | R-CHIP,18ohm,5%,1/16W,DA,TP,1005   | 2007-001288 |        |
| R266       | 1 | R-CHIP,33ohm,5%,1/16W,DA,TP,1005   | 2007-001292 |        |
| R129       | 1 | R-CHIP,51ohm,5%,1/16W,DA,TP,1005   | 2007-001298 |        |
| R160       | 1 | R-CHIP,51ohm,5%,1/16W,DA,TP,1005   | 2007-001298 |        |
| R162       | 1 | R-CHIP,68ohm,5%,1/16W,DA,TP,1005   | 2007-001301 |        |
| R163       | 1 | R-CHIP,68ohm,5%,1/16W,DA,TP,1005   | 2007-001301 |        |
| R138       | 1 | R-CHIP,120ohm,5%,1/16W,DA,TP,1005  | 2007-001305 |        |
| R152       | 1 | R-CHIP,120ohm,5%,1/16W,DA,TP,1005  | 2007-001305 |        |
| R153       | 1 | R-CHIP,120ohm,5%,1/16W,DA,TP,1005  | 2007-001305 |        |
| R161       | 1 | R-CHIP,120ohm,5%,1/16W,DA,TP,1005  | 2007-001305 |        |
| R106       | 1 | R-CHIP,150ohm,5%,1/16W,DA,TP,1005  | 2007-001306 |        |
| R164       | 1 | R-CHIP,150ohm,5%,1/16W,DA,TP,1005  | 2007-001306 |        |
| R133       | 1 | R-CHIP,180ohm,5%,1/16W,DA,TP,1005  | 2007-001307 |        |
| R50        | 1 | R-CHIP,200ohm,5%,1/16W,DA,TP,1005  | 2007-001308 |        |
| R11        | 1 | R-CHIP,1.2Kohm,5%,1/16W,DA,TP,1005 | 2007-001319 |        |
| R14        | 1 | R-CHIP,1.2Kohm,5%,1/16W,DA,TP,1005 | 2007-001319 |        |
| R295       | 1 | R-CHIP,1.2Kohm,5%,1/16W,DA,TP,1005 | 2007-001319 |        |
| R296       | 1 | R-CHIP,1.2Kohm,5%,1/16W,DA,TP,1005 | 2007-001319 |        |
| R103       | 1 | R-CHIP,3.3Kohm,5%,1/16W,DA,TP,1005 | 2007-001325 |        |
| R267       | 1 | R-CHIP,15OHM,5%,1/16W,DA,TP,1005   | 2007-002965 |        |
| R115       | 1 | R-CHIP,300OHM,5%,1/16W,DA,TP,1005  | 2007-007008 |        |
| R274       | 1 | R-CHIP,300OHM,5%,1/16W,DA,TP,1005  | 2007-007008 |        |

| Design LOC | Q | DESCRIPTION                               | SEC         | REMARK |
|------------|---|-------------------------------------------|-------------|--------|
| R114       | 1 | R-CHIP,75KOHM,5%,1/16W,DA,TP,1005         | 2007-007021 |        |
| R7         | 1 | R-CHIP,475Kohm,1%,1/16W,DA,TP,1005        | 2007-007098 |        |
| R278       | 1 | R-CHIP,18Kohm,1%,1/16W,DA,TP,1005         | 2007-007135 |        |
| R158       | 1 | R-CHIP,4.7Kohm,1%,1/16W,DA,TP,1005        | 2007-007136 |        |
| R154       | 1 | R-CHIP,1.2Kohm,1%,1/16W,DA,TP,1005        | 2007-007137 |        |
| R91        | 1 | R-CHIP,27Kohm,1%,1/16W,DA,TP,1005         | 2007-007138 |        |
| R111       | 1 | R-CHIP,10Kohm,1%,1/16W,DA,TP,1005         | 2007-007142 |        |
| R150       | 1 | R-CHIP,10Kohm,1%,1/16W,DA,TP,1005         | 2007-007142 |        |
| R277       | 1 | R-CHIP,12Kohm,1%,1/16W,DA,TP,1005         | 2007-007309 |        |
| R151       | 1 | R-CHIP,22Kohm,1%,1/16W,DA,TP,1005         | 2007-007311 |        |
| R157       | 1 | R-CHIP,20Kohm,1%,1/16W,DA,TP,1005         | 2007-007312 |        |
| R76        | 1 | R-CHIP,20Kohm,1%,1/16W,DA,TP,1005         | 2007-007312 |        |
| R126       | 1 | R-CHIP,6.8Kohm,1%,1/16W,DA,TP,1005        | 2007-007313 |        |
| R127       | 1 | R-CHIP,6.8Kohm,1%,1/16W,DA,TP,1005        | 2007-007313 |        |
| R144       | 1 | R-CHIP,6.8Kohm,1%,1/16W,DA,TP,1005        | 2007-007313 |        |
| R145       | 1 | R-CHIP,6.8Kohm,1%,1/16W,DA,TP,1005        | 2007-007313 |        |
| R146       | 1 | R-CHIP,6.8Kohm,1%,1/16W,DA,TP,1005        | 2007-007313 |        |
| R147       | 1 | R-CHIP,6.8Kohm,1%,1/16W,DA,TP,1005        | 2007-007313 |        |
| R148       | 1 | R-CHIP,6.8Kohm,1%,1/16W,DA,TP,1005        | 2007-007313 |        |
| R149       | 1 | R-CHIP,6.8Kohm,1%,1/16W,DA,TP,1005        | 2007-007313 |        |
| R156       | 1 | R-CHIP,6.8Kohm,1%,1/16W,DA,TP,1005        | 2007-007313 |        |
| R51        | 1 | R-CHIP,200Kohm,1%,1/16W,DA,TP,1005        | 2007-007334 |        |
| R276       | 1 | R-CHIP,7.5Kohm,1%,1/16W,DA,TP,1005        | 2007-007470 |        |
| R56        | 1 | R-CHIP,150Kohm,1%,1/16W,DA,TP,1005        | 2007-007489 |        |
| R57        | 1 | R-CHIP,91Kohm,1%,1/16W,DA,TP,1005         | 2007-007529 |        |
| R271       | 1 | R-CHIP,56Kohm,1%,1/16W,DA,TP,1005         | 2007-007538 |        |
| R155       | 1 | R-CHIP,1.8Kohm,1%,1/16W,DA,TP,1005        | 2007-007588 |        |
| R55        | 1 | R-CHIP,68Kohm,1%,1/16W,DA,TP,1005         | 2007-007589 |        |
| R77        | 1 | R-CHIP,82Kohm,1%,1/16W,DA,TP,1005         | 2007-007590 |        |
| R279       | 1 | R-CHIP,270Kohm,1%,1/16W,DA,TP,1005        | 2007-007592 |        |
| C112       | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C113       | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C114       | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C115       | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C116       | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C117       | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C119       | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C120       | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C121       | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C162       | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C23        | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C24        | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C241       | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C242       | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C244       | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |
| C25        | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,- | 2203-000233 |        |

| Design LOC | Q | DESCRIPTION                                 | SEC         | REMARK |
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| C26        | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,-   | 2203-000233 |        |
| C70        | 1 | C-CERAMIC,CHIP,100pF,5%,50V,NPO,TP,1005,-   | 2203-000233 |        |
| C100       | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C102       | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C103       | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C104       | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C105       | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C106       | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C107       | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C125       | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C217       | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C225       | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C226       | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C280       | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C296       | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C297       | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C45        | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C46        | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C66        | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C69        | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C74        | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C90        | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C94        | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C95        | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C96        | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C97        | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C98        | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C99        | 1 | C-CERAMIC,CHIP,10nF,10%,16V,X7R,TP,1005,-   | 2203-000254 |        |
| C147       | 1 | C-CERAMIC,CHIP,10pF,0.5pF,50V,NPO,TP,1005,- | 2203-000278 |        |
| C149       | 1 | C-CERAMIC,CHIP,10pF,0.5pF,50V,NPO,TP,1005,- | 2203-000278 |        |
| C150       | 1 | C-CERAMIC,CHIP,10pF,0.5pF,50V,NPO,TP,1005,- | 2203-000278 |        |
| C152       | 1 | C-CERAMIC,CHIP,10pF,0.5pF,50V,NPO,TP,1005,- | 2203-000278 |        |
| C245       | 1 | C-CERAMIC,CHIP,10pF,0.5pF,50V,NPO,TP,1005,- | 2203-000278 |        |
| C209       | 1 | C-CERAMIC,CHIP,150pF,5%,50V,NPO,TP,1005,-   | 2203-000359 |        |
| C246       | 1 | C-CERAMIC,CHIP,15pF,5%,50V,NPO,TP,1005,-    | 2203-000386 |        |
| C269       | 1 | C-CERAMIC,CHIP,15pF,5%,50V,NPO,TP,1005,-    | 2203-000386 |        |
| C271       | 1 | C-CERAMIC,CHIP,15pF,5%,50V,NPO,TP,1005,-    | 2203-000386 |        |
| C54        | 1 | C-CERAMIC,CHIP,15pF,5%,50V,NPO,TP,1005,-    | 2203-000386 |        |
| C144       | 1 | C-CERAMIC,CHIP,18pF,5%,50V,NPO,TP,1005,-    | 2203-000425 |        |
| C179       | 1 | C-CERAMIC,CHIP,18pF,5%,50V,NPO,TP,1005,-    | 2203-000425 |        |
| C183       | 1 | C-CERAMIC,CHIP,18pF,5%,50V,NPO,TP,1005,-    | 2203-000425 |        |
| C184       | 1 | C-CERAMIC,CHIP,18pF,5%,50V,NPO,TP,1005,-    | 2203-000425 |        |
| C109       | 1 | C-CERAMIC,CHIP,1nF,10%,50V,X7R,TP,1005,-    | 2203-000438 |        |
| C110       | 1 | C-CERAMIC,CHIP,1nF,10%,50V,X7R,TP,1005,-    | 2203-000438 |        |
| C131       | 1 | C-CERAMIC,CHIP,1nF,10%,50V,X7R,TP,1005,-    | 2203-000438 |        |
| C132       | 1 | C-CERAMIC,CHIP,1nF,10%,50V,X7R,TP,1005,-    | 2203-000438 |        |

| Design LOC | Q | DESCRIPTION                                 | SEC         | REMARK |
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| C134       | 1 | C-CERAMIC,CHIP,1nF,10%,50V,X7R,TP,1005,-    | 2203-000438 |        |
| C135       | 1 | C-CERAMIC,CHIP,1nF,10%,50V,X7R,TP,1005,-    | 2203-000438 |        |
| C136       | 1 | C-CERAMIC,CHIP,1nF,10%,50V,X7R,TP,1005,-    | 2203-000438 |        |
| C137       | 1 | C-CERAMIC,CHIP,1nF,10%,50V,X7R,TP,1005,-    | 2203-000438 |        |
| C139       | 1 | C-CERAMIC,CHIP,1nF,10%,50V,X7R,TP,1005,-    | 2203-000438 |        |
| C140       | 1 | C-CERAMIC,CHIP,1nF,10%,50V,X7R,TP,1005,-    | 2203-000438 |        |
| C142       | 1 | C-CERAMIC,CHIP,1nF,10%,50V,X7R,TP,1005,-    | 2203-000438 |        |
| C143       | 1 | C-CERAMIC,CHIP,1nF,10%,50V,X7R,TP,1005,-    | 2203-000438 |        |
| C240       | 1 | C-CERAMIC,CHIP,1nF,10%,50V,X7R,TP,1005,-    | 2203-000438 |        |
| C122       | 1 | C-CERAMIC,CHIP,1pF,0.25pF,50V,NPO,TP,1005,- | 2203-000466 |        |
| C189       | 1 | C-CERAMIC,CHIP,1pF,0.25pF,50V,NPO,TP,1005,- | 2203-000466 |        |
| C207       | 1 | C-CERAMIC,CHIP,1pF,0.25pF,50V,NPO,TP,1005,- | 2203-000466 |        |
| C176       | 1 | C-CERAMIC,CHIP,220pF,10%,50V,X7R,TP,1005,-  | 2203-000585 |        |
| C177       | 1 | C-CERAMIC,CHIP,22pF,5%,50V,NPO,TP,1005,-    | 2203-000628 |        |
| C178       | 1 | C-CERAMIC,CHIP,22pF,5%,50V,NPO,TP,1005,-    | 2203-000628 |        |
| C164       | 1 | C-CERAMIC,CHIP,24pF,5%,50V,NPO,TP,1005,-    | 2203-000643 |        |
| C165       | 1 | C-CERAMIC,CHIP,24pF,5%,50V,NPO,TP,1005,-    | 2203-000643 |        |
| C194       | 1 | C-CERAMIC,CHIP,24pF,5%,50V,NPO,TP,1005,-    | 2203-000643 |        |
| C195       | 1 | C-CERAMIC,CHIP,24pF,5%,50V,NPO,TP,1005,-    | 2203-000643 |        |
| C196       | 1 | C-CERAMIC,CHIP,24pF,5%,50V,NPO,TP,1005,-    | 2203-000643 |        |
| C239       | 1 | C-CERAMIC,CHIP,24pF,5%,50V,NPO,TP,1005,-    | 2203-000643 |        |
| C270       | 1 | C-CERAMIC,CHIP,24pF,5%,50V,NPO,TP,1005,-    | 2203-000643 |        |
| C126       | 1 | C-CERAMIC,CHIP,27pF,5%,50V,NPO,TP,1005,-    | 2203-000679 |        |
| C127       | 1 | C-CERAMIC,CHIP,27pF,5%,50V,NPO,TP,1005,-    | 2203-000679 |        |
| C128       | 1 | C-CERAMIC,CHIP,27pF,5%,50V,NPO,TP,1005,-    | 2203-000679 |        |
| C129       | 1 | C-CERAMIC,CHIP,27pF,5%,50V,NPO,TP,1005,-    | 2203-000679 |        |
| C130       | 1 | C-CERAMIC,CHIP,27pF,5%,50V,NPO,TP,1005,-    | 2203-000679 |        |
| C157       | 1 | C-CERAMIC,CHIP,27pF,5%,50V,NPO,TP,1005,-    | 2203-000679 |        |
| C158       | 1 | C-CERAMIC,CHIP,27pF,5%,50V,NPO,TP,1005,-    | 2203-000679 |        |
| C160       | 1 | C-CERAMIC,CHIP,27pF,5%,50V,NPO,TP,1005,-    | 2203-000679 |        |
| C161       | 1 | C-CERAMIC,CHIP,27pF,5%,50V,NPO,TP,1005,-    | 2203-000679 |        |
| C222       | 1 | C-CERAMIC,CHIP,27pF,5%,50V,NPO,TP,1005,-    | 2203-000679 |        |
| C223       | 1 | C-CERAMIC,CHIP,27pF,5%,50V,NPO,TP,1005,-    | 2203-000679 |        |
| C227       | 1 | C-CERAMIC,CHIP,27pF,5%,50V,NPO,TP,1005,-    | 2203-000679 |        |
| C228       | 1 | C-CERAMIC,CHIP,27pF,5%,50V,NPO,TP,1005,-    | 2203-000679 |        |
| C238       | 1 | C-CERAMIC,CHIP,27pF,5%,50V,NPO,TP,1005,-    | 2203-000679 |        |
| C185       | 1 | C-CERAMIC,CHIP,2pF,0.25pF,50V,NPO,TP,1005,- | 2203-000696 |        |
| C186       | 1 | C-CERAMIC,CHIP,2pF,0.25pF,50V,NPO,TP,1005,- | 2203-000696 |        |
| C187       | 1 | C-CERAMIC,CHIP,2pF,0.25pF,50V,NPO,TP,1005,- | 2203-000696 |        |
| C201       | 1 | C-CERAMIC,CHIP,33pF,5%,50V,NPO,TP,1005,-    | 2203-000812 |        |
| C202       | 1 | C-CERAMIC,CHIP,33pF,5%,50V,NPO,TP,1005,-    | 2203-000812 |        |
| C204       | 1 | C-CERAMIC,CHIP,33pF,5%,50V,NPO,TP,1005,-    | 2203-000812 |        |
| C267       | 1 | C-CERAMIC,CHIP,33pF,5%,50V,NPO,TP,1005,-    | 2203-000812 |        |
| C293       | 1 | C-CERAMIC,CHIP,33pF,5%,50V,NPO,TP,1005,-    | 2203-000812 |        |
| C294       | 1 | C-CERAMIC,CHIP,39pF,5%,50V,NPO,TP,1005,-    | 2203-000854 |        |
| C295       | 1 | C-CERAMIC,CHIP,39pF,5%,50V,NPO,TP,1005,-    | 2203-000854 |        |

