

DEV-KIT HL78xx-RC-WP

TABLE OF CONTENTS

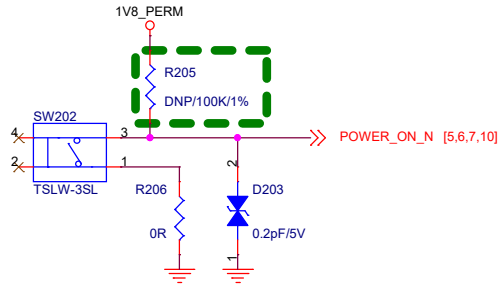
SHEET	TITLE
1	Table of Contents
2	CONTROL & POWERS
3	UART0 & UART3
4	UART1 & USB Main
5	UIM1 & UIM2
6	STMOD & ARDUINO
7	LGA PAD - TWO RING
8	MAIN POWER
9	RF & GPS Antenna Detection
10	LED INDICATORS
11	DIGITAL AUDIO CODEC
12	UART2
13	Mechanical
14	History

Product	Main Tech. Features	SCH#	PCB#	PCA#
DEV-KIT HL78xx-RC-WP	DEMOBOARD (EVB), HL78XX/RC/WP			

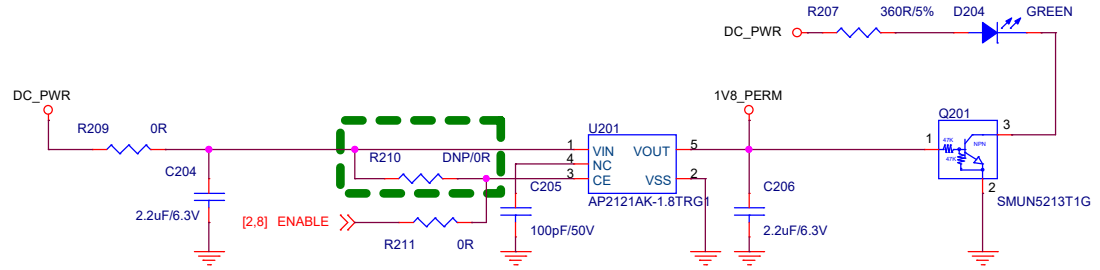


Title		
DEV-KIT HL78xx-RC-WP		
Size	Document Number	Rev
B	01.Table of Contents	D3
Date:	Friday, March 03, 2023	Sheet 1 of 14

