Sheet: STM32F777

File: STM32.sch

Sheet: Power Supply

File: PSU.sch

Sheet: Display

File: TFT.sch

Sheet: RF

File: RF.sch

Sheet: Audio

File: Audio.sch

Sheet: Connections

File: Connection.sch

Sheet: Modules

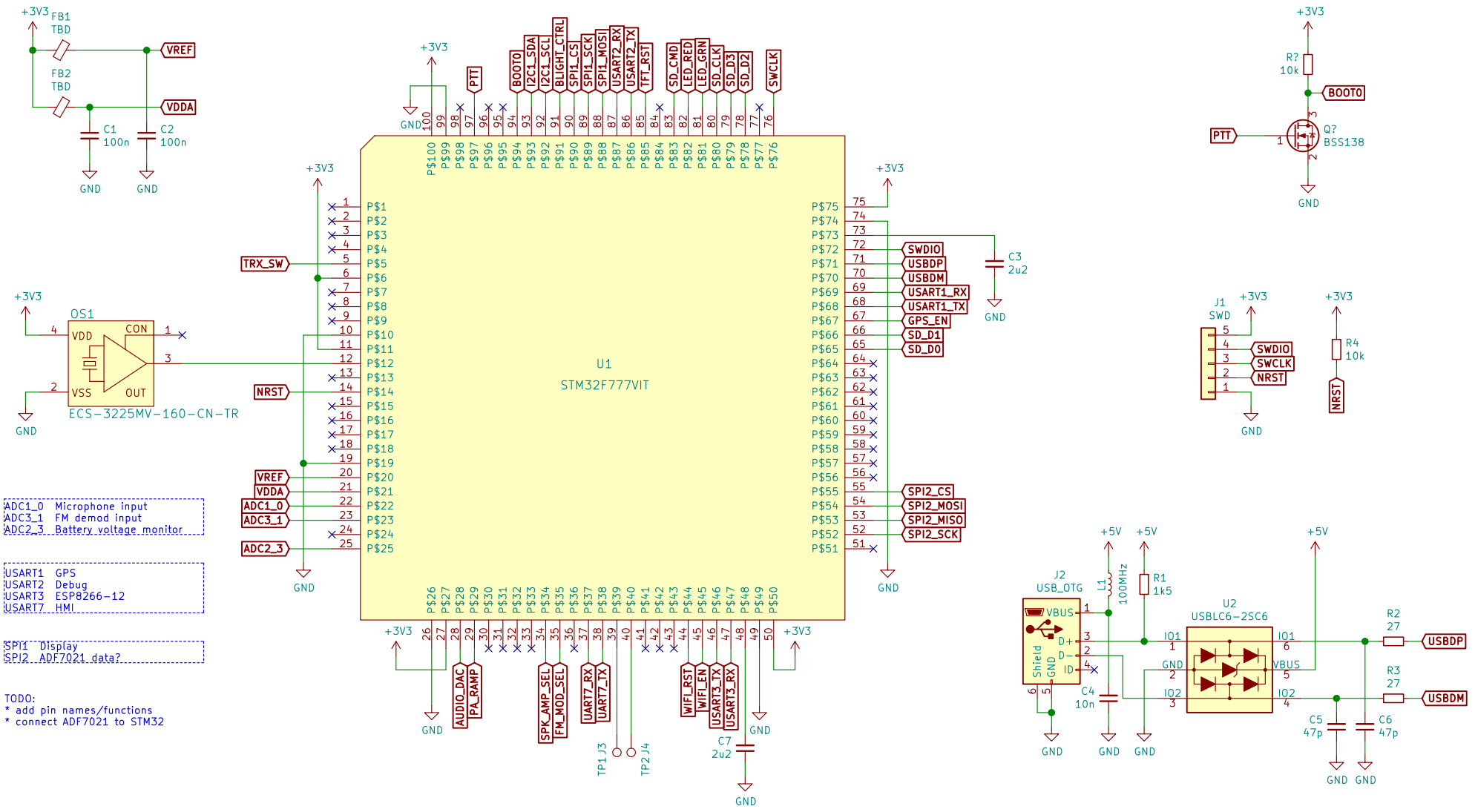
File: Modules.sch

TR-9 Open Source Digital Radio

Sheet: /
File: Mainboard.sch

Title: TR-9 Mainboard

Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 1/8

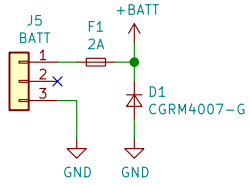


TR-9 Open Source Digital Radio

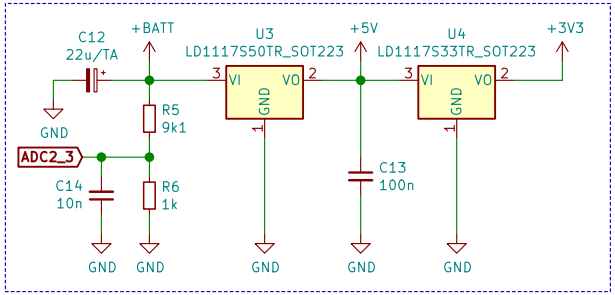
Sheet: /STM32F777/
File: STM32.sch

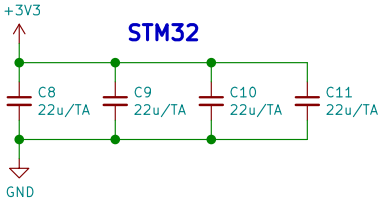
Title: Microcontroller

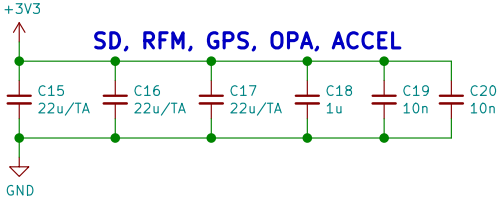
Size: A4	Date:	Rev:
KiCad E.D.A. kicad (5.1.4)-1		Id: 2/8

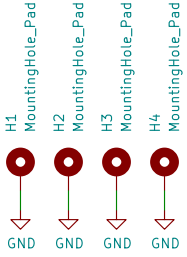


TODO: rework to include
* LiPo charger
* buck/boost for stable 7.5V to PA
* switching regulator to approx. 4V & 3.3V LDO
* more filtering
* Power switch