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| C166       | 1 | C-CERAMIC,CHIP,3pF,0.25pF,50V,NPO,TP,1005,-   | 2203-000870 |        |
| C167       | 1 | C-CERAMIC,CHIP,3pF,0.25pF,50V,NPO,TP,1005,-   | 2203-000870 |        |
| C211       | 1 | C-CERAMIC,CHIP,3pF,0.25pF,50V,NPO,TP,1005,-   | 2203-000870 |        |
| C2         | 1 | C-CERAMIC,CHIP,47pF,5%,50V,NPO,TP,1005,-      | 2203-000995 |        |
| C289       | 1 | C-CERAMIC,CHIP,47pF,5%,50V,NPO,TP,1005,-      | 2203-000995 |        |
| C156       | 1 | C-CERAMIC,CHIP,4pF,0.25pF,50V,NPO,TP,1005,-   | 2203-001017 |        |
| C203       | 1 | C-CERAMIC,CHIP,4pF,0.25pF,50V,NPO,TP,1005,-   | 2203-001017 |        |
| C224       | 1 | C-CERAMIC,CHIP,5.6nF,10%,25V,X7R,TP,1005,-    | 2203-001033 |        |
| C200       | 1 | C-CERAMIC,CHIP,820pF,10%,50V,X7R,TP,1005,-    | 2203-001221 |        |
| C212       | 1 | C-CERAMIC,CHIP,8pF,0.5pF,50V,NPO,TP,1005,-    | 2203-001259 |        |
| C213       | 1 | C-CERAMIC,CHIP,8pF,0.5pF,50V,NPO,TP,1005,-    | 2203-001259 |        |
| C214       | 1 | C-CERAMIC,CHIP,8pF,0.5pF,50V,NPO,TP,1005,-    | 2203-001259 |        |
| C237       | 1 | C-CERAMIC,CHIP,8pF,0.5pF,50V,NPO,TP,1005,-    | 2203-001259 |        |
| C123       | 1 | C-CERAMIC,CHIP,0.5pF,0.25pF,50V,NPO,TP,1005,- | 2203-001383 |        |
| C154       | 1 | C-CERAMIC,CHIP,0.5pF,0.25pF,50V,NPO,TP,1005,- | 2203-001383 |        |
| C205       | 1 | C-CERAMIC,CHIP,0.5pF,0.25pF,50V,NPO,TP,1005,- | 2203-001383 |        |
| C188       | 1 | C-CERAMIC,CHIP,1.5pF,0.25pF,50V,NPO,TP,1005,1 | 2203-001385 |        |
| C229       | 1 | C-CERAMIC,CHIP,47nF,10%,16V,Y5V,TP,1005,1.0mm | 2203-001432 |        |
| C278       | 1 | C-CERAMIC,CHIP,47nF,10%,16V,Y5V,TP,1005,1.0mm | 2203-001432 |        |
| C279       | 1 | C-CERAMIC,CHIP,47nF,10%,16V,Y5V,TP,1005,1.0mm | 2203-001432 |        |
| C153       | 1 | C-CERAMIC,CHIP,5pF,0.25pF,50V,X7R,TP,1005,1.0 | 2203-001437 |        |
| C52        | 1 | C-CERAMIC,CHIP,2.2uF,+80-20%,16V,Y5V,TP,2012, | 2203-001598 |        |
| C55        | 1 | C-CERAMIC,CHIP,2.2uF,+80-20%,16V,Y5V,TP,2012, | 2203-001598 |        |
| C56        | 1 | C-CERAMIC,CHIP,2.2uF,+80-20%,16V,Y5V,TP,2012, | 2203-001598 |        |
| C59        | 1 | C-CERAMIC,CHIP,2.2uF,+80-20%,16V,Y5V,TP,2012, | 2203-001598 |        |
| C60        | 1 | C-CERAMIC,CHIP,2.2uF,+80-20%,16V,Y5V,TP,2012, | 2203-001598 |        |
| C72        | 1 | C-CERAMIC,CHIP,2.2uF,+80-20%,16V,Y5V,TP,2012, | 2203-001598 |        |
| C198       | 1 | C-CERAMIC,CHIP,330pF,10%,50V,X7R,TP,1005,-    | 2203-002443 |        |
| C174       | 1 | C-CERAMIC,CHIP,560pF,10%,50V,X7R,TP,1005,-    | 2203-002525 |        |
| C175       | 1 | C-CERAMIC,CHIP,560pF,10%,50V,X7R,TP,1005,-    | 2203-002525 |        |
| C199       | 1 | C-CERAMIC,CHIP,560pF,10%,50V,X7R,TP,1005,-    | 2203-002525 |        |
| C20        | 1 | C-CERAMIC,CHIP,51pF,5%,50V,CH,TP,1005,-       | 2203-002968 |        |
| C151       | 1 | C-CERAMIC,CHIP,9PF,0.25PF,50V,CH,TP,1005,-    | 2203-003054 |        |
| C243       | 1 | C-CERAMIC,CHIP,9PF,0.25PF,50V,CH,TP,1005,-    | 2203-003054 |        |
| C145       | 1 | C-CERAMIC,CHIP,1.8pF,0.25pF,50V,NPO,TP,1005,- | 2203-005050 |        |
| C155       | 1 | C-CERAMIC,CHIP,3.3pF,0.25pF,50V,NPO,TP,1005,- | 2203-005052 |        |
| C170       | 1 | C-CERAMIC,CHIP,8.2pF,0.25pF,50V,NPO,TP,1005,- | 2203-005057 |        |
| C171       | 1 | C-CERAMIC,CHIP,8.2pF,0.25pF,50V,NPO,TP,1005,- | 2203-005057 |        |
| C172       | 1 | C-CERAMIC,CHIP,8.2pF,0.25pF,50V,NPO,TP,1005,- | 2203-005057 |        |
| C173       | 1 | C-CERAMIC,CHIP,8.2pF,0.25pF,50V,NPO,TP,1005,- | 2203-005057 |        |
| C10        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C11        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C12        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C13        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C16        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C219       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |

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| C22        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C220       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C250       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C251       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C252       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C253       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C255       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C256       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C257       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C258       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C259       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C260       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C261       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C272       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C273       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C28        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C287       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C288       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C290       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C291       | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C30        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C32        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C33        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C34        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C35        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C36        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C37        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C38        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C4         | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C40        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C41        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C43        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C48        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C5         | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C6         | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C62        | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C7         | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C8         | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C9         | 1 | C-CERAMIC,CHIP,100nF,+80-20%,16V,Y5V,TP,1005, | 2203-005061 |        |
| C254       | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C282       | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C283       | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C284       | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C285       | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C31        | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C58        | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |

| Design LOC | Q | DESCRIPTION                                   | SEC         | REMARK |
|------------|---|-----------------------------------------------|-------------|--------|
| C64        | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C76        | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C77        | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C78        | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C81        | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C88        | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C89        | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C91        | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C92        | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C93        | 1 | C-CERAMIC,CHIP,1uF,+80-20%,10V,Y5V,TP,1608,-  | 2203-005065 |        |
| C146       | 1 | C-CERAMIC,CHIP,1.2pF,0.25pF,50V,NPO,TP,1005,0 | 2203-005234 |        |
| C87        | 1 | C-FILM,CHIP,22nF,5%,16V,TP,3.2x1.6x0.8,-      | 2301-001199 |        |
| C82        | 1 | C-FILM,CHIP,6.8nF,5%,16V,TP,2012,-            | 2301-001213 |        |
| C80        | 1 | C-FILM,CHIP,10nF,5%,16V,TP,2012,-             | 2301-001230 |        |
| C84        | 1 | C-FILM,CHIP,680pF,5%,50V,TP,2012,-            | 2301-001231 |        |
| C83        | 1 | C-FILM,CHIP,470pF,5%,50V,TP,2012,-            | 2301-001232 |        |
| C79        | 1 | C-FILM,CHIP,2.2nF,5%,50V,TP,2012,-            | 2301-001233 |        |
| C263       | 1 | C-TA,CHIP,3.3uF,20%,16V,-,TP,3216,-           | 2404-000335 |        |
| C264       | 1 | C-TA,CHIP,3.3uF,20%,16V,-,TP,3216,-           | 2404-000335 |        |
| C42        | 1 | C-TA,CHIP,10uF,20%,10V,GP,TP,3216,3.2         | 2404-001020 |        |
| C49        | 1 | C-TA,CHIP,10uF,20%,10V,GP,TP,3216,3.2         | 2404-001020 |        |
| C50        | 1 | C-TA,CHIP,10uF,20%,10V,GP,TP,3216,3.2         | 2404-001020 |        |
| C51        | 1 | C-TA,CHIP,10uF,20%,10V,GP,TP,3216,3.2         | 2404-001020 |        |
| C57        | 1 | C-TA,CHIP,10uF,20%,10V,GP,TP,3216,3.2         | 2404-001020 |        |
| C61        | 1 | C-TA,CHIP,10uF,20%,10V,GP,TP,3216,3.2         | 2404-001020 |        |
| C63        | 1 | C-TA,CHIP,10uF,20%,10V,GP,TP,3216,3.2         | 2404-001020 |        |
| C65        | 1 | C-TA,CHIP,10uF,20%,10V,GP,TP,3216,3.2         | 2404-001020 |        |
| C73        | 1 | C-TA,CHIP,10uF,20%,10V,GP,TP,3216,3.2         | 2404-001020 |        |
| C44        | 1 | C-TA,CHIP,220uF,20%,6.3V,LZ,TP,7125,-         | 2404-001083 |        |
| C67        | 1 | C-TA,CHIP,220uF,20%,6.3V,LZ,TP,7125,-         | 2404-001083 |        |
| C86        | 1 | C-TA,CHIP,220uF,20%,6.3V,LZ,TP,7125,-         | 2404-001083 |        |
| C14        | 1 | C-TA,CHIP,10UF,20%,6.3V,GP,TP,2012            | 2404-001105 |        |
| C262       | 1 | C-TA,CHIP,10UF,20%,6.3V,GP,TP,2012            | 2404-001105 |        |
| L17        | 1 | INDUCTOR-SMD,47nH,5%,2.29x1.73x1.52mm         | 2703-001044 |        |
| L18        | 1 | INDUCTOR-SMD,47nH,5%,2.29x1.73x1.52mm         | 2703-001044 |        |
| L22        | 1 | INDUCTOR-SMD,120nH,5%,2.29x1.73x1.52mm        | 2703-001069 |        |
| L23        | 1 | INDUCTOR-SMD,27nH,10%,1x0.5x0.5mm             | 2703-001181 |        |
| L5         | 1 | INDUCTOR-SMD,1.5nH,0.3nH,1.6x0.8x0.8mm        | 2703-001267 |        |
| L1         | 1 | INDUCTOR-SMD,47uH,20%,6.6x4.45x2.5mm          | 2703-001556 |        |
| L13        | 1 | INDUCTOR-SMD,33nH,5%,1.0x0.5x0.5mm            | 2703-001723 |        |
| L14        | 1 | INDUCTOR-SMD,33nH,5%,1.0x0.5x0.5mm            | 2703-001723 |        |
| L24        | 1 | INDUCTOR-SMD,8.2nH,5%,1x0.5x0.5mm             | 2703-001733 |        |
| L8         | 1 | INDUCTOR-SMD,6.8nH,5%,1x0.5x0.5mm             | 2703-001734 |        |
| L2         | 1 | INDUCTOR-SMD,2.7nH,0.3nH,1x0.5x0.5mm          | 2703-001737 |        |
| L20        | 1 | INDUCTOR-SMD,68nH,5%,2.29x1.73x1.52mm         | 2703-001745 |        |
| L19        | 1 | INDUCTOR-SMD,82nH,5%,2.29x1.73x1.52mm         | 2703-001746 |        |

| Design LOC | Q | DESCRIPTION                                     | SEC         | REMARK |
|------------|---|-------------------------------------------------|-------------|--------|
| L10        | 1 | INDUCTOR-SMD,4.7nH,0.3nH,1.0x0.5x0.5mm          | 2703-001747 |        |
| L12        | 1 | INDUCTOR-SMD,4.7nH,0.3nH,1.0x0.5x0.5mm          | 2703-001747 |        |
| L15        | 1 | INDUCTOR-SMD,4.7nH,0.3nH,1.0x0.5x0.5mm          | 2703-001747 |        |
| L27        | 1 | INDUCTOR-SMD,4.7nH,0.3nH,1.0x0.5x0.5mm          | 2703-001747 |        |
| L6         | 1 | INDUCTOR-SMD,4.7nH,0.3nH,1.0x0.5x0.5mm          | 2703-001747 |        |
| L7         | 1 | INDUCTOR-SMD,3.9nH,0.3nH,1.0x0.5x0.5mm          | 2703-001751 |        |
| L25        | 1 | INDUCTOR-SMD,10UH,20%,4.45X6.6X2.5MM            | 2703-001781 |        |
| L11        | 1 | INDUCTOR-SMD,10NH,5%,1.0X0.5X0.5MM              | 2703-001786 |        |
| L4         | 1 | INDUCTOR-SMD,10NH,5%,1.0X0.5X0.5MM              | 2703-001786 |        |
| L9         | 1 | INDUCTOR-SMD,10NH,5%,1.0X0.5X0.5MM              | 2703-001786 |        |
| L16        | 1 | INDUCTOR-SMD,3.3NH,0.3NH,1.0X0.5X0.5MM          | 2703-001790 |        |
| OSC1       | 1 | CRYSTAL-SMD,MC-156                              | 2801-003760 |        |
| OSC4       | 1 | OSCILLATOR-VCO,VOU0540N30KRA                    | 2806-001176 |        |
| OSC3       | 1 | OSCILLATOR-VCO,QVC101747RT-4042                 | 2806-001195 |        |
| OSC2       | 1 | OSCILLATOR-VCO,QVC101615RT-4041                 | 2806-001196 |        |
| U22        | 1 | OSCILLATOR-VCTCXO13MHz,5ppm,10Kohm//10pF,TP,3V, | 2809-001220 |        |
| E1         | 1 | FILTER-EMI SMD,50V,300mA,-,470pF,2x1.25x0.5,T   | 2901-001116 |        |
| E4         | 1 | FILTER-EMI SMD,50V,300mA,-,470pF,2x1.25x0.5,T   | 2901-001116 |        |
| E5         | 1 | FILTER-EMI SMD,50V,300mA,-,470pF,2x1.25x0.5,T   | 2901-001116 |        |
| E6         | 1 | FILTER-EMI SMD,50V,300mA,-,470pF,2x1.25x0.5,T   | 2901-001116 |        |
| E7         | 1 | FILTER-EMI SMD,50V,300mA,-,470pF,2x1.25x0.5,T   | 2901-001116 |        |
| E2         | 1 | FILTER-EMI SMD,NFM2012P13C474                   | 2901-001162 |        |
| F3         | 1 | FILTER-SAW,B4822                                | 2904-001092 |        |
| F1         | 1 | FILTER-SAW,FAR-G6CH-1G8425-L224                 | 2904-001166 |        |
| F2         | 1 | FILTER-SAW,FAR-G6CH-1G8425-L224                 | 2904-001166 |        |
| U21        | 1 | FILTER-DUPLEXER,SHS-L090D                       | 2909-001086 |        |
| CN4        | 1 | CONNECTOR-CARD EDGE,1-338063-9                  | 3709-001121 |        |
| M1         | 1 | CONNECTOR-SOCKET,24-8005-002-000-867            | 3710-001105 |        |
| M2         | 1 | CONNECTOR-SOCKET,24-8005-002-000-867            | 3710-001105 |        |
| CN3        | 1 | CONNECTOR-SOCKET,MQ/S179-SAA-18P/4              | 3710-001302 |        |
| CN1        | 1 | CONNECTOR-SOCKET,AXK5F30535P                    | 3710-001415 |        |
| CN5        | 1 | JACK-PHONE,02-699B0-53BKA                       | 3722-001303 |        |
| B1         | 1 | BATTERY-POLYMER,PAS614L-VL3                     | 4302-001026 |        |
| U29        | 1 | COUPLER-DIRECTION,LDC15D190A007A                | 4709-001144 |        |
| -          | 1 | SPEAKER,LT301                                   | 3001-001099 |        |

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## 2. Exploded View and its Parts List