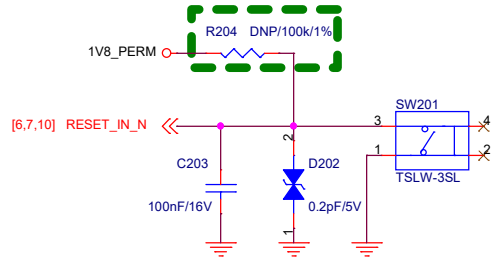
ON/OFF



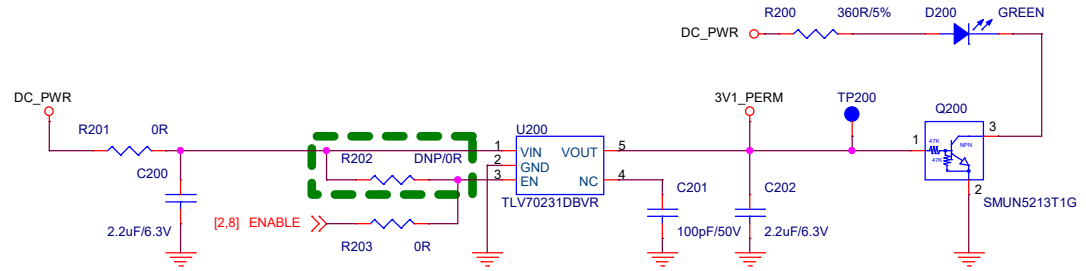
LDO_1V8_PERM



RESET

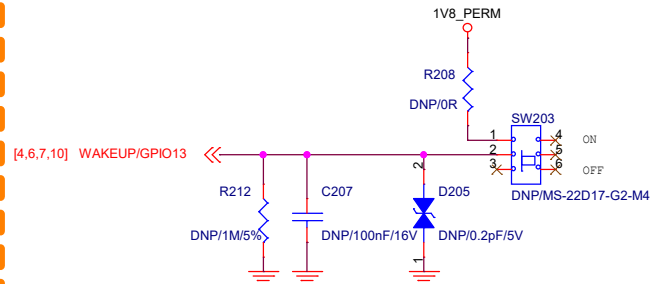


LDO_3V1_PERM

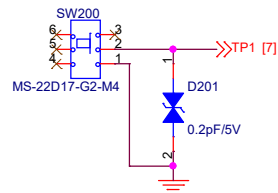


WAKE_UP

RC76-DNP
HL78-Populated

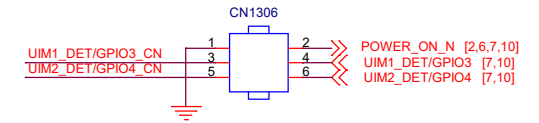
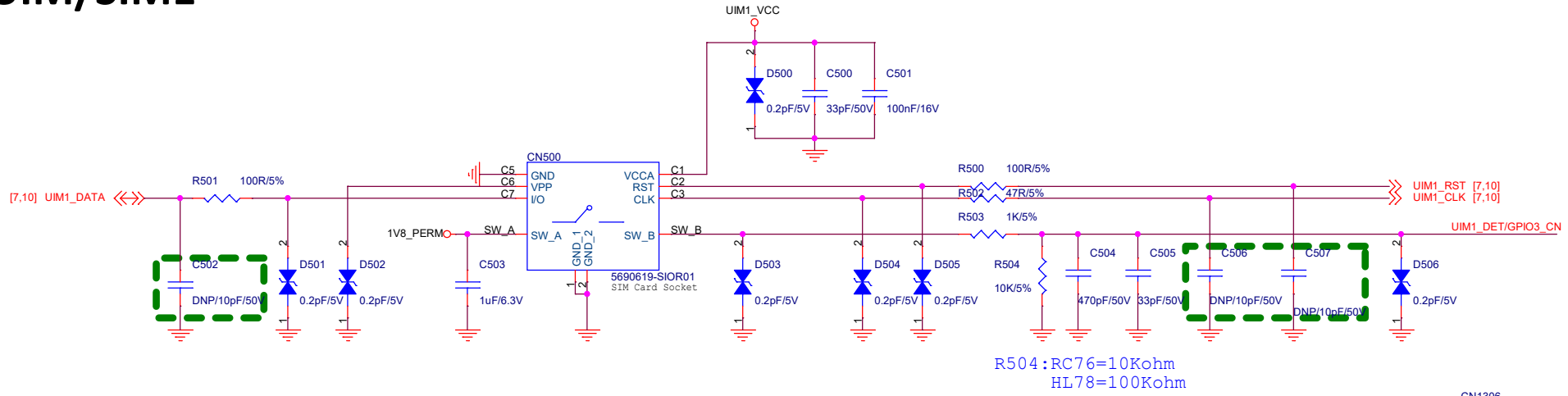


BOOT



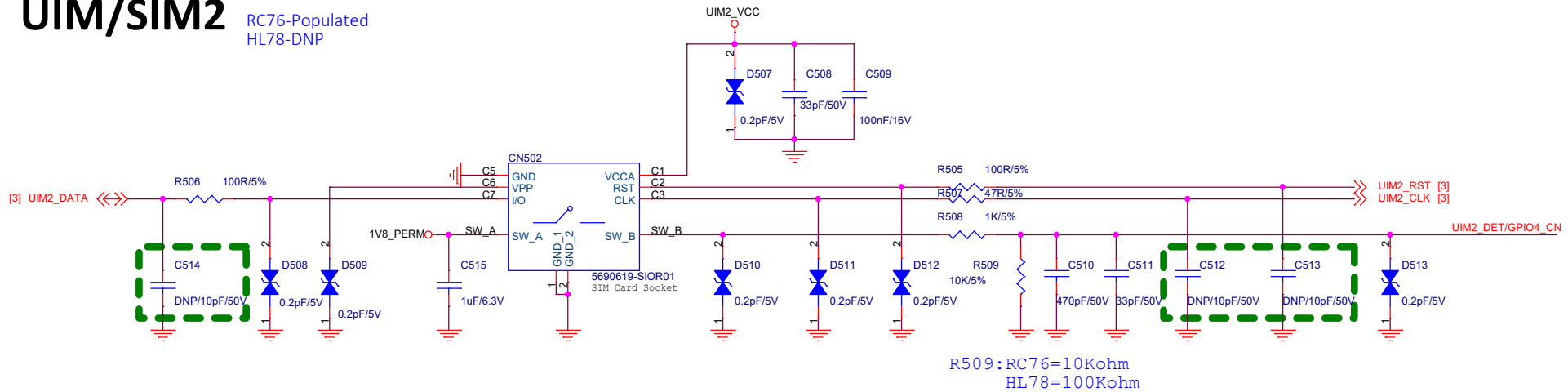
Title		
DEV-KIT HL78xx-RC-WP		
Size	Document Number	Rev
B	02.CONTROL & POWERS	D3
Date:	Friday, March 03, 2023	Sheet 2 of 14

