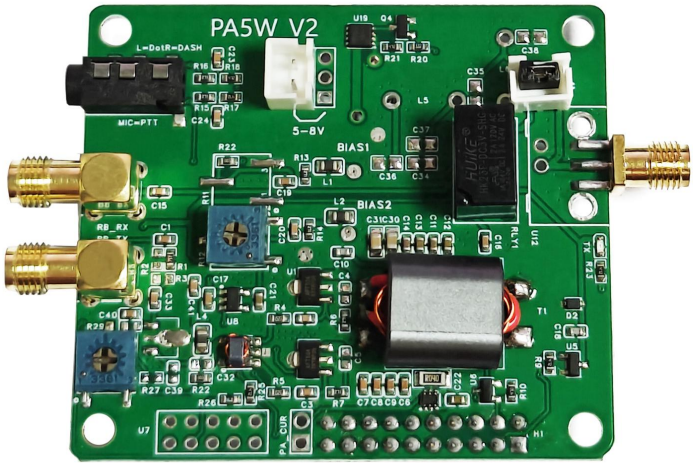
AURSINC Radioberry Preamp Board V2 for HF Power Ampfier

1. What is it used for?

This board is a nice addition to turn the radioberry into a small QRP radio.
The design is based on all the amazing work of Hermes Lite 2 Group!

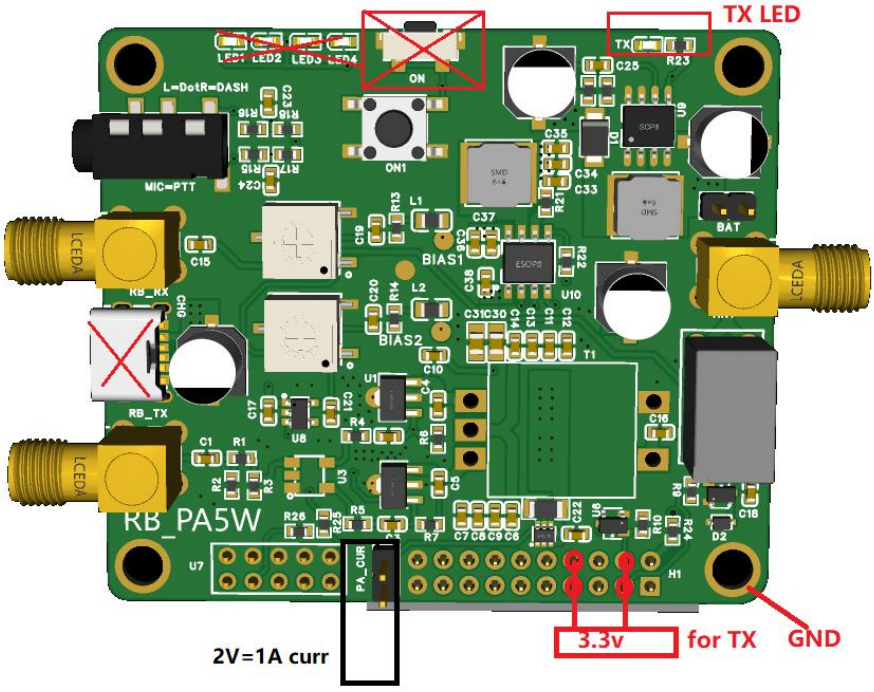


Setup

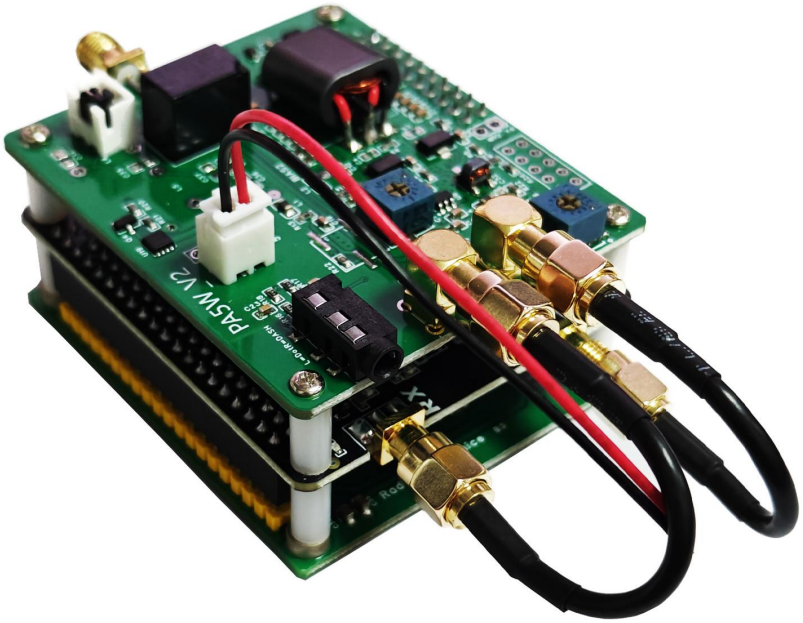
Use the radioberry development release to make use of this board:
https://github.com/pa3gsb/Radioberry-2.x/releases
Please be aware you need to setup the BIAS only once when starting using the amplifier.