TR-9 Open Source Digital Radio

Sheet: /Power Supply/
File: PSU.sch

Title: Power Supply

Size: A4	Date:	Rev:
KiCad E.D.A. kicad (5.1.4)-1		Id: 3/8

TR-9 Open Source Digital Radio

Sheet: /Display/
File: TFT.sch

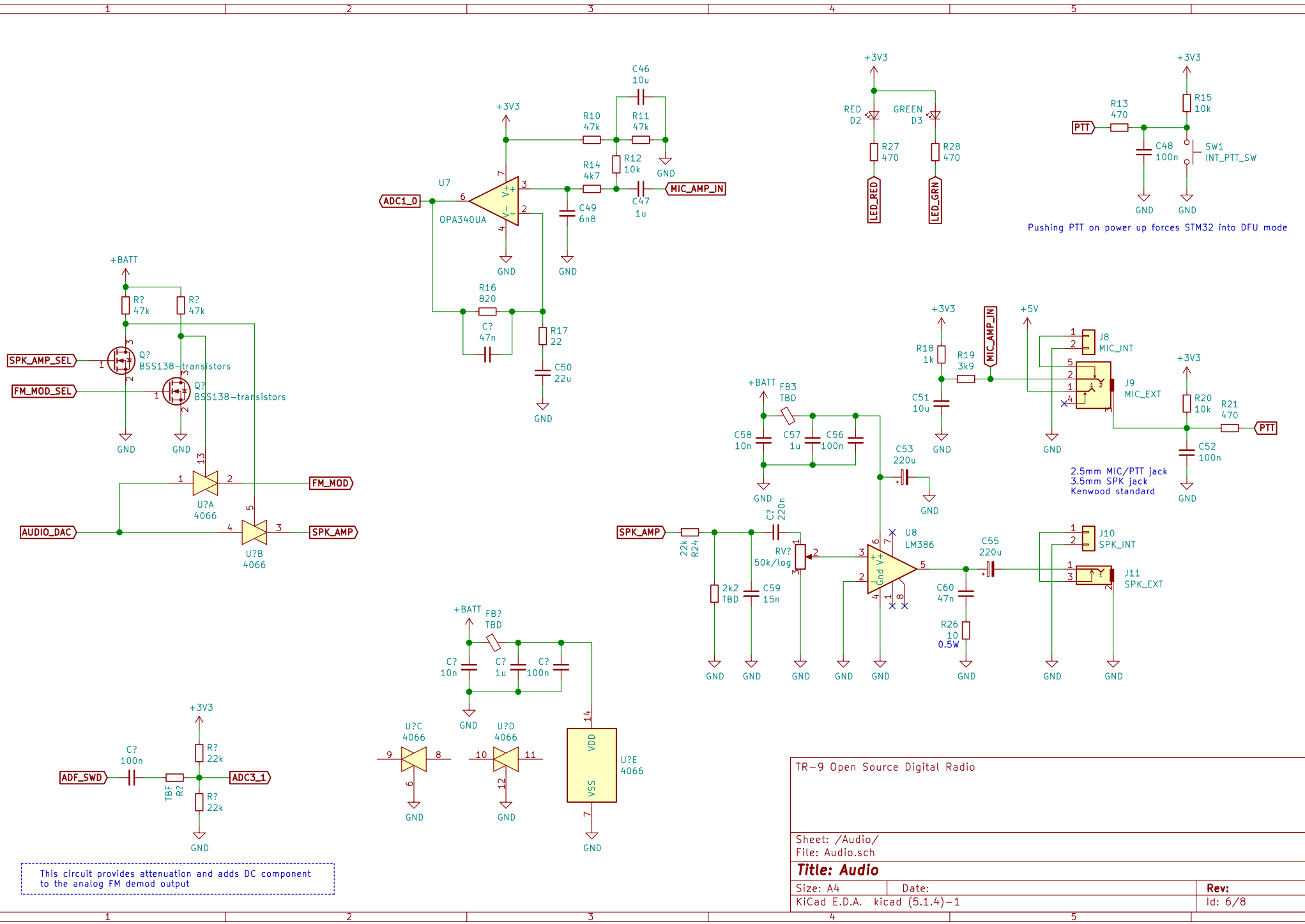
Title: HMI Board Connector

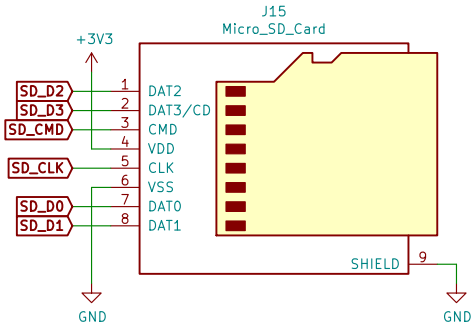
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 4/8

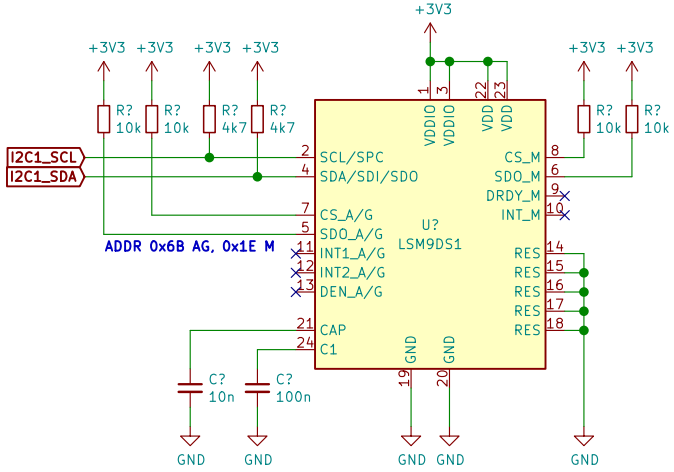
Voltage at this point should be 0.2-2V

TODO: RX filtering

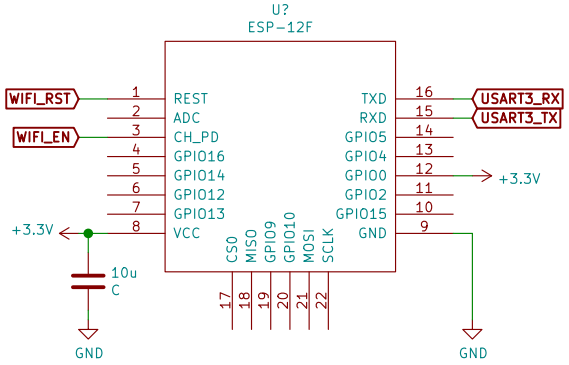
TR-9 Open Source Digital Radio	
Sheet: /RF/ File: RF.sch	
Title: RF circuit	
Size: A3	Date:
KiCad E.D.A. kicad (5.1.4)-1	Id: 5/8


+3V3
C46
10u
R10
47k
R11
47k
R12
10k
R14
4k7
GND
U7
ADC1_0
OPA340UA
C49
6n8
MIC_AMP_IN
C47
1u
R16
820
C?
47n
R17
22
C50
22u
+BATT
R?
47k
SPK_AMP_SEL
Q?
BSS138-transistors
FM_MOD_SEL
U?A
4066
FM_MOD
AUDIO_DAC
U?B
4066
SPK_AMP
RED
D2
GREEN
D3
R27
470
R28
470
LED_RED
LED_GRN
PTT
R13
470
R15
10k
C48
100n
SW1
INT_PTT_SW