UIM/SIM1



UIM/SIM2

RC76-Populated
HL78-DNP



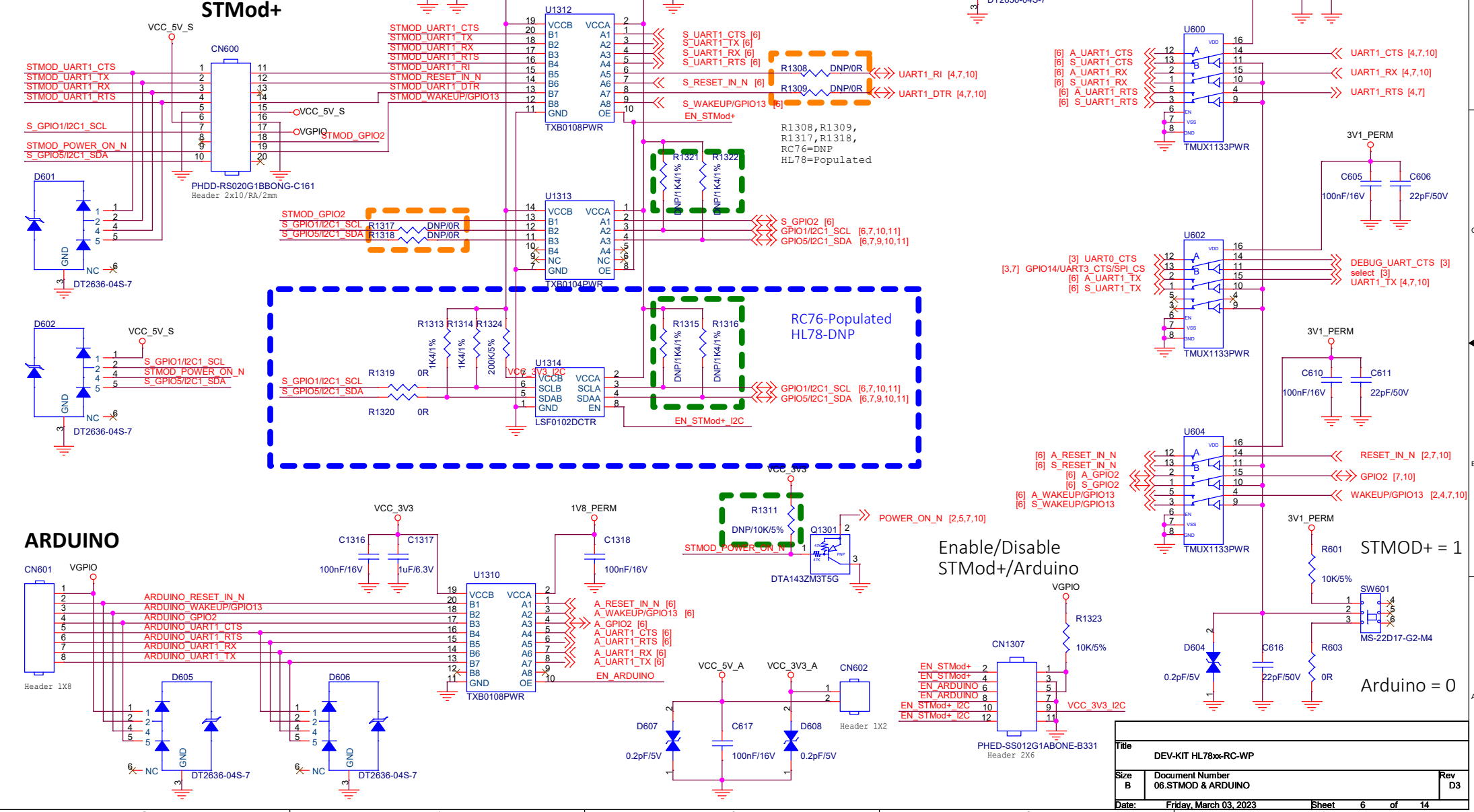
Title		
DEV-KIT HL78xx-RC-WP		
Size	Document Number	Rev
B	05.UIM1 & UIM2	D3
Date:	Friday, March 03, 2023	Sheet 5 of 14

Arduino and STMod+

Wakeup function:

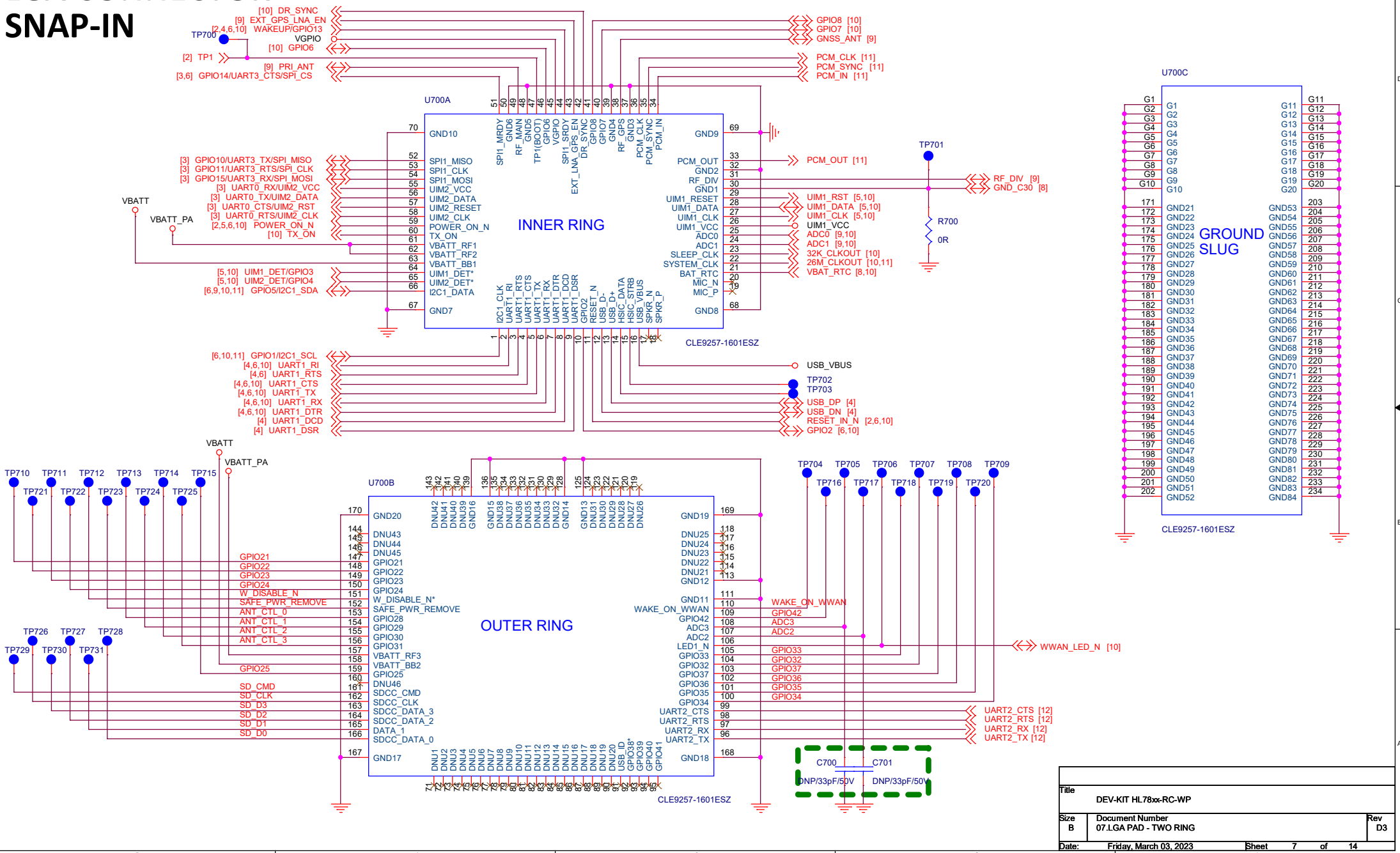
WAKEUP/GPIO13 is for HL78
GPIO2 is for RC/WP