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### 2-1 Main Exploded View

### 2-2 Main Parts List

### 2-3 Test Zig

### 2-4 RF Cabel

### 2-5 Test Connection Method

### 2-6 Travel Adaptor

### 2-7 Travel Adaptor parts List

### 2-8 Ciger Light Adaptor

### 2-9 Ciger Light Adaptor Part List

### 2-10 Hands Free Kit Diagram

### 2-11 Hands Free Kit

#### 2-11-1 Hands Free Kit Ass'y

### 2-12 Hands Free Car Kit Option

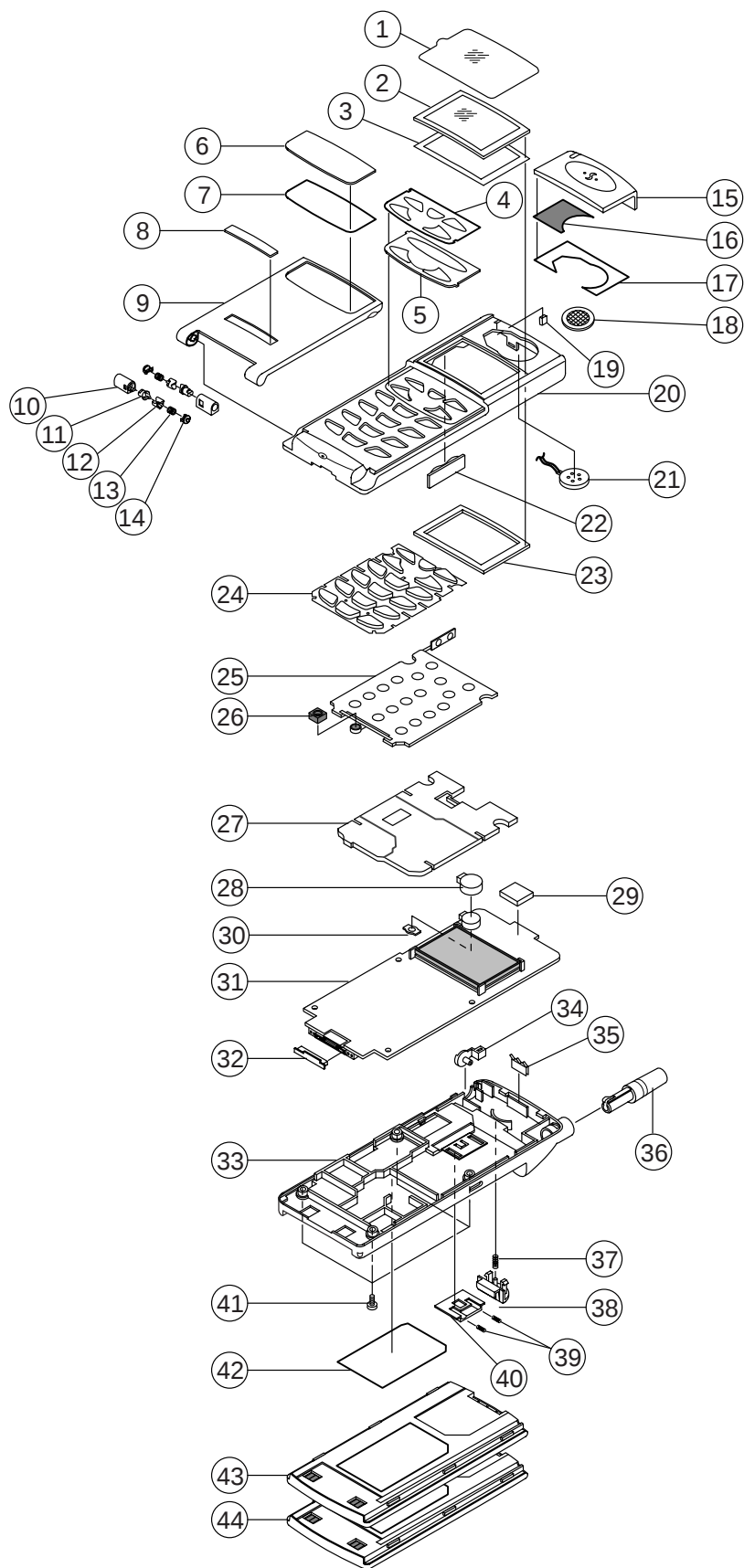
#### 2-12-1 Hands Free Car Kit Ass'y

### 2-13 Hands Free Kit Packing

#### 2-13-1 Hands Free Kit Packing Exploded View

#### 2-13-2 Hands Free Kit Packing Parts List

# 2-1 Main Exploded View

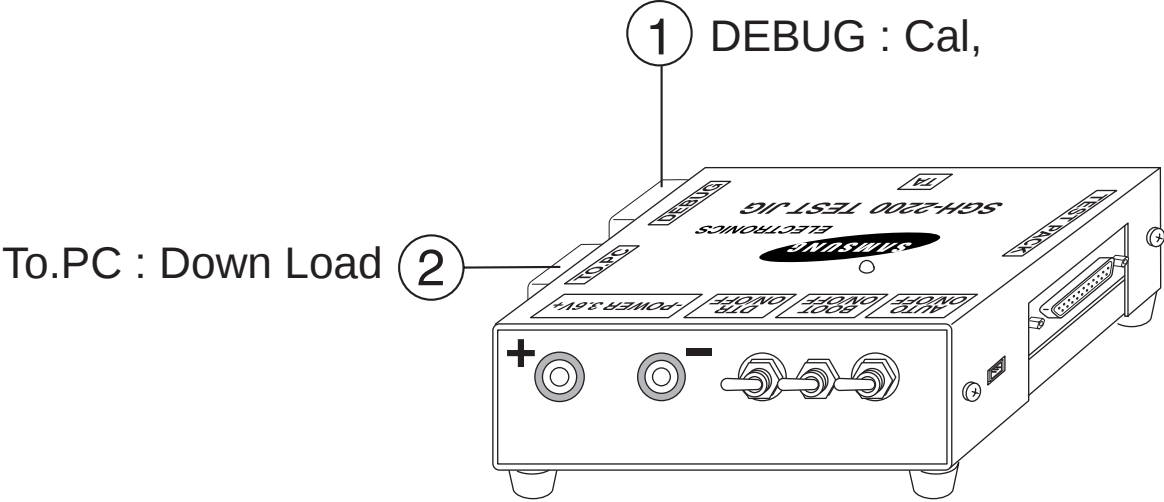


## 2-2 Main Parts List

| NO | DESCRIPTION              | SEC. CODE    | Q'TY | REMARK |
|----|--------------------------|--------------|------|--------|
| 1  | TAPE WINDOW BOHO         | GH72-10001A  | 1    | W      |
| 2  | LCD WINDOW               | GH72-00093A  | 1    | W      |
| 3  | WINDOW TAPE              | GH74-00039A  | 1    | W      |
| 4  | DUMMY KEY                | GH72-00108A  | 1    | F      |
| 5  | DUMMY KEY TAPE           | GH74-00053A  | 1    | F      |
| 6  | DUMMY FLIP               | GH72-00094A  | 1    | FLIP   |
| 7  | DUMMY FLIP TAPE          | GH74-00038A  | 1    | FLIP   |
| 8  | LOGO BADGE               | GH68-20008A  | 1    |        |
| 9  | FLIP COVER               | GH68-20008A  | 1    | FLIP   |
| 10 | HINGE HOUSING            | GH72-41293A  | 2    | F      |
| 11 | SHAFT HINGE              | GH72-41554A  | 2    | F      |
| 12 | CAM HINGE                | GH72-41055A  | 2    | F      |
| 13 | HINGE SPRING             | GH70-10608A  | 2    | F      |
| 14 | HOUSING CAP              | GH72-41056A  | 2    | F      |
| 15 | DUMMY FRONT              | GH72-00084A  | 1    | F      |
| 16 | DUMMY MANFSA             | GH74-00204A  | 1    | F      |
| 17 | DUMMY TAPE               | GH74-00040A  | 1    | F      |
| 18 | SPEAKER MANGSA           | GH74-00208A  | 1    |        |
| 19 | LED LENS                 | GH72-00082A  | 1    | F      |
| 20 | FRONT COVER              | GH72-00083A  | 1    | F      |
| 21 | SPEAKER                  | GH39-00030A  |      | 1      |
| 22 | VOLUME KEY               | GH73-00025A  | 1    |        |
| 23 | LCD SPONGE               | GH74-00041A  | 1    | F      |
| 24 | 3X4 KEY                  | GH72-00095A  | 1    |        |
| 25 | KEY PCB                  | GH59-00041A  | 1    |        |
| 26 | MIC HOLDER               | GH73-00026A  | 1    |        |
| 27 | SHIELD CAN               | GH72-00089A  | 1    |        |
| 28 | BUZZER HOLDER            | GH73-00024A  | 1    |        |
| 29 | SPONGE SPEAKER           | GH74-00142A  | 1    |        |
| 30 | JACK-COVER               | GH73-00116A  | 1    |        |
| 31 | MAIN PBA                 | GH92-00742A  | 1    |        |
| 32 | CONNECTOR COVER          | GH73-40639A  | 1    |        |
| 33 | REAR COVER               | GH72-00086A  | 1    | R      |
| 34 | EARPHONE COVER           | GH73-00027A  | 1    |        |
| 35 | STRIP FINGER             | GH71-10639A  | 1    | R      |
| 36 | ANTENA                   | GH42-00006A  | 1    |        |
| 37 | LOCKER SPRING            | GH70-10516A  | 1    | R      |
| 38 | MAIN LOCKER              | GH72-00087A  | 1    | R      |
| 39 | SIM SPRING               | GH70-00006A  | 2    | R      |
| 40 | SIM COVER                | GH72-00088A  | 1    | R      |
| 41 | SCREW M2X6               | 6001-001046A | 4    |        |
| 42 | MAIN LABEL               | GH68-00333A  | 1    |        |
| 43 | STD BATTERY (BTL1030MB)  | GH43-10314A  | 1    |        |
| 44 | LONG BATTERY (BTL163DLB) | GH43-00089A  | 1    |        |

|     |              |             |  |  |
|-----|--------------|-------------|--|--|
| W   | WINDOW ASS'Y | GH97-00929A |  |  |
| F   | FRONT ASS'Y  | GH97-00938A |  |  |
| FLI | FLIP ASS'Y   | GH97-00944A |  |  |
| R   | REAR ASS'Y   | GH97-00935A |  |  |

2-3 Test Jig

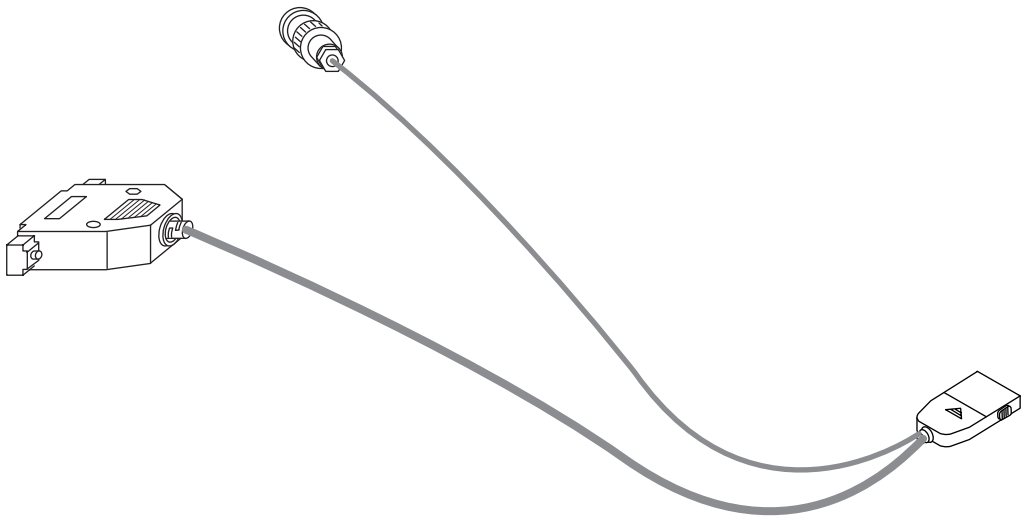


JIG

\* Switch

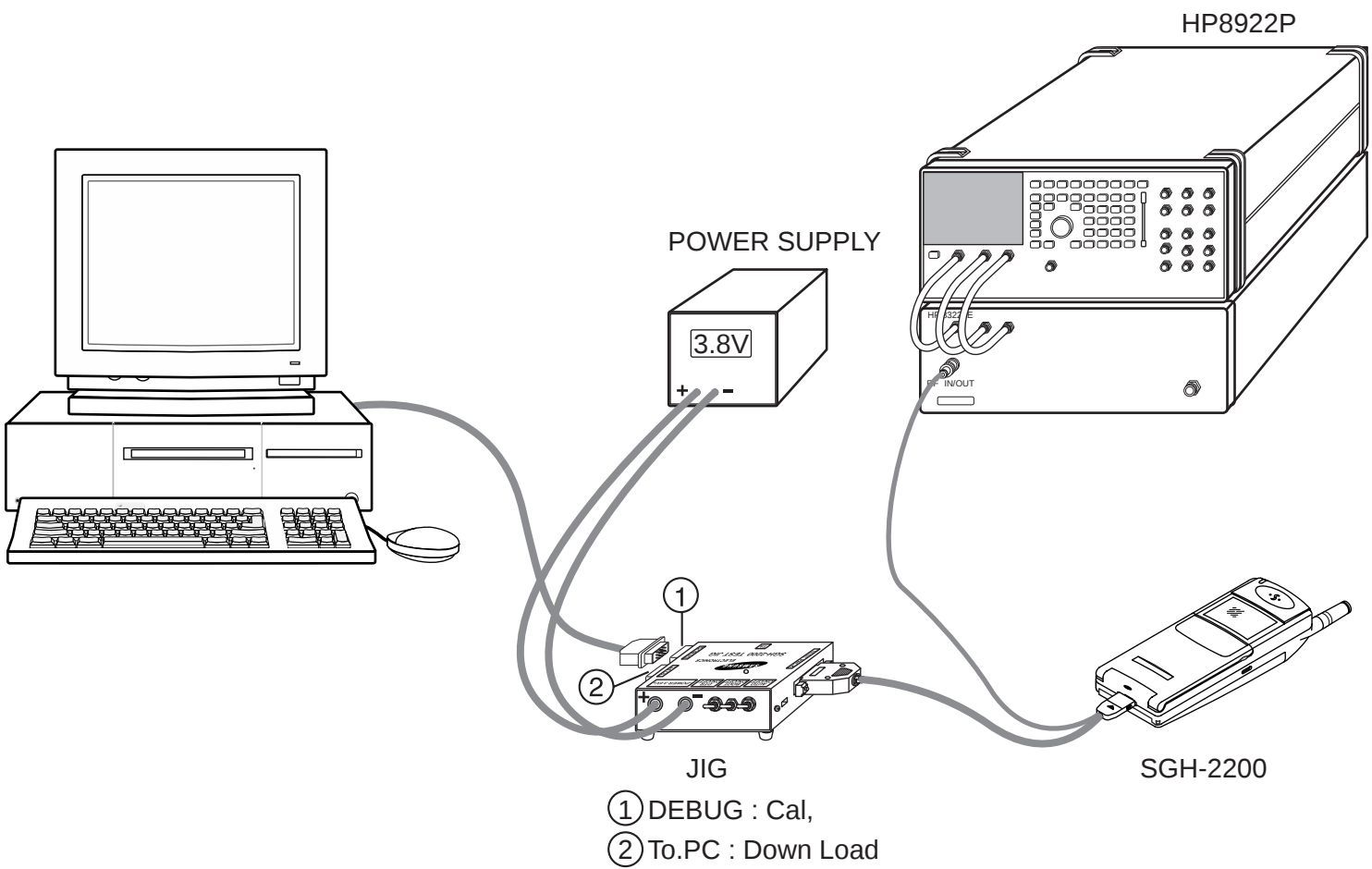
|           | DTR<br>ON/OFF | BOOT<br>ON/OFF | AUTO<br>ON/OFF |
|-----------|---------------|----------------|----------------|
| Cal.      | up            | down           | up             |
| Down Load | up            | up             | up             |