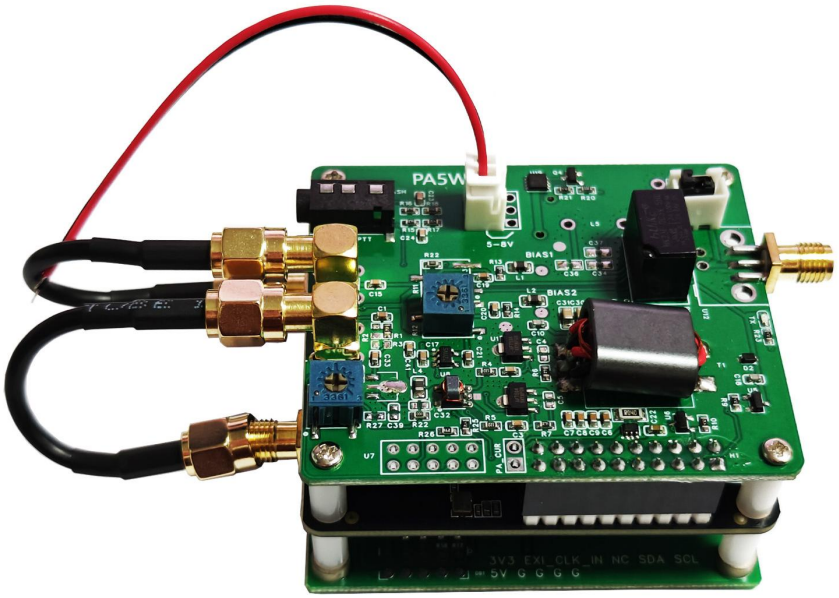
Download the dedicated test image and run it directly for reception.
https://drive.google.com/file/d/1RzKAeha6EW8e4WeDlxpYBMPwdu-GsVZJ/view?usp=drive_link

2. How to power the BOARD



3. How to assemble?





Use the 2-pin cable we provided to power the device. Connect it to the red circle on the diagram.

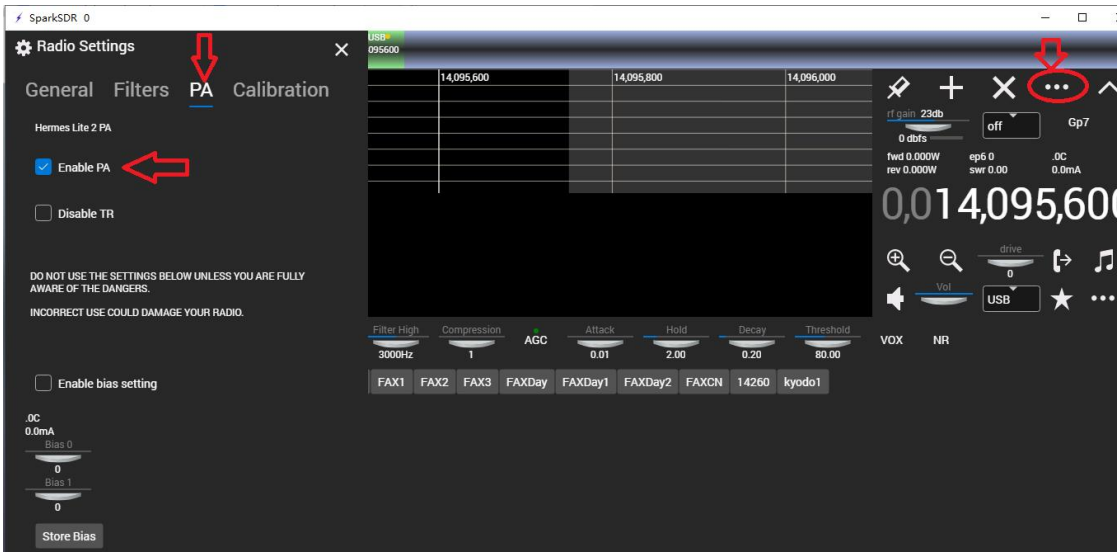
4. What's Inside

- 1x Radioberry Preamp Board, for HF Power Ampfier (10W-100W PA), Input SMA, Output SMA; 3x SMA cable 1 for Rx, 1 for Tx,1 for ANT; 1x 8V Battery-powered Wire; 1x Connecting Row Needle; 4x 32mm Screw; 4x 5mm Nut; 8x 11mm Plastic Column; 1x USB Type-C Cable