Choice : ARDUINO or STMOD+



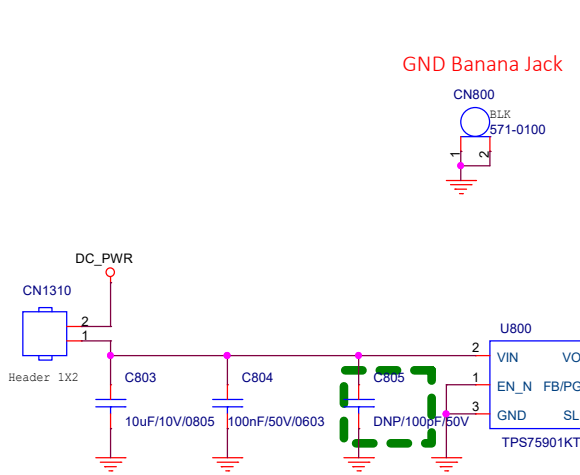
Title		
DEV-KIT HL78xx-RC-WP		
Size	Document Number	Rev
B	06.STMOD & ARDUINO	D3
Date:	Friday, March 03, 2023	Sheet 6 of 14

LGA CONNECTOR SNAP-IN

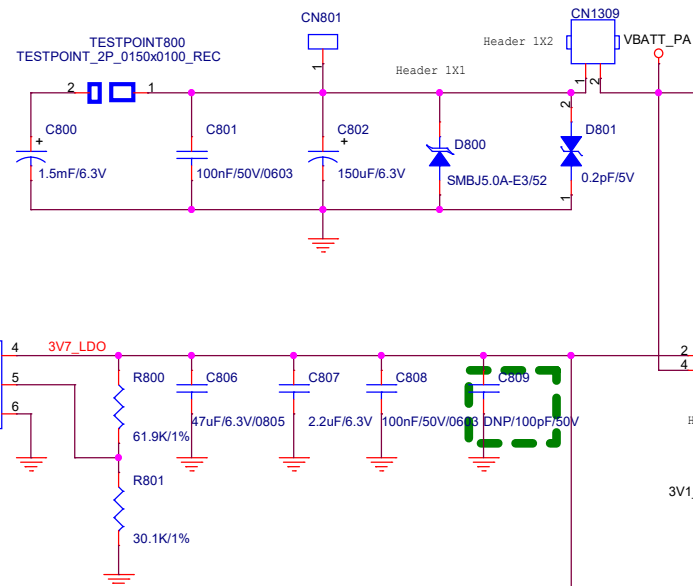
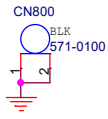


Title		
DEV-KIT HL78xx-RC-WP		
Size	Document Number	Rev
B	07.LGA PAD - TWO RING	D3
Date:	Friday, March 03, 2023	Sheet 7 of 14

MAIN POWER



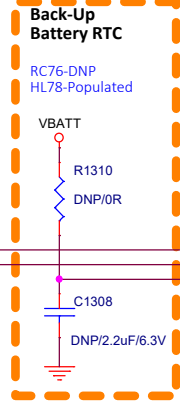
GND Banana Jack



VBATT_PA

1. If RF and BB power are the same, charging CN804 and installing CN1301_Pin 3-4 jumper.

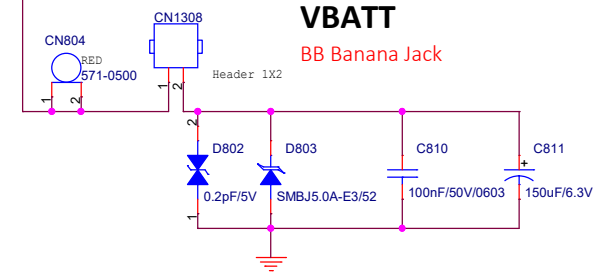
2. If RF and BB power are separated, charging CN804 and CN801. Taking away CN1301_Pin 3-4 jumper.