2-4 RF Cabel

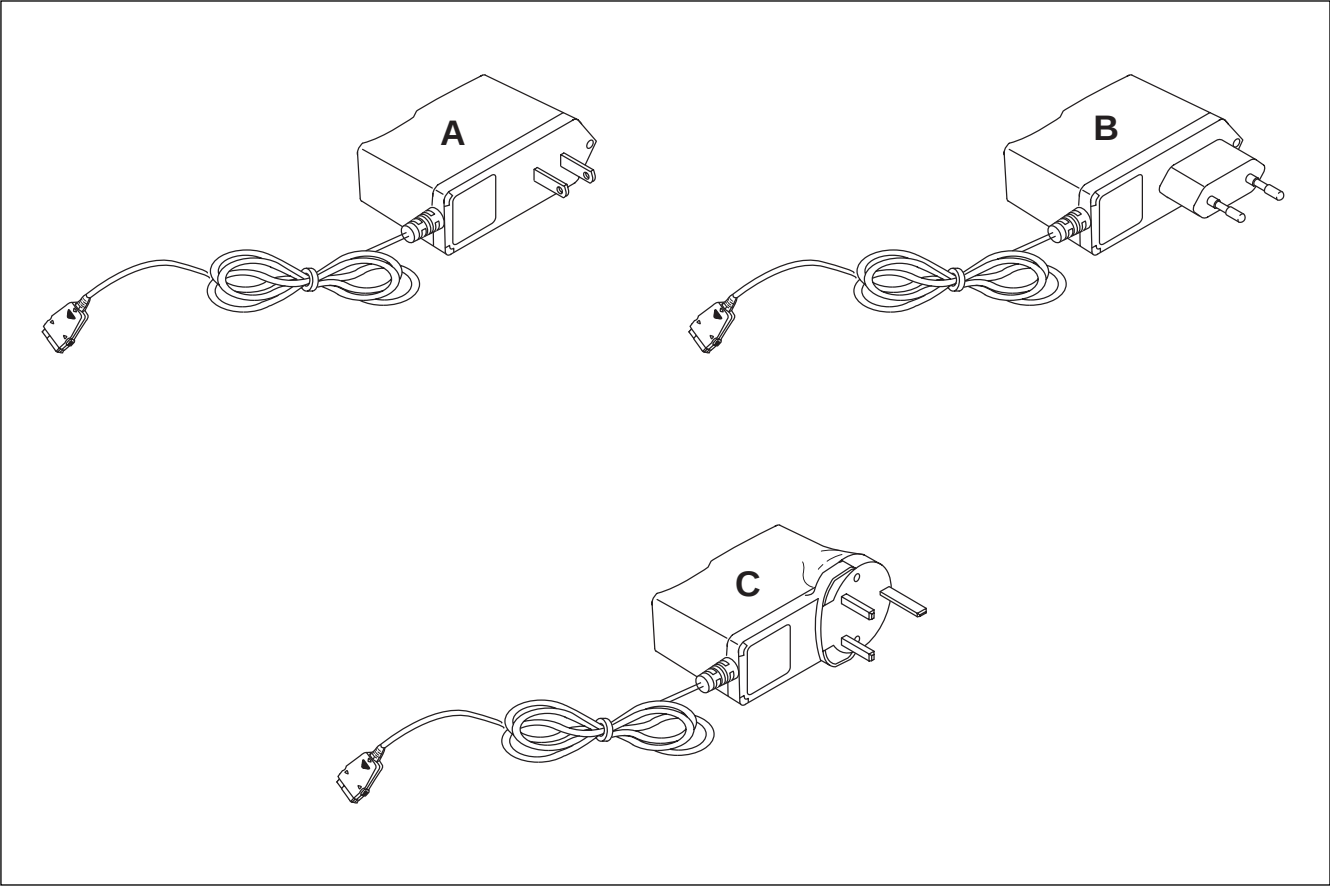


RF CABLE

## 2-5 Test Connection Method



## 2-6 Travel Adaptor



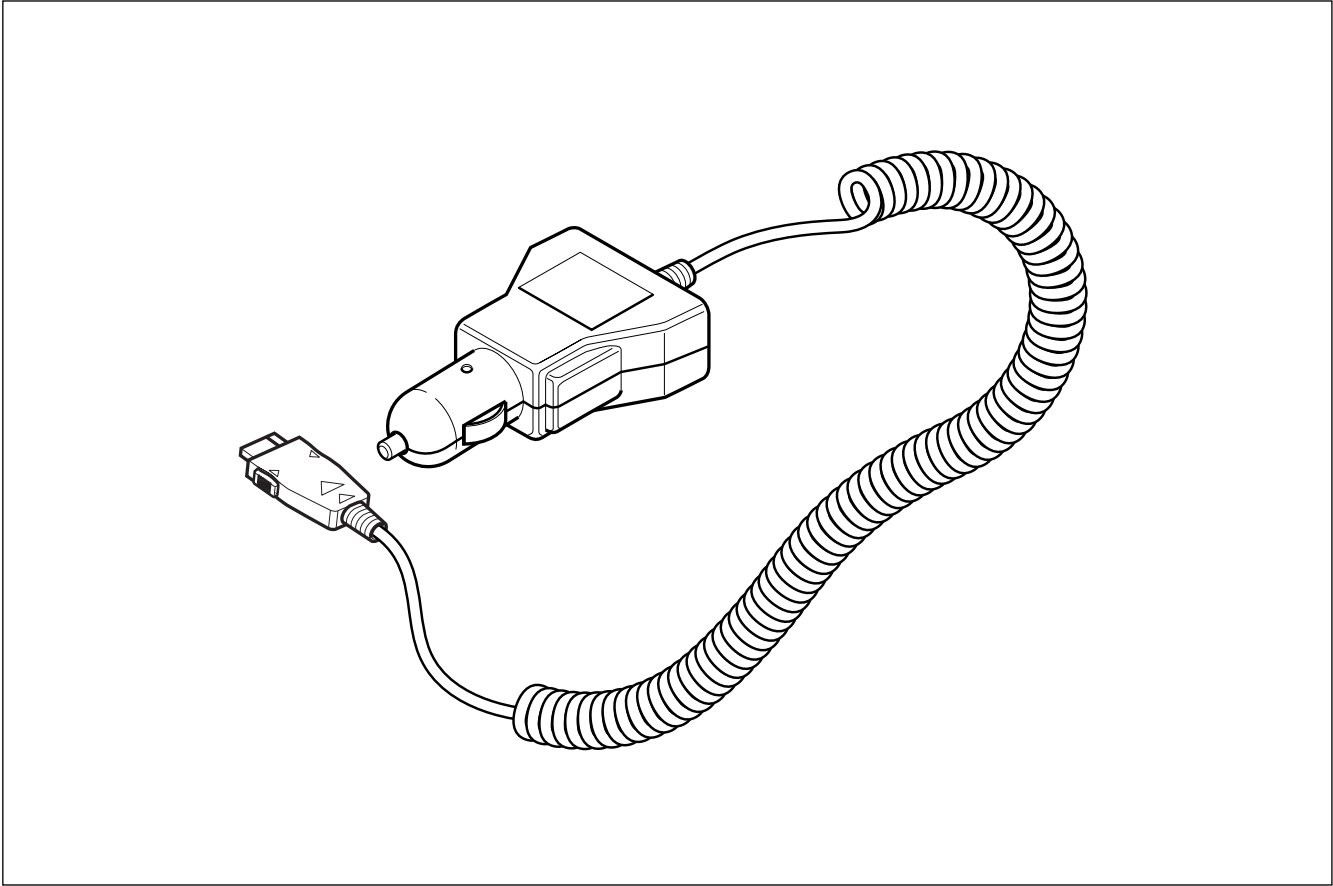
## 2-7 Travel Adaptor Parts List

| Type | SEC Code    | Remark         |
|------|-------------|----------------|
| A    | GH44-30548A | CHINA          |
| B    | GH44-30549A | EUROPE         |
| C    | GH44-30547A | UNITED KINGDOM |

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## 2-8 Ciger Light Adaptor

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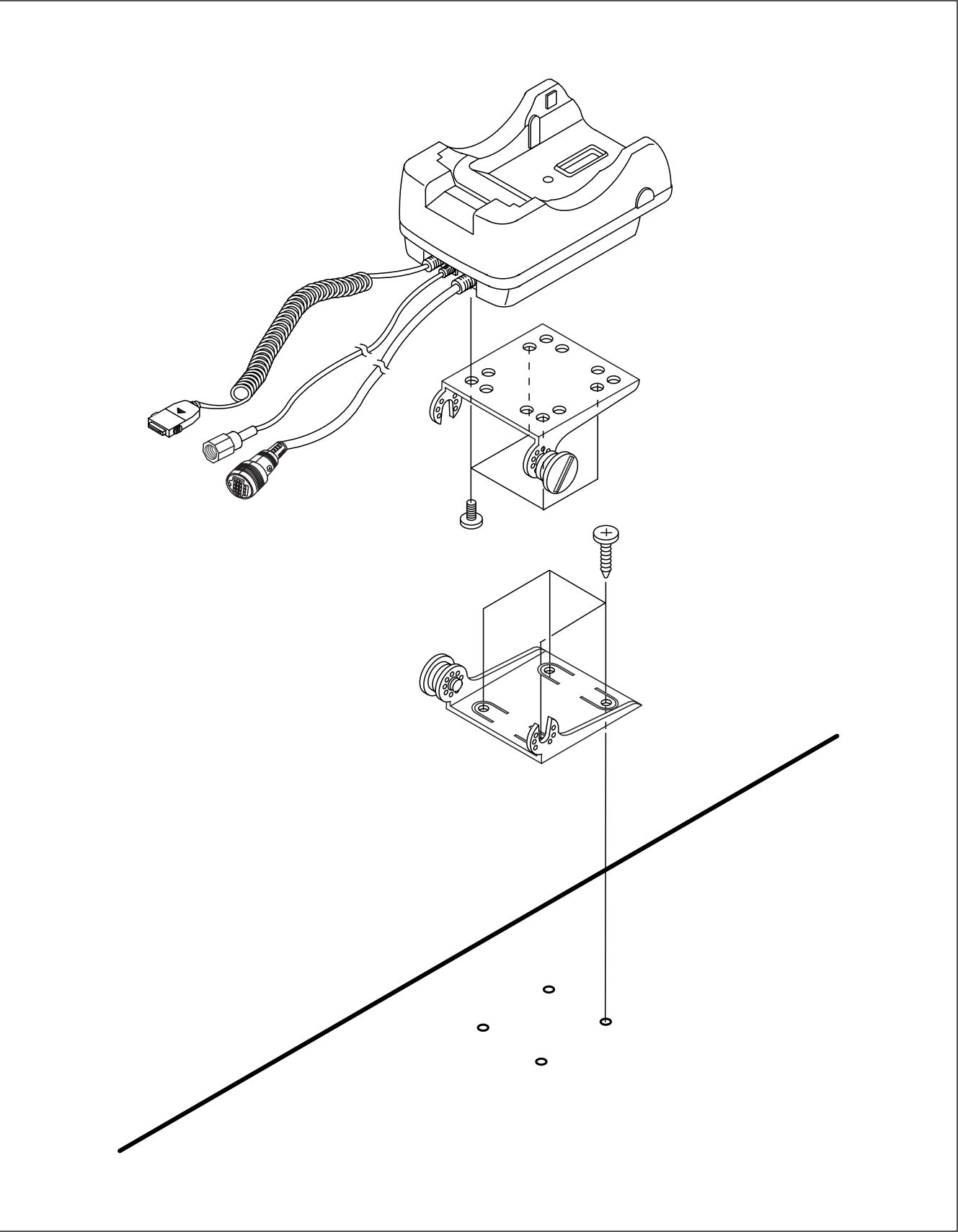


## 2-9 Ciger Light Adaptor Part List

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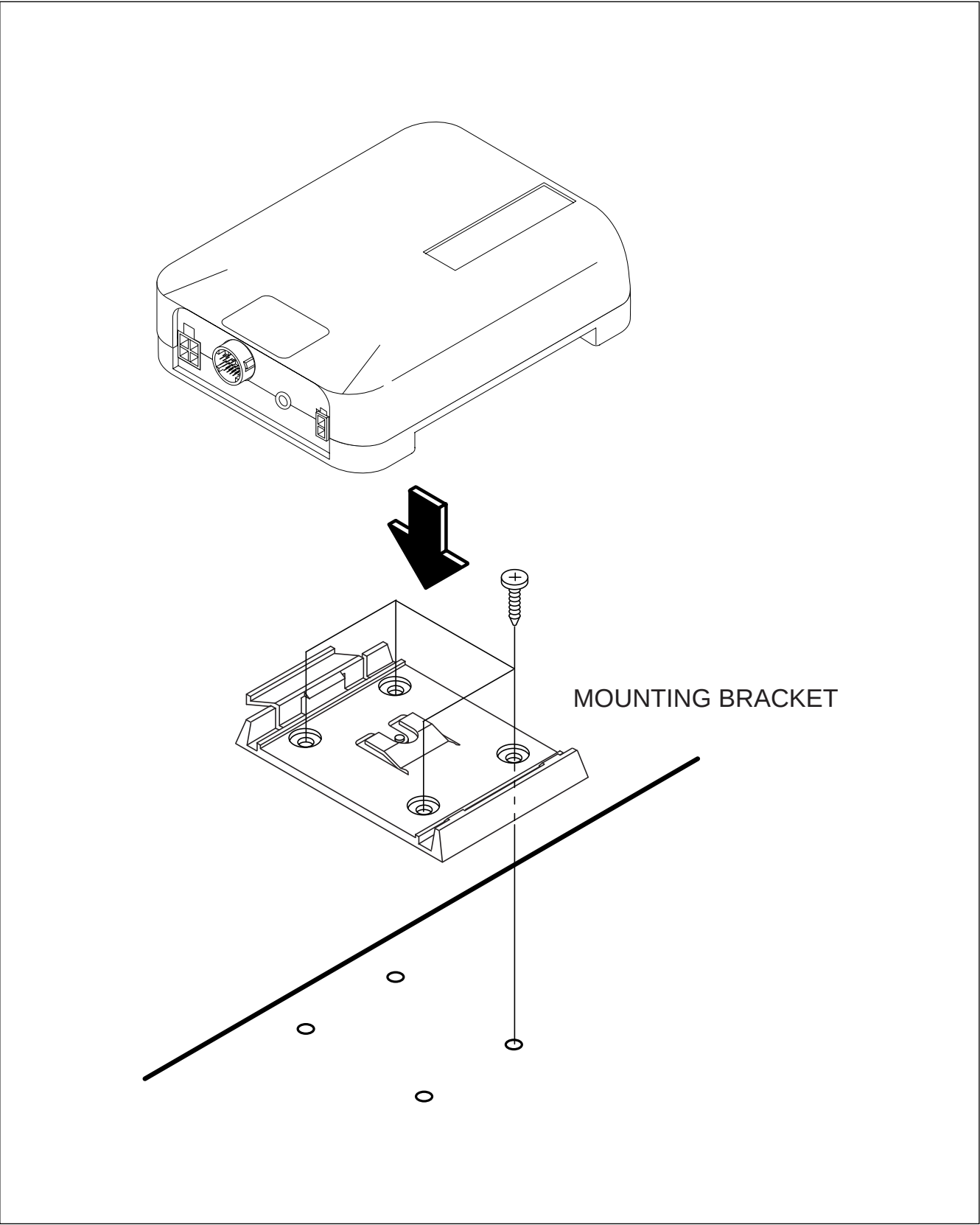
| Description              | SEC Code    | Remark |
|--------------------------|-------------|--------|
| Ciger Light Adaptor C0de | GH44-30546A | BLACK  |