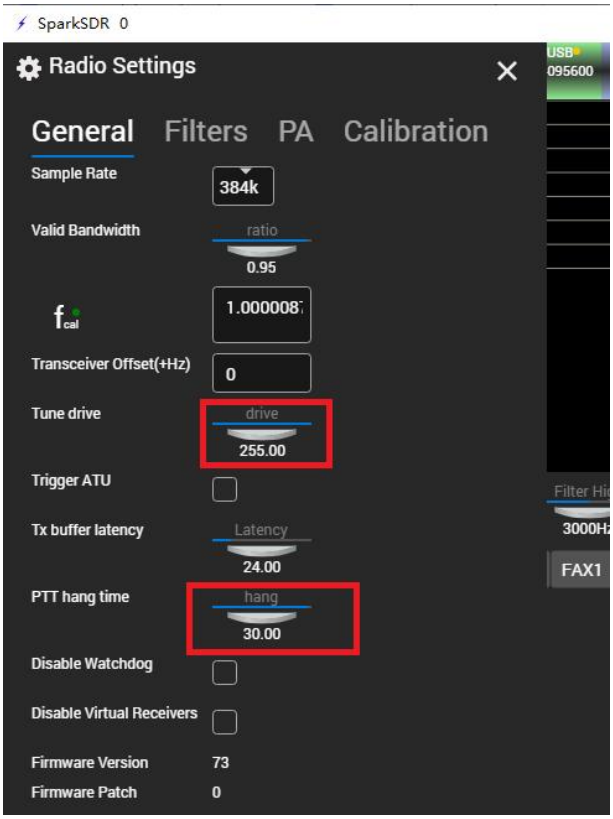
5. **Radioberry PAv2 Test:** https://jumbo5566.github.io/pro/rb/2024/04/17/rb016_025.html

HOW to Work

① ENABLE PA on SparkSDR



② Radio Setting



Download the dedicated test image and run it directly to receive:
https://drive.google.com/file/d/1RzKAeha6EW8e4WeDlxpYBMPwdu-GsVZJ/view?usp=drive_link