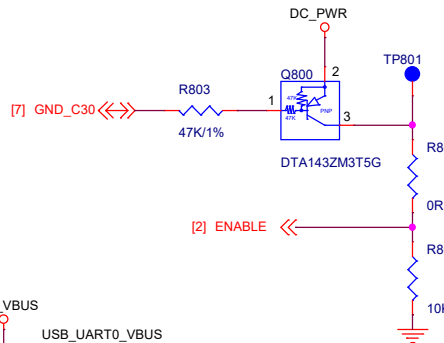
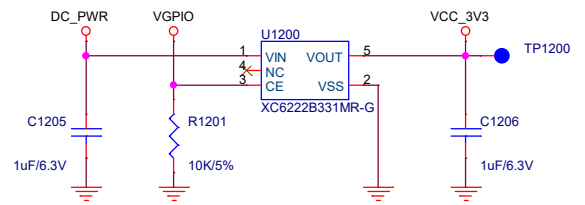
Back-Up Battery RTC

VBATT

BB Banana Jack



LDO_3V3



[7] GND_C30

[2] ENABLE

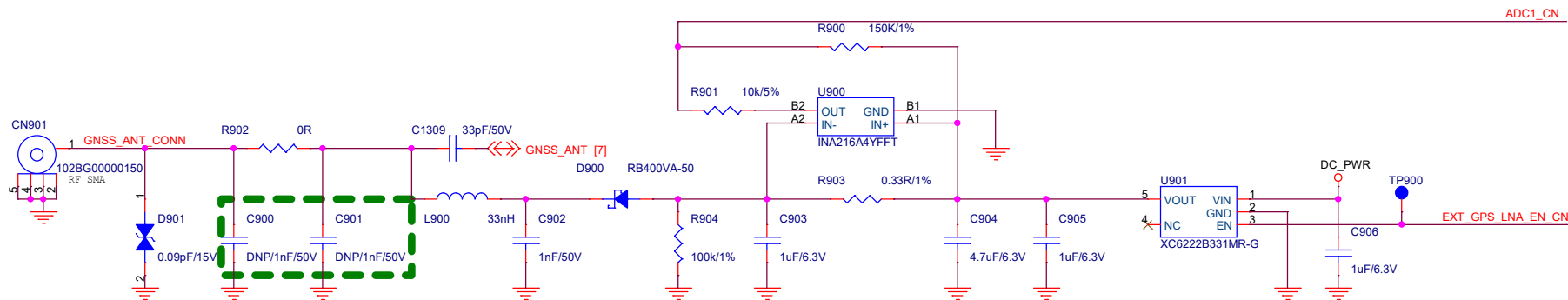
1. Jumper install on 1 and 2: Power from STMOD+ 5V.
2. Jumper install on 3 and 4: Power from ARDUINO 5V.
3. Jumper install on 5 and 6: Power from USB_UART1 5V.
4. Jumper install on 7 and 8: Power from USB_UART0 5V.
5. Jumper install on 9 and 10: Power from Main USB 5V.

VBATT & VBATT_PA: OK

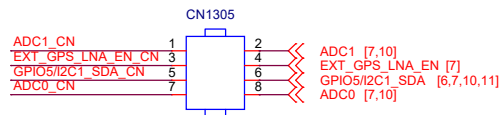
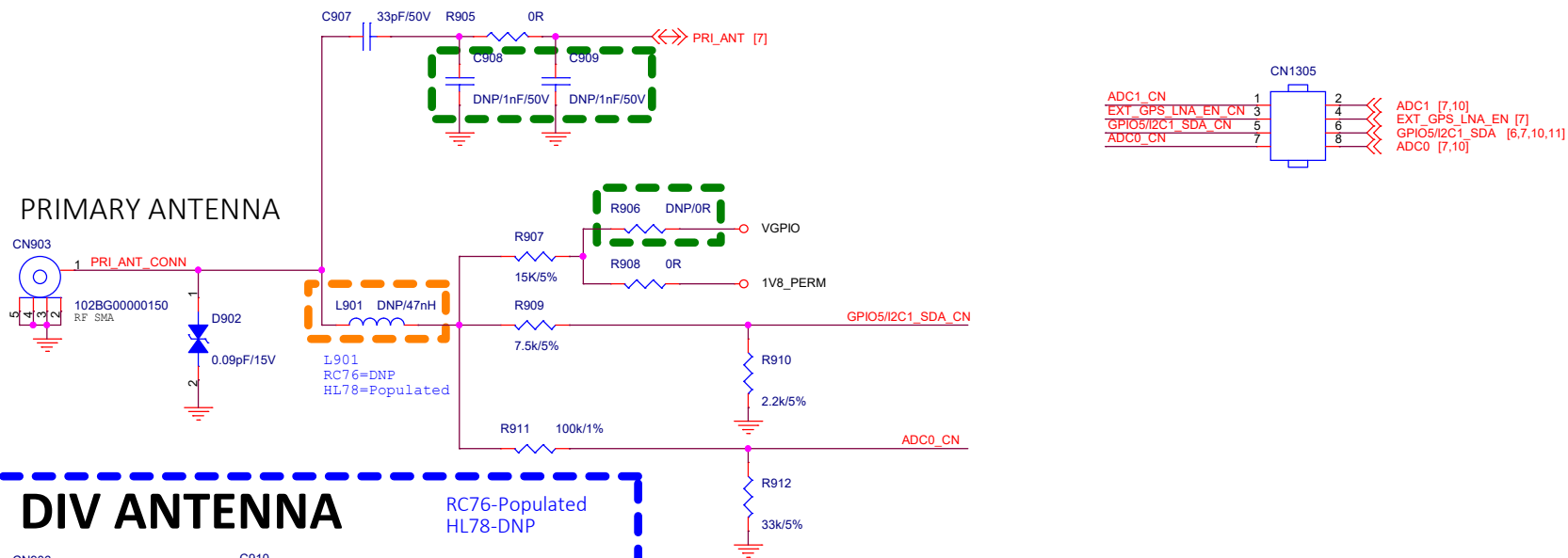
DC_PWR : OK