# 2-10 Hands Free Kit Diagram



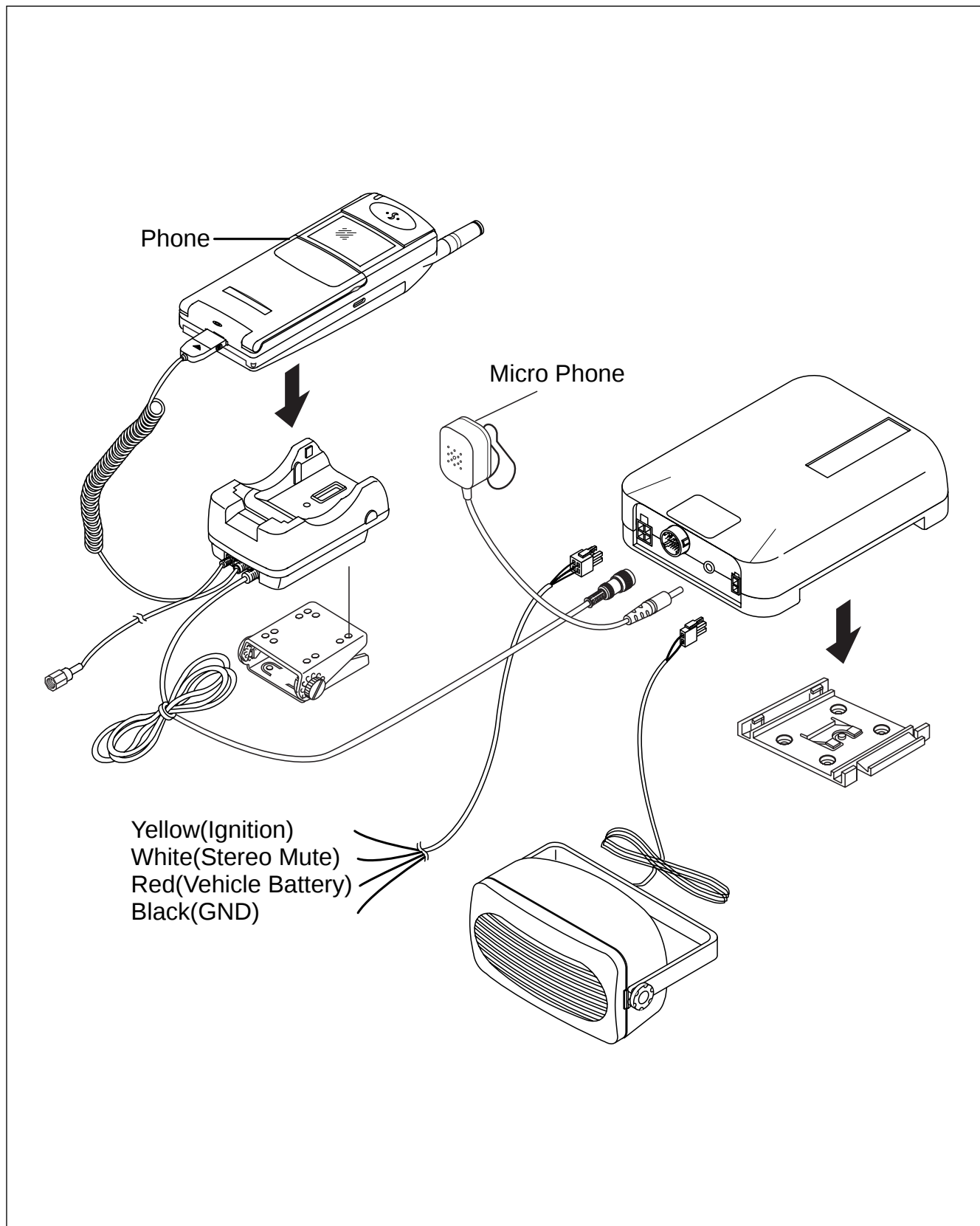
# 2-11 Hands Free Kit

## 2-11-1 Hands Free Kit Ass'y



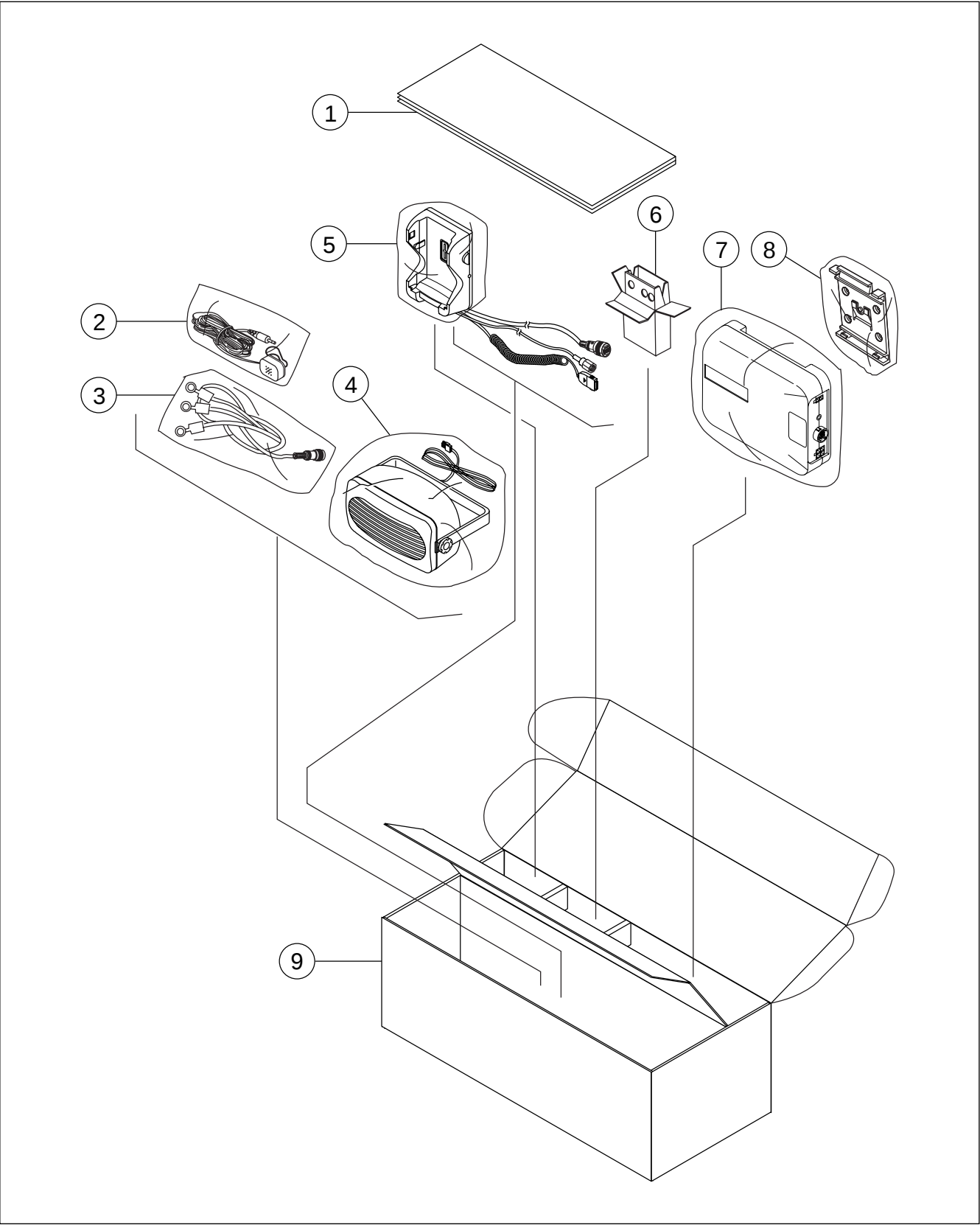
## 2-12 Hands Free Car Kit Option

### 2-12-1 Hands Free Car Kit Ass'y



# 2-13 Hands Free Kit Packing

## 2-13-1 Hands Free Kit Packing Exploded View



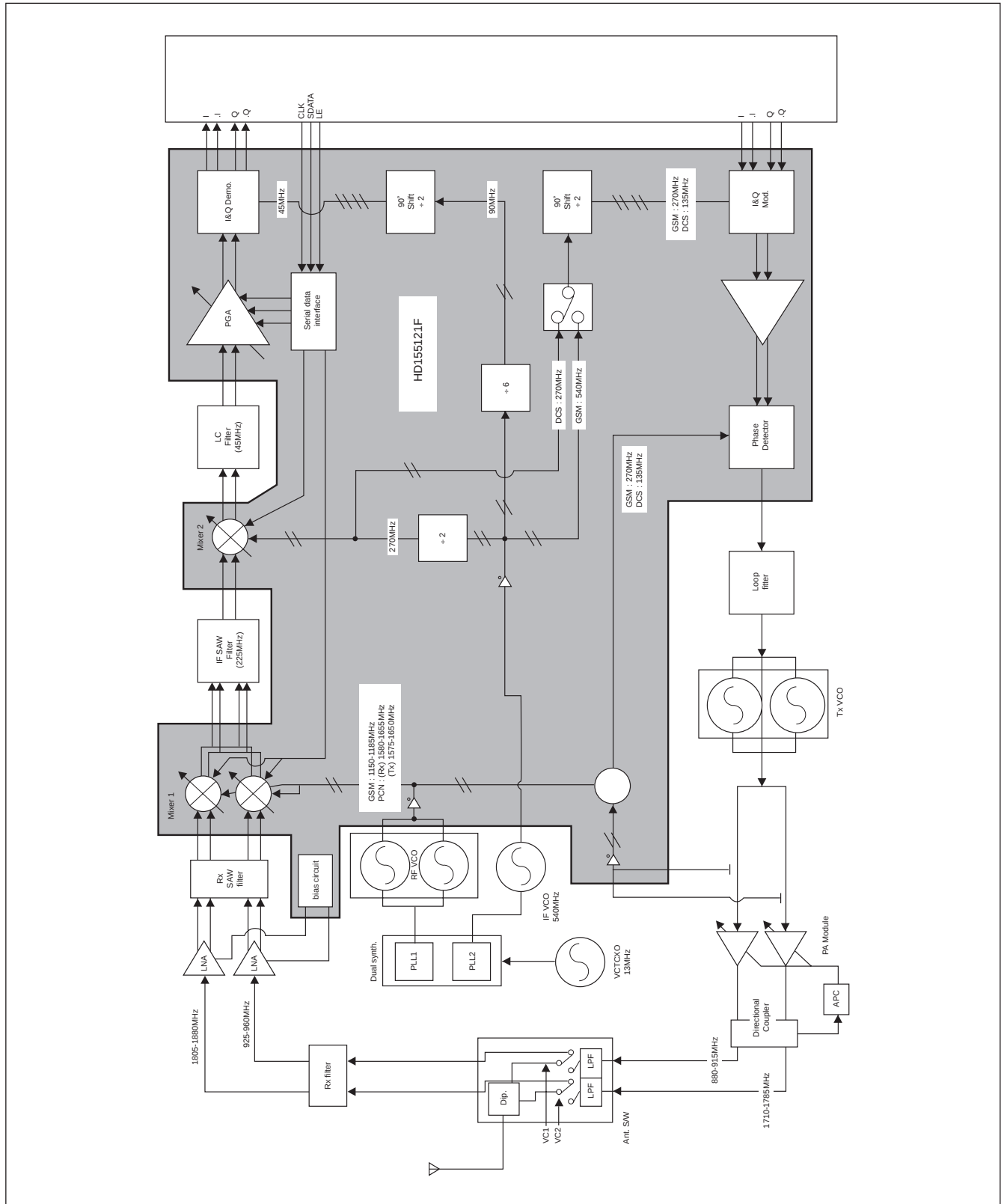
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### 2-13-2 Hands Free Kit Packing Parts List

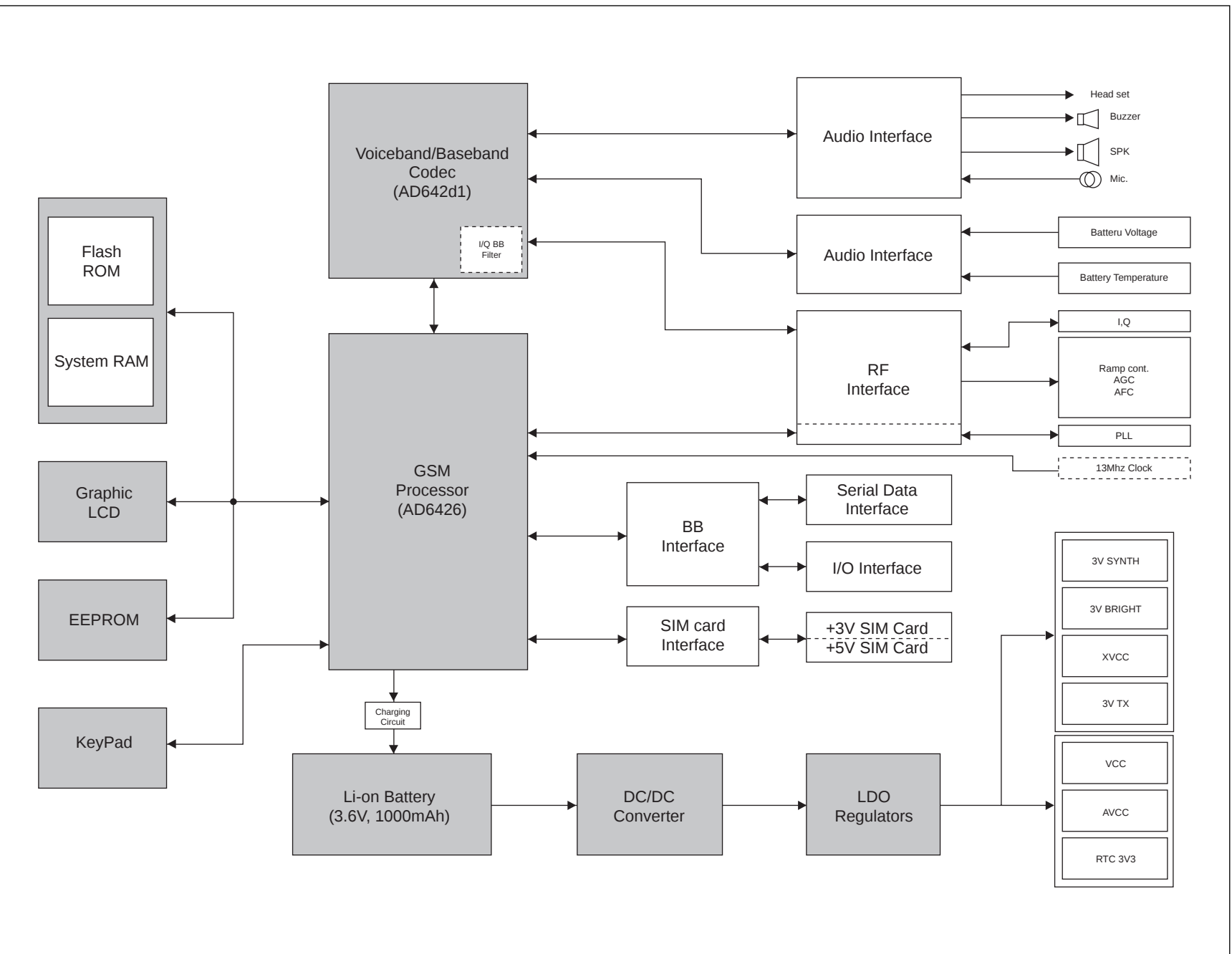
| No | DESCRIPTION                        | CODE | Q'TY | REMARK |
|----|------------------------------------|------|------|--------|
| 1  | User Manual                        |      | 1    |        |
| 2  | External Mic                       |      | 1    |        |
| 3  | Power cable                        |      | 1    |        |
| 4  | External speaker                   |      | 1    |        |
| 5  | Cradle                             |      | 1    |        |
| 6  | Install Bracket for cradle         |      | 1    |        |
| 7  | Hands free Box                     |      | 1    |        |
| 8  | Install Bracket for hands-free box |      | 1    |        |
| 9  | Unit Box                           |      | 1    |        |