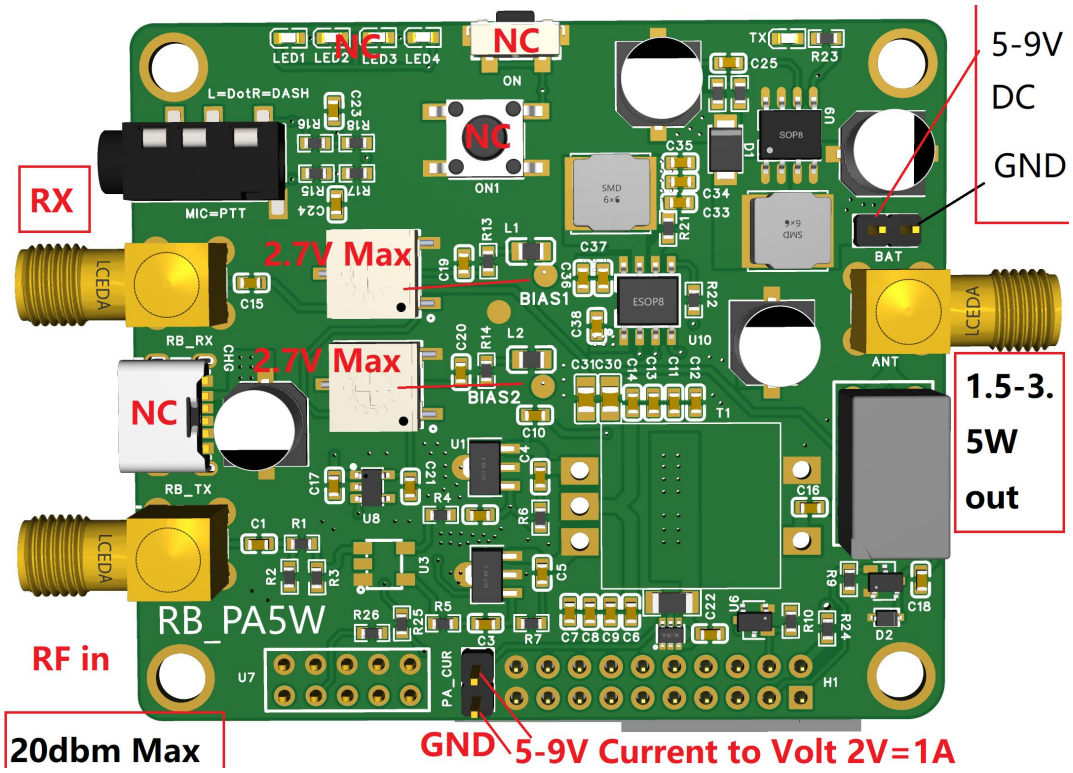
6. Test DATE

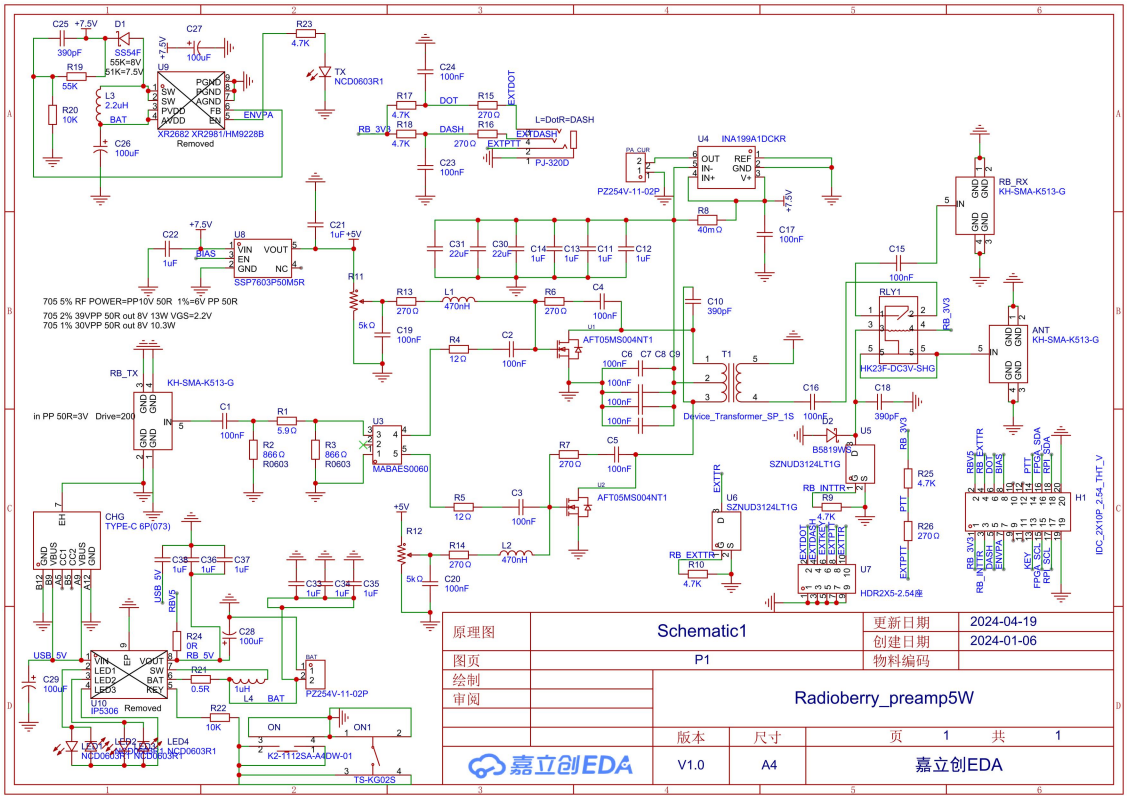
Q: What is the difference of Radioberry Preamp Board V2 compared to v1?

A: The output power of V2 is slightly greater than that of V1. The power of V2 can reach over 3W, while that of V1 is between 1 and 3W.

FREQ(M)	input PP	Output Power	PA BIAS	DC in	PA Curr Vout(V)	PA Current_A)	AFT05MS_MOS temp
29	8V	4W	2.7V bias	8V DC	3	1.5	90° to 120°
24	8V	4W	2.7V bias	8V DC	2.7	1.35	90° to 120°
21	8V	4W	2.7V bias	8V DC	2.6	1.3	90° to 120°
18	8V	5W	2.7V bias	8V DC	2.5	1.25	90° to 120°
14	8V	5.3W	2.7V bias	8V DC	2.5	1.25	90° to 120°
10	8V	5.4W	2.7V bias	8V DC	2.5	1.25	90° to 120°
7	8V	5.4W	2.7V bias	8V DC	2.5	1.25	90° to 120°
5	8V	4.9W	2.7V bias	8V DC	2.6	1.3	90° to 120°
3	8V	4.6W	2.7V bias	8V DC	2.6	1.3	90° to 120°
1	8V	4.4W	2.7V bias	8V DC	2.5	1.25	90° to 120°

7. Schematic diagram





https://www.mmdvm.club/usr/uploads/2024/06/216895168.zip

if TX LED only ON just Power ON,Pls use our windows_gateway.zip