Title		
DEV-KIT HL78xx-RC-WP		
Size	Document Number	Rev
B	08.MAIN POWER	D3
Date:	Friday, March 03, 2023	Sheet 8 of 14

GNSS Antenna Bias and Detecion Circuit

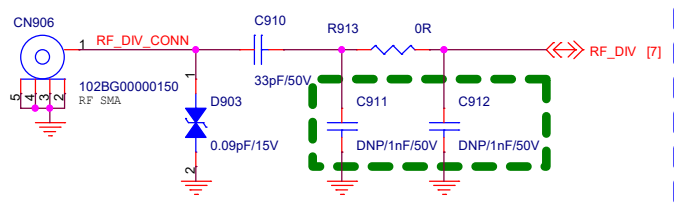


RF Antenna Detection Circuit



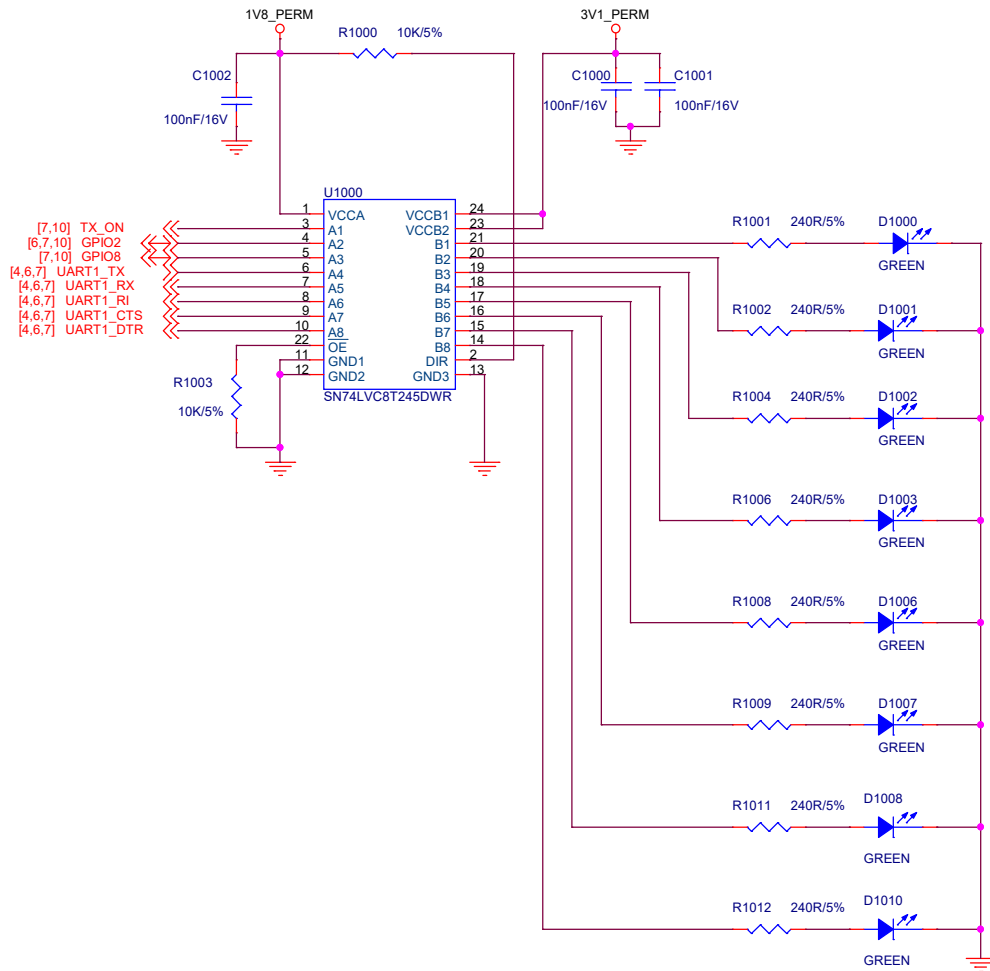
DIV ANTENNA

RC76-Populated
HL78-DNP

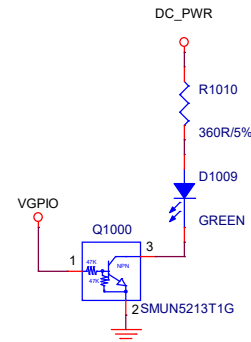
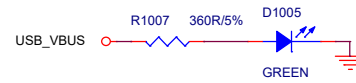