## 3. Block Diagram

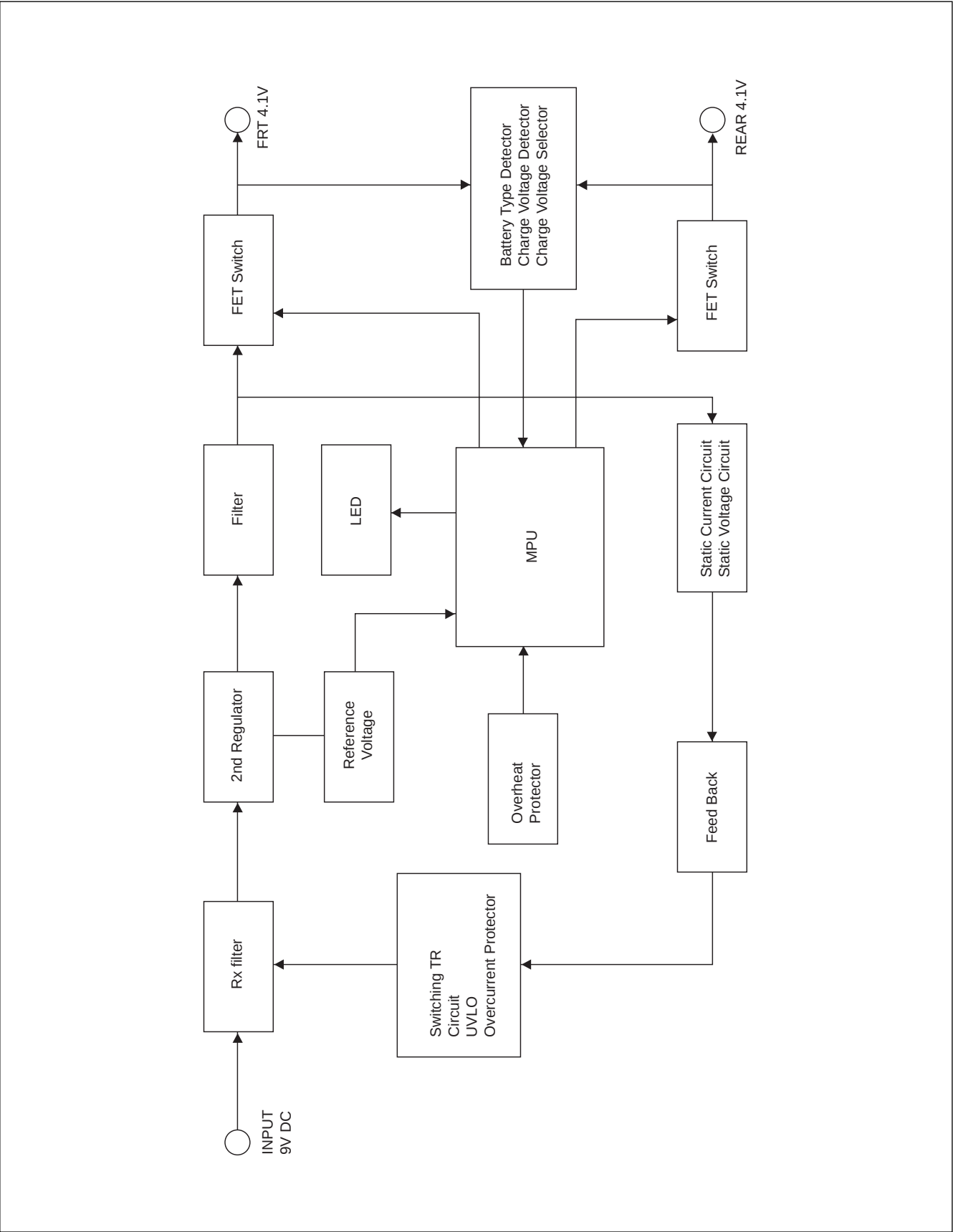
### 3-1 RF Block Diagram



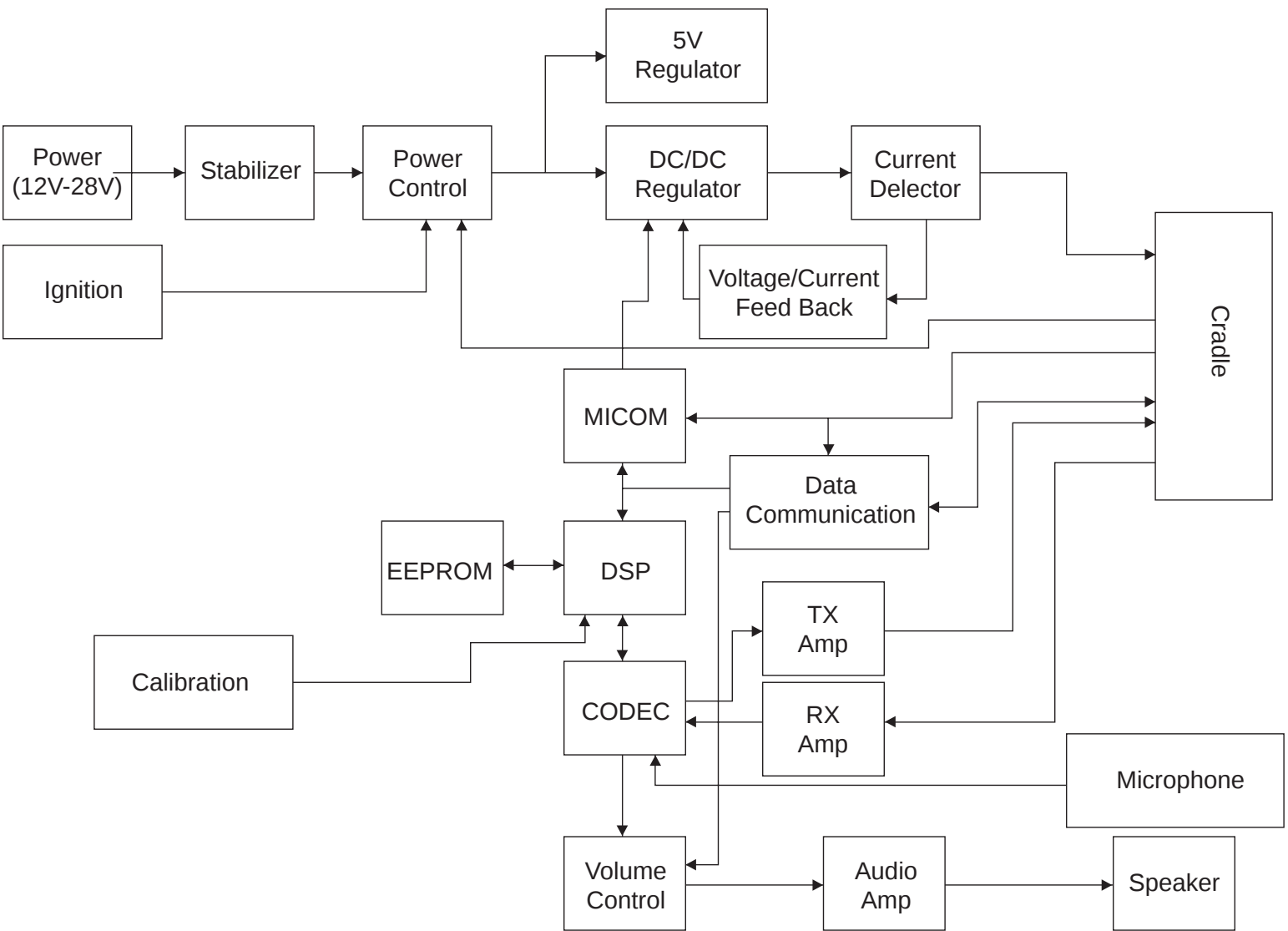
### 3-2 Baseband Block Diagram



### 3-3 DTC Block Diagram



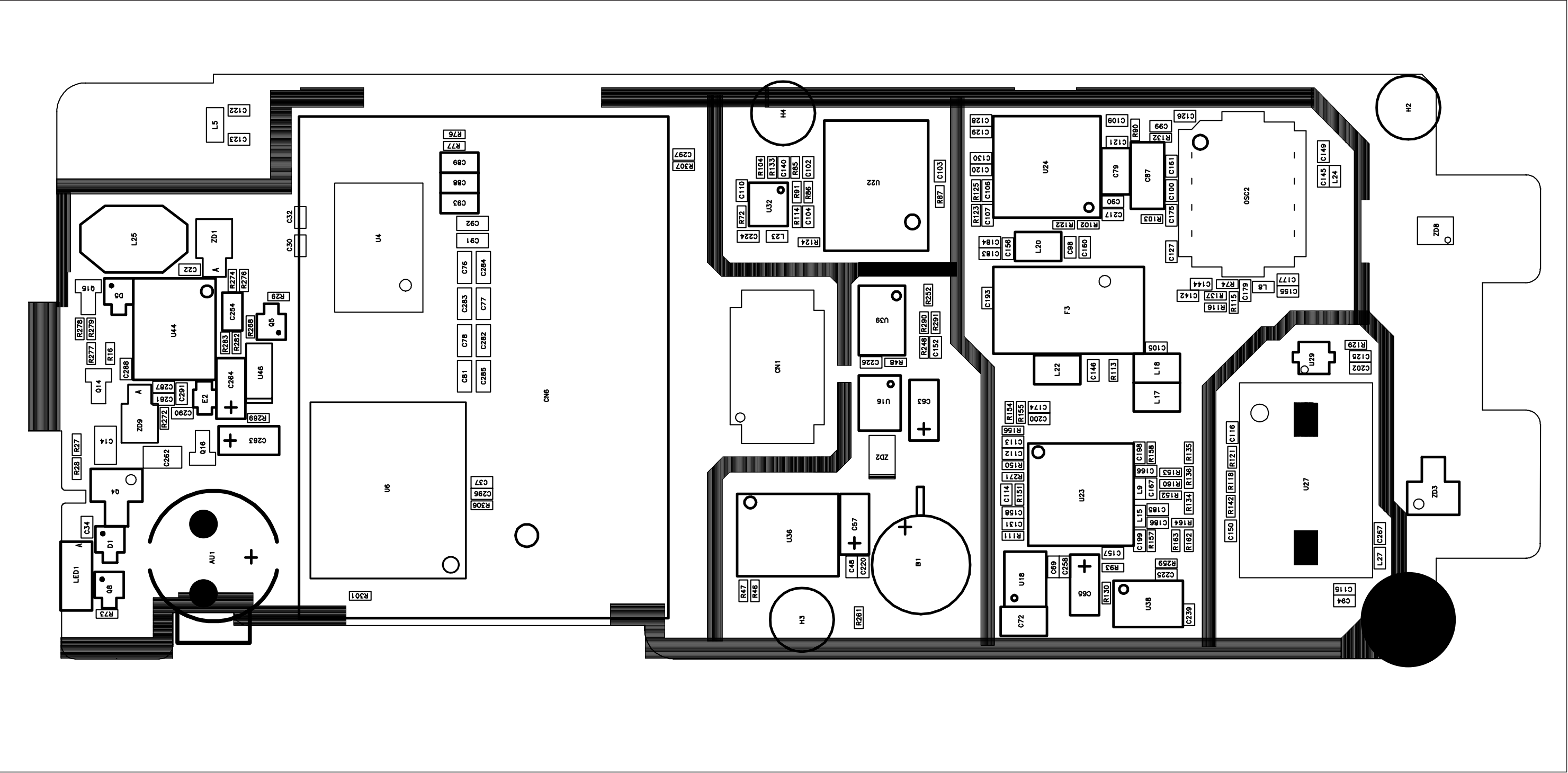
### 3-4 HFK Block Diagram



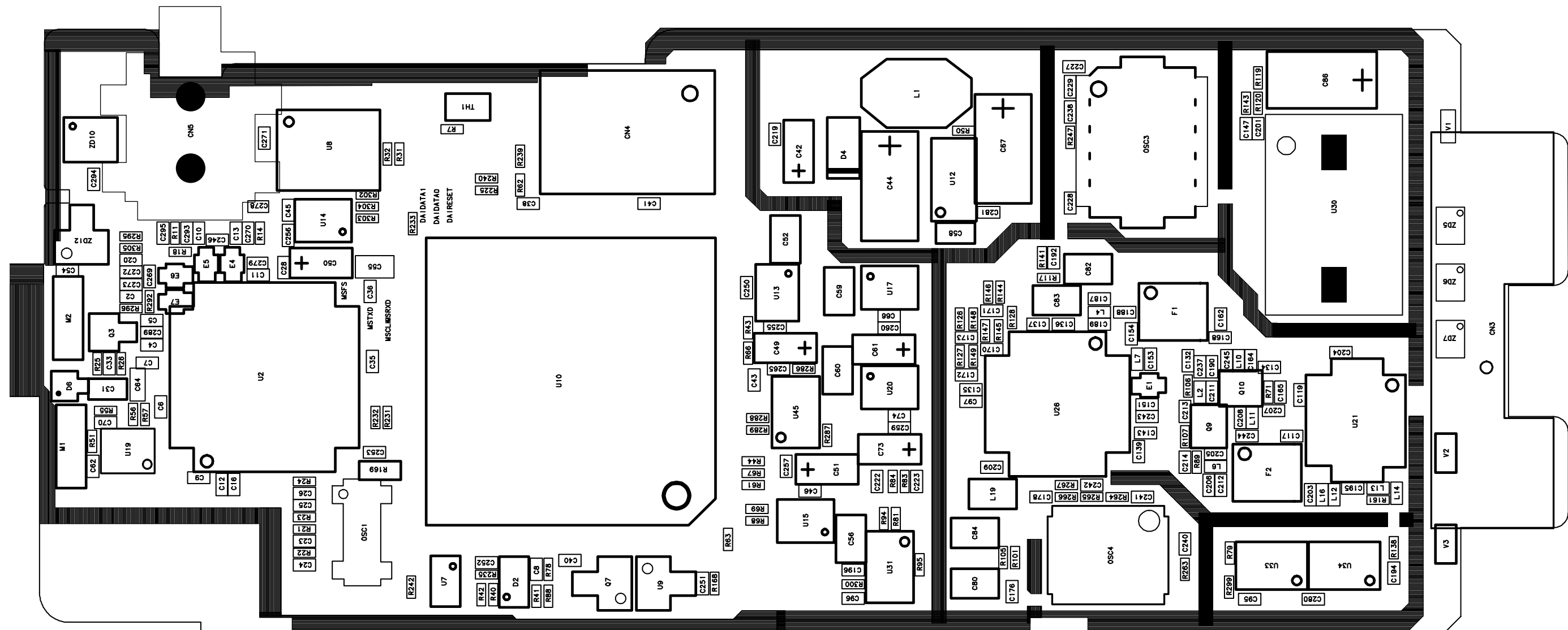
4. PCB Diagram

4-1 Main PCB

Top View

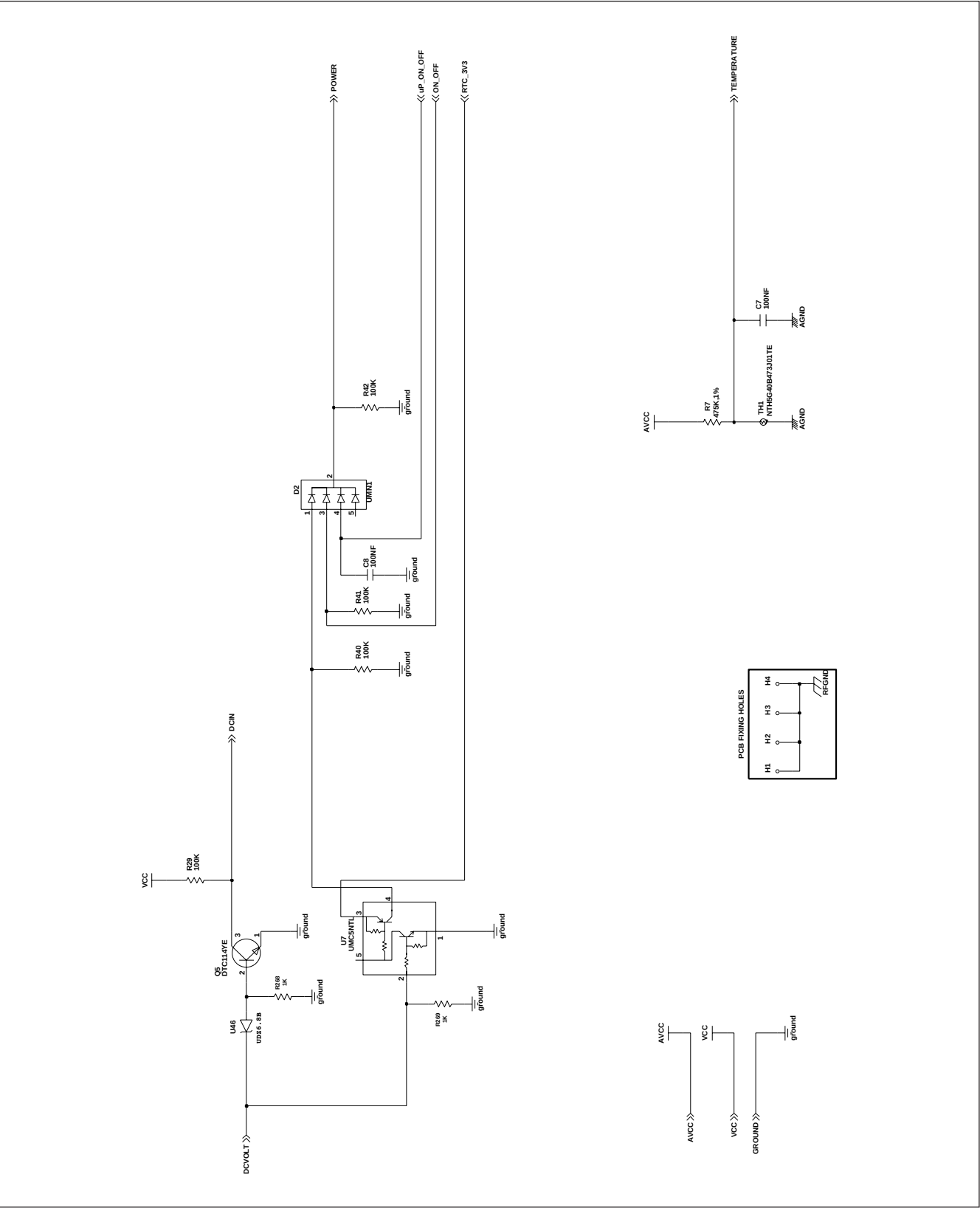