Pushing PTT on power up forces STM32 into DFU mode
+5V
R18
1k
R19
3k9
C51
10u
J8
MIC_INT
J9
MIC_EXT
R20
10k
R21
470
C52
100n
2.5mm MIC/PTT jack
3.5mm SPK jack
Kenwood standard
FB3
TBD
C58
10n
C57
1u
C56
100n
C53
220u
C?
220n
22k
R24
RV?
50k/log
2k2
TBD
C59
15n
U8
LM386
C55
220u
C60
47n
R26
10
0.5W
J10
SPK_INT
J11
SPK_EXT
FB?
C?
10n
C?
1u
C?
100n
U?C
4066
U?D
4066
U?E
4066
VDD
VSS
ADF_SWD
C?
100n
TBF
R?
R?
22k
ADC3_1
This circuit provides attenuation and adds DC component
to the analog FM demod output
TR-9 Open Source Digital Radio
Sheet: /Audio/
File: Audio.sch
Title: Audio
Size: A4
Date:
Rev:
KiCad E.D.A. kicad (5.1.4)-1
Id: 6/8





TR-9 Open Source Digital Radio		
Sheet: /Connections/ File: Connection.sch		
Title: Connections		
Size: A4	Date:	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 7/8



TR-9 Open Source Digital Radio

Sheet: /Modules/
File: Modules.sch

Title: Modules

Size: A4	Date: 2020-01-20	**Rev:**
KiCad E.D.A. kicad (5.1.4)-1		Id: 8/8