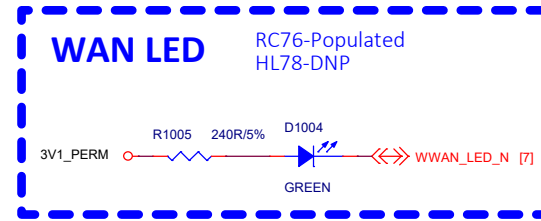
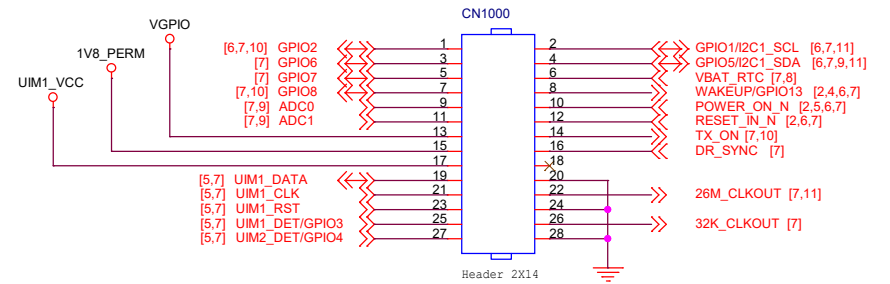


Title		
DEV-KIT HL78xx-RC-WP		
Size	Document Number	Rev
B	09.RF & GPS Antenna Detection	D3
Date:	Friday, March 03, 2023	Sheet 9 of 14

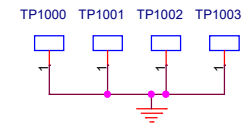
LED INDICATORS



GPIO TESTING HEADER

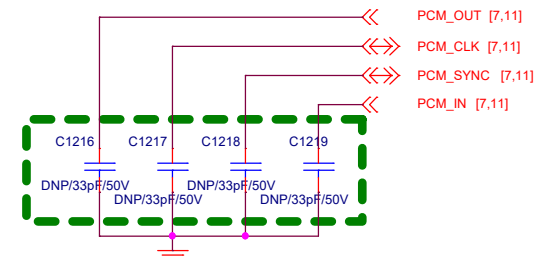
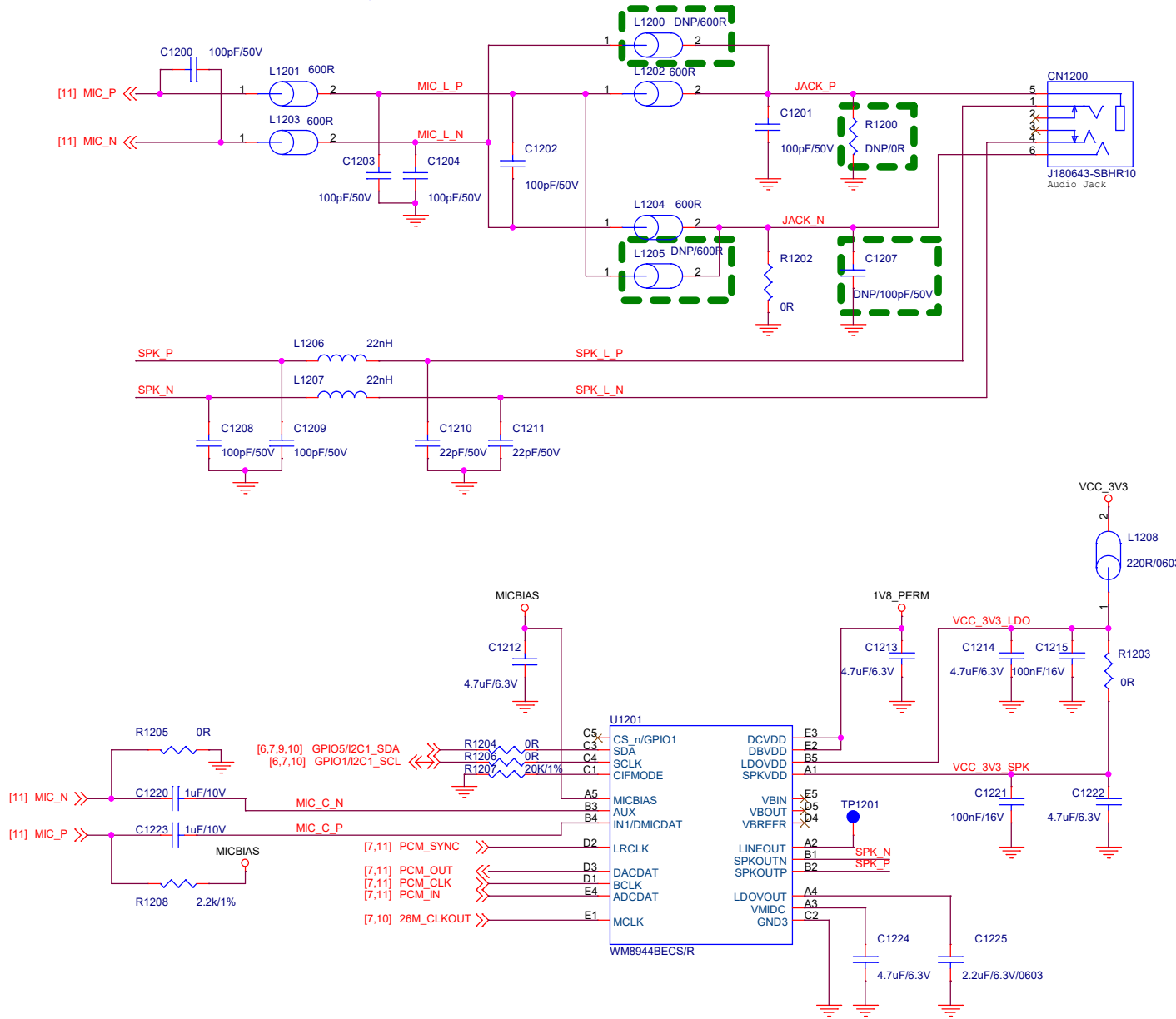