Bottom View

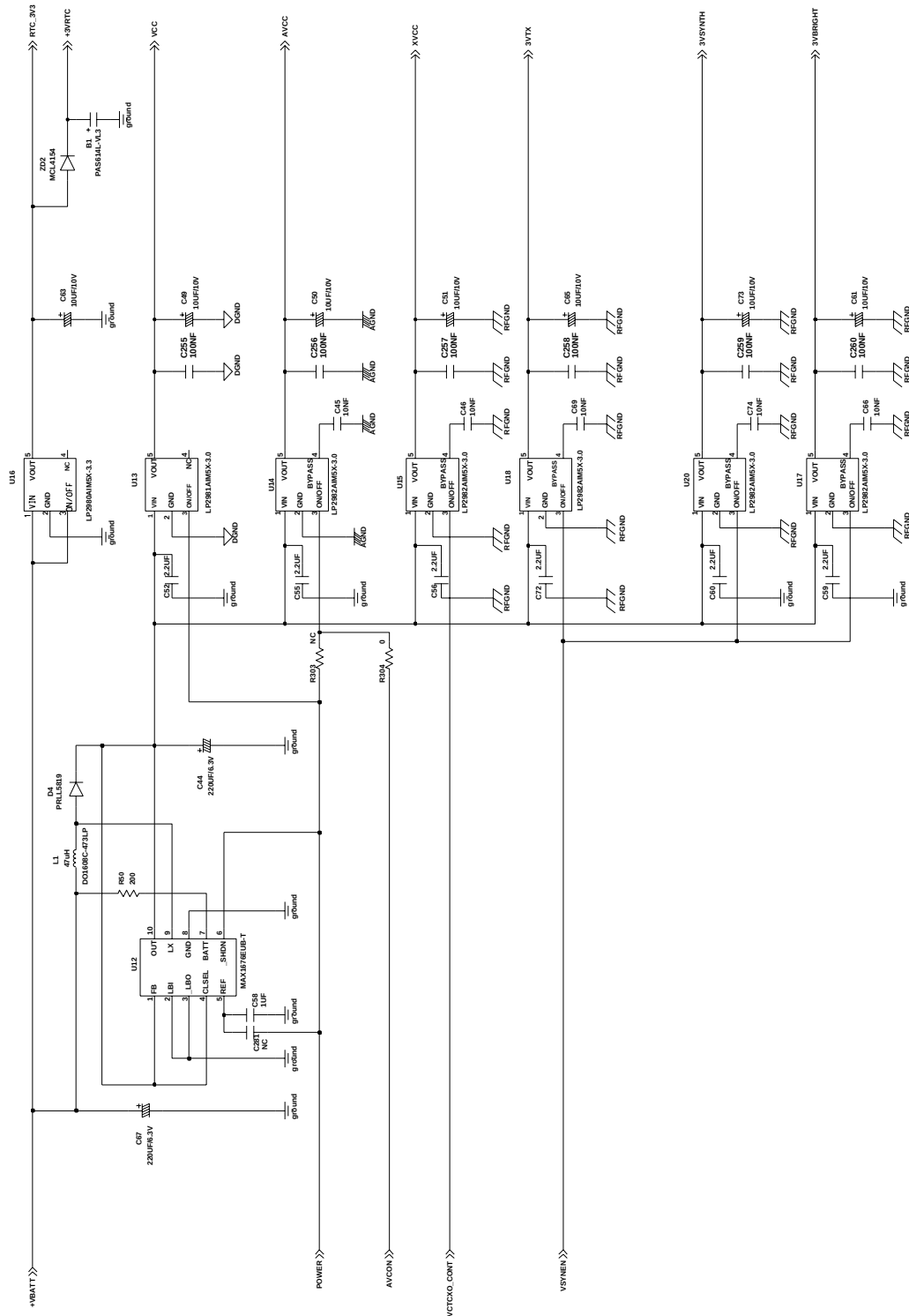


# 5. Schematic Diagrams

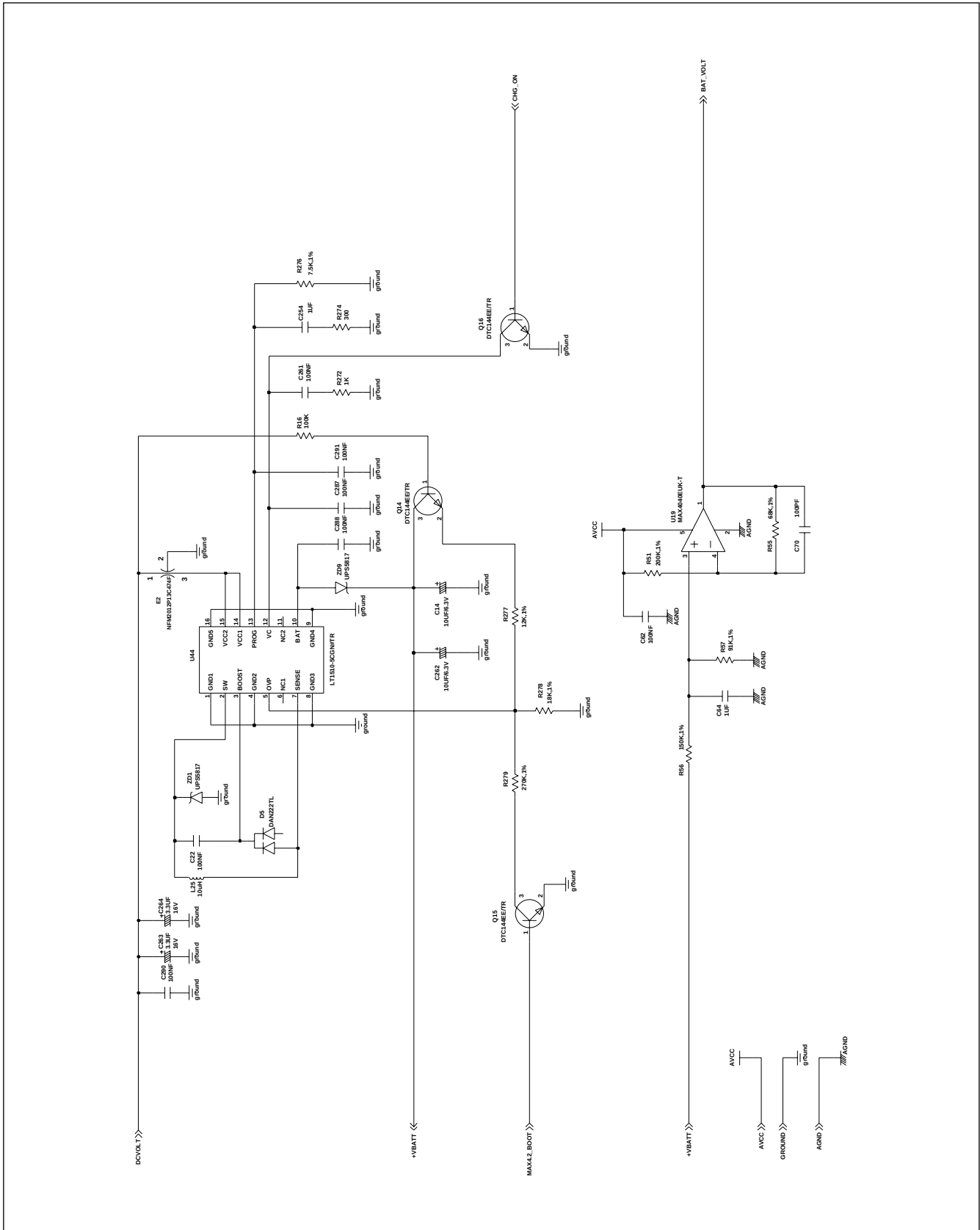
## 5-1 Power Management Schematic



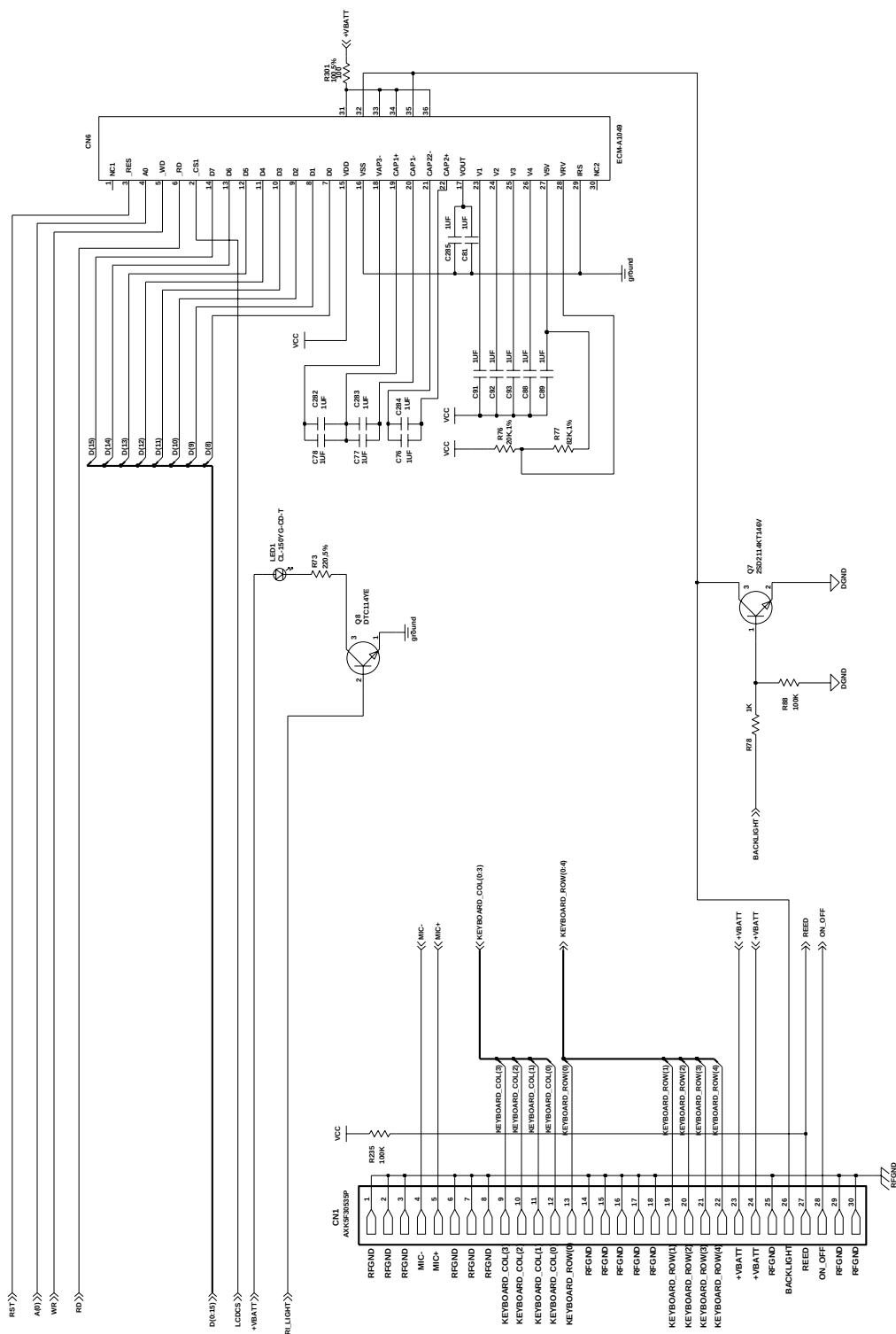
## 5-2 PSU Schematic



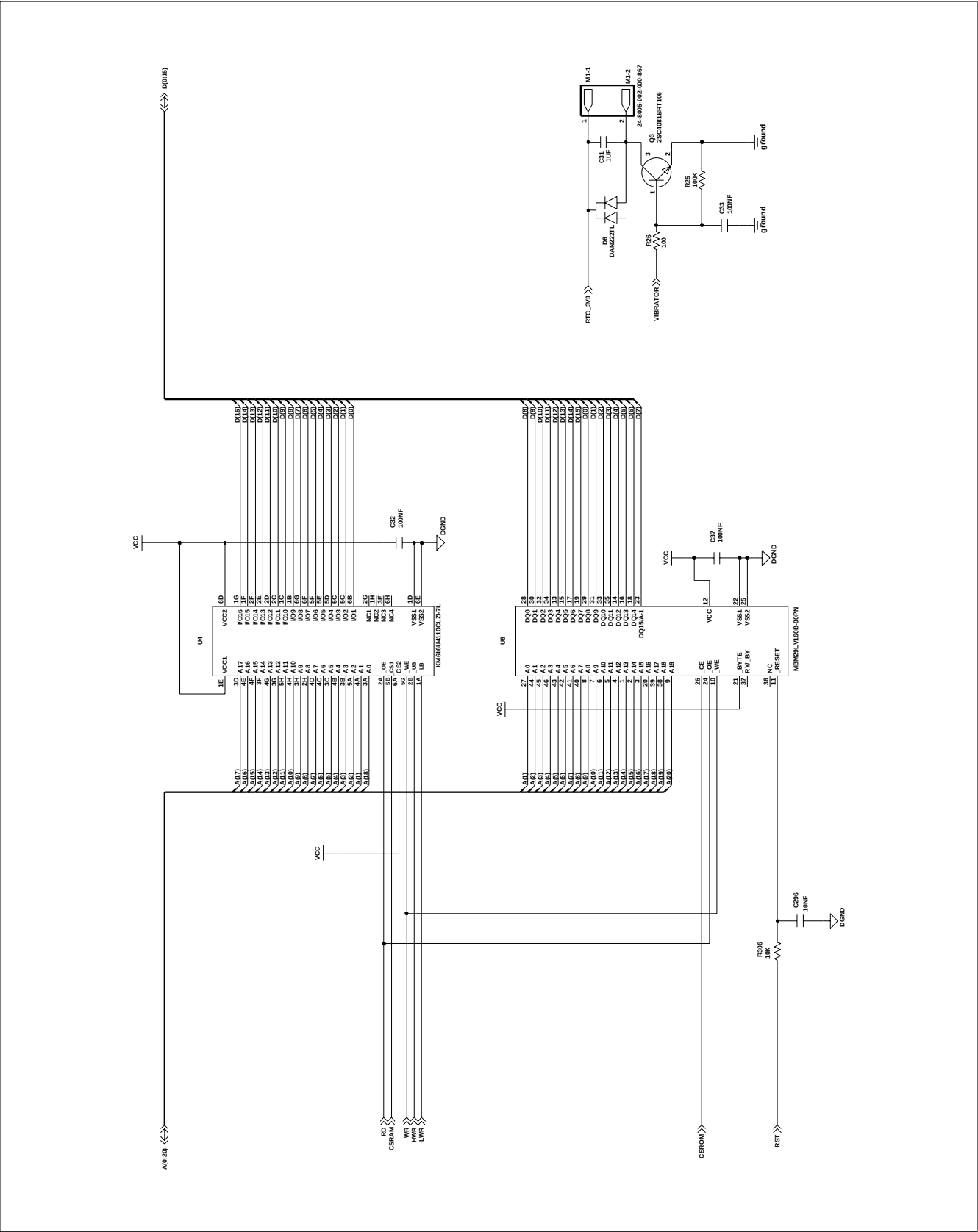
### 5-3 B.B Charger



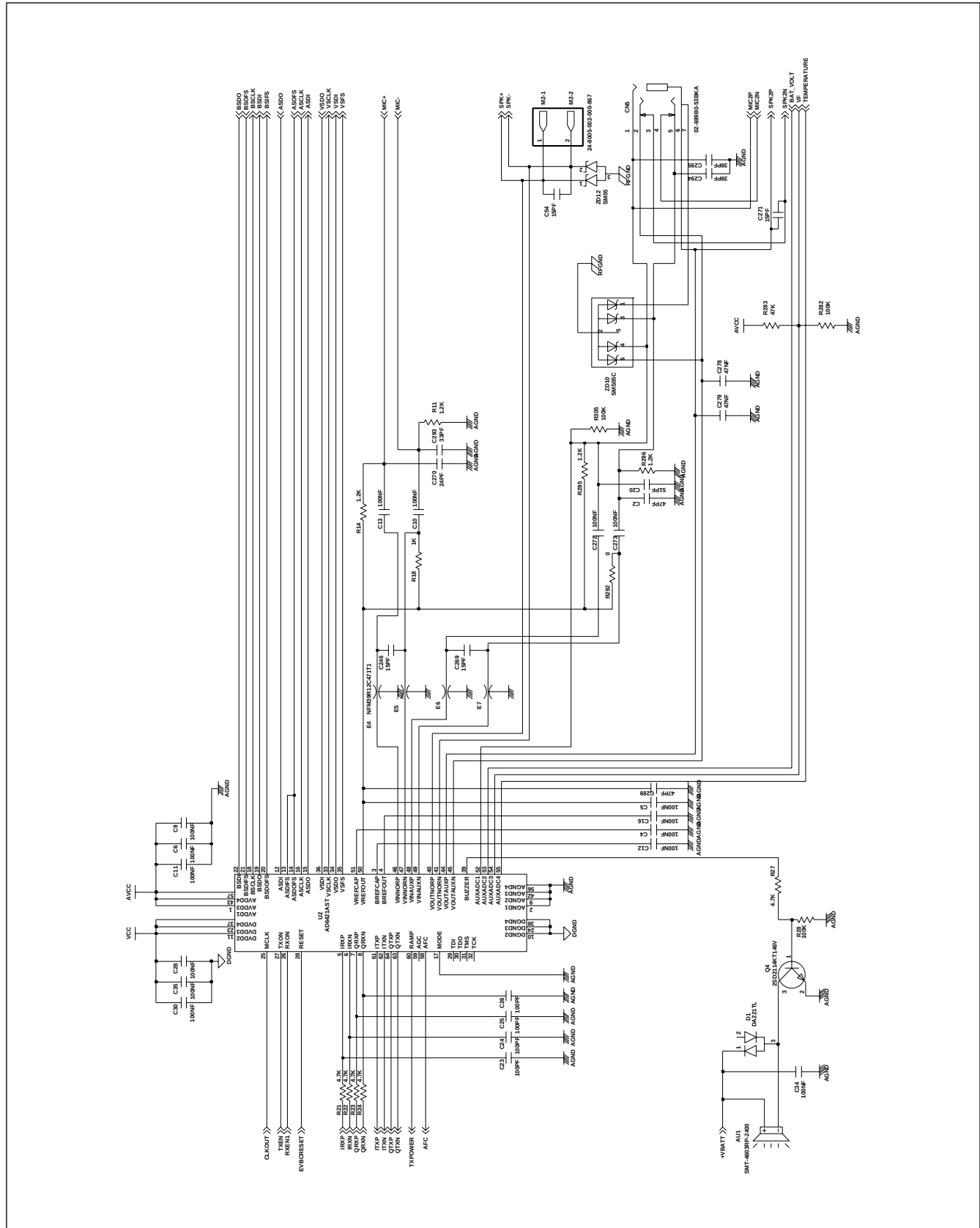
## Schematic Diagrams



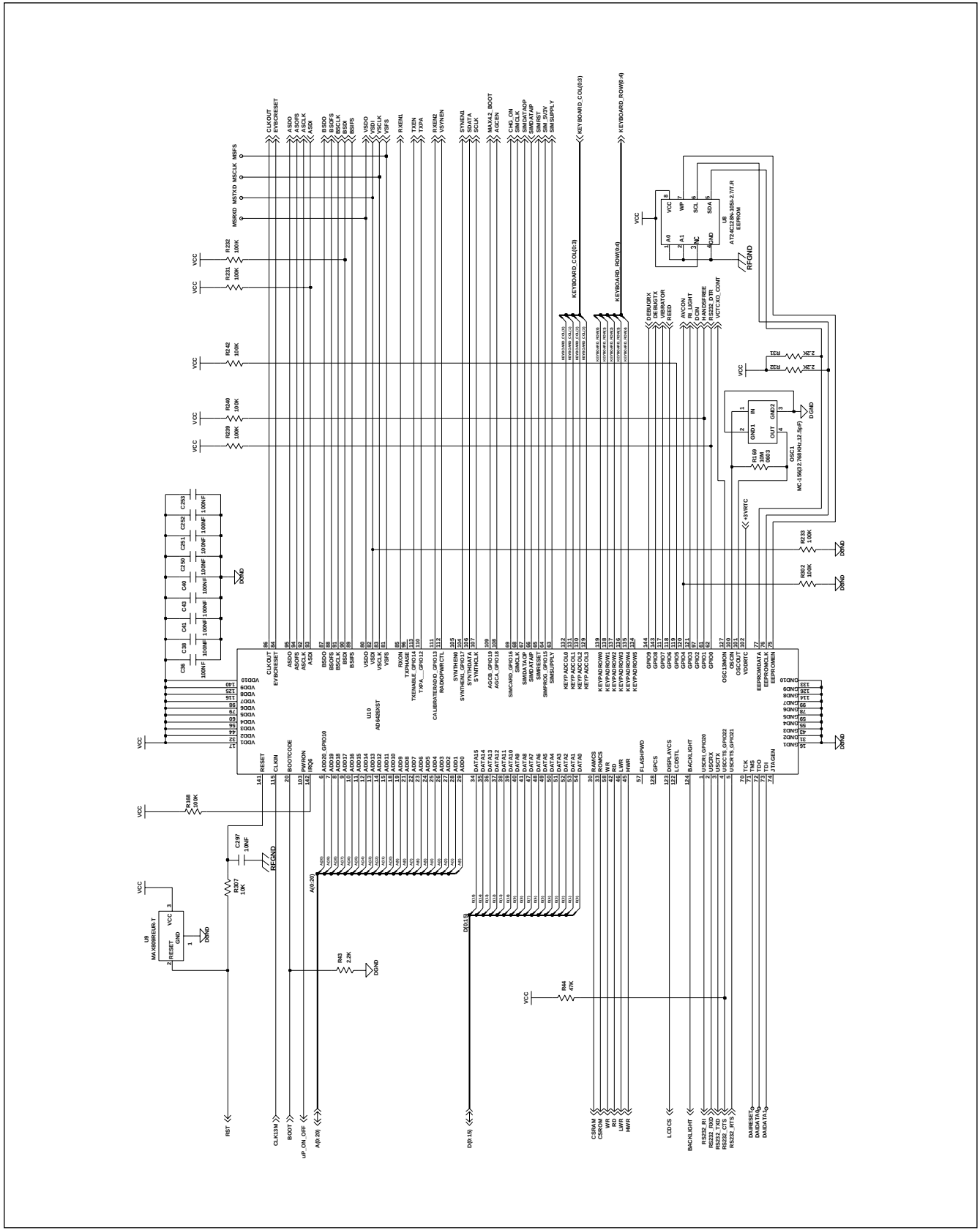
# 5-5 B.B Memory



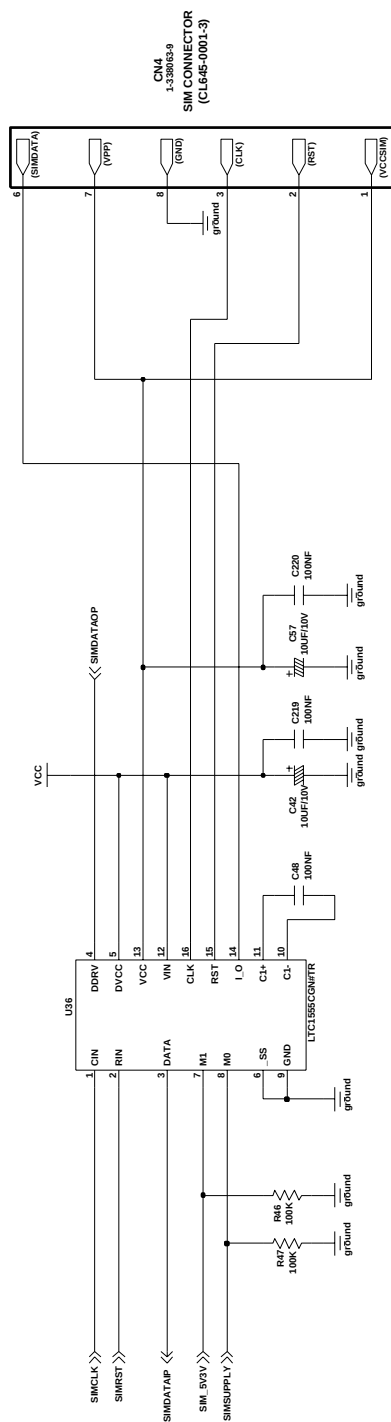
## 5-6 EVBC



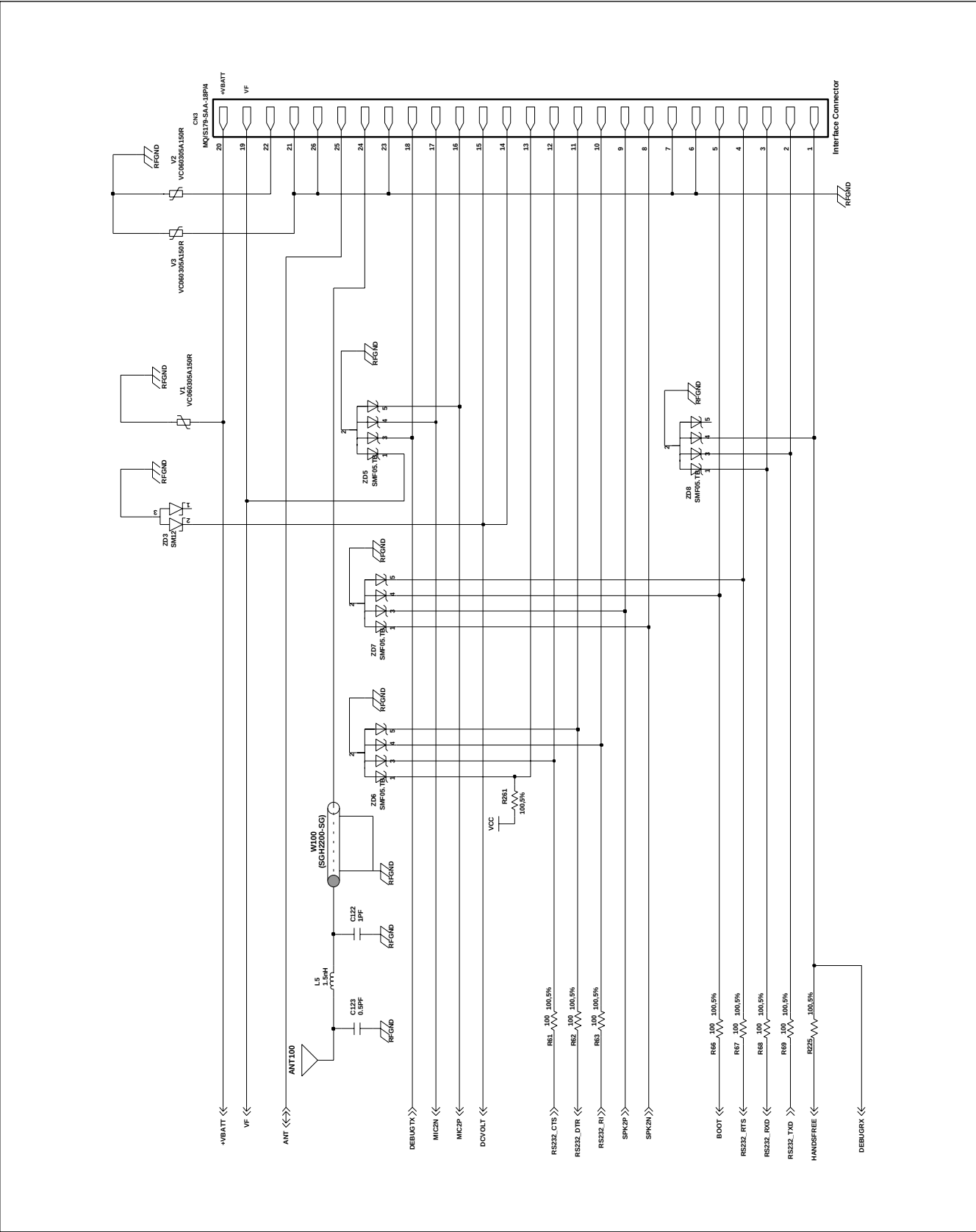
## 5-7 EGSMP



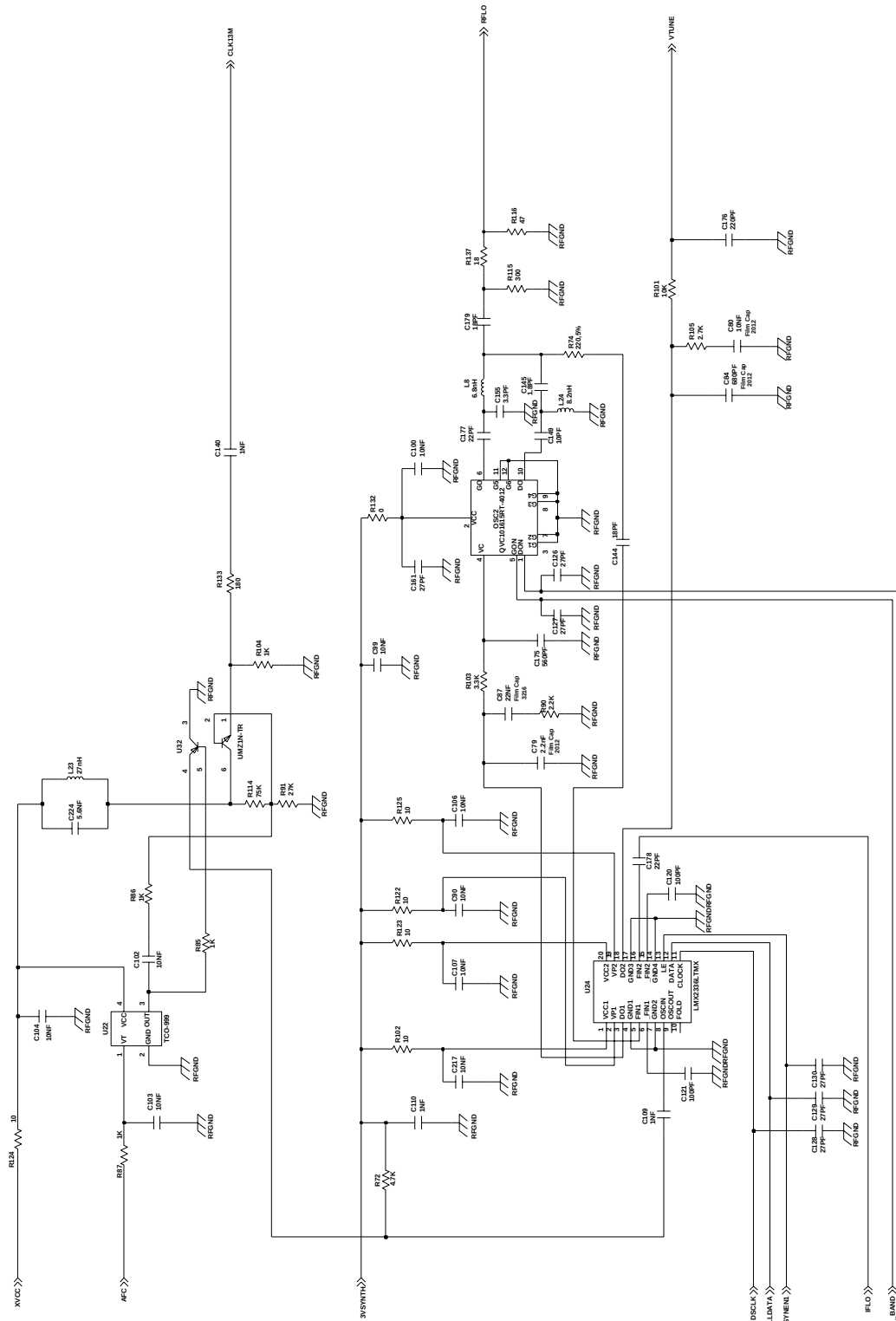
# 5-8 SIM Interface



# 5-9 B.B Interface Connector



## 5-10 VCTXO & DUAL Synthesizer



# 5-11 BRIGHT IC & TXVCO

# 5-12 LNA

# 5-13 RF Transmitter