GND TP



Title		
DEV-KIT HL78xx-RC-WP		
Size	Document Number	Rev
B	10.LED INDICATORS	D3
Date:	Friday, March 03, 2023	Sheet 10 of 14

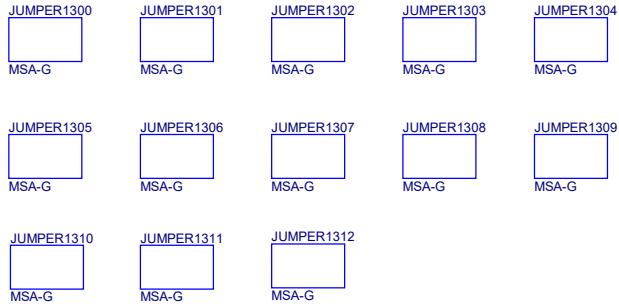
DIGITAL AUDIO RC76-Populated HL78-DNP



Title		
DEV-KIT HL78xx-RC-WP		
Size	Document Number	Rev
B	12.DIGITAL AUDIO CODEC	D3
Date:	Friday, March 03, 2023	Sheet 11 of 14

MECHANICAL

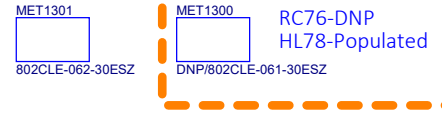
JUMPERS



USB Cable



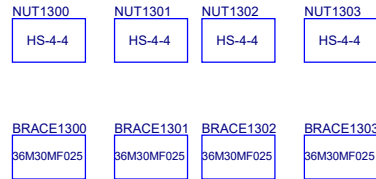
Metal Cover



Interposer



BRACES & NUTS



Antenna



BOX



PCB



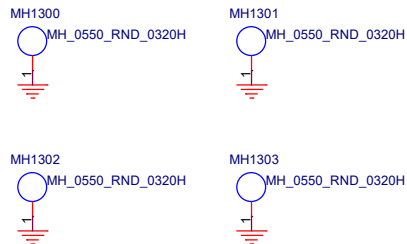
PAD



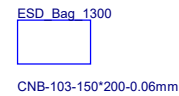
Removal Tool



HOLES FOR BRACES



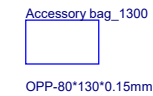
ESD Bag



ESD Label



Accessory Bag



Title		
DEV-KIT HL78xx-RC-WP		
Size	Document Number	Rev
B	14.Mechanical	D3
Date:	Friday, March 03, 2023	Sheet 13 of 14

=====REV.D1=====

04/01/2022

PAGE2 DEL CN200

PAGE3 DEL R300,R302

PAGE4 DEL R402,R403,R415,R416
ADD R1304,R1305,R1306,R1307 0R/0402

PAGE5 Change R504,R509 from 100K/1% to 10K/5%
Del CN501,CN503
Add CN1306

PAGE6 ADD R1308,R1308 0R/0402, U1302
Del U603

PAGE8 CHANGE R806 from 1K/1%/0402 to 360R/5%/0402
Del CN802, CN803
Add CN1301, CN1304

PAGE9 Del CN900,CN902,CN904,CN905
Add CN1302,C1309

PAGE13 DEL R1300,R1301

=====REV.D1=====

08/30/2022

PAGE6

Change CN1307 from 2x2 to 2x6
Del U1308 TCA9800DGKT
Q300 (P3),Q400 (P4),Q401 (P4),Q1300 (P12) SSM3K56ACT,L3F
Add R1323 (P6) 10K/5%/0402
U1314 (P6) LSP0102DCTR
R1324 (P6) 200K/5%/0402
Q1306 (P3),Q1307 (P4),Q1308 (P4),Q1309 (P12) SSM3K56FS,LF

=====REV.D2=====

12/20/2022

PAGE11 Changed the pin assignment of CN1200 (change the parts used from Adam to Hamburg)

PAGE8 Add CN1308,CN1309,CN1310

=====REV.D3=====

03/03/2023

PAGE6 Changed the VCCB power of U1310 from VCC_3V3_A to VCC_3V3.

Title		
DEV-KIT HL78xx-RC-WP		
Size	Document Number	Rev
B	15.History	D3
Date:	Friday, March 03, 2023	Sheet 14 of 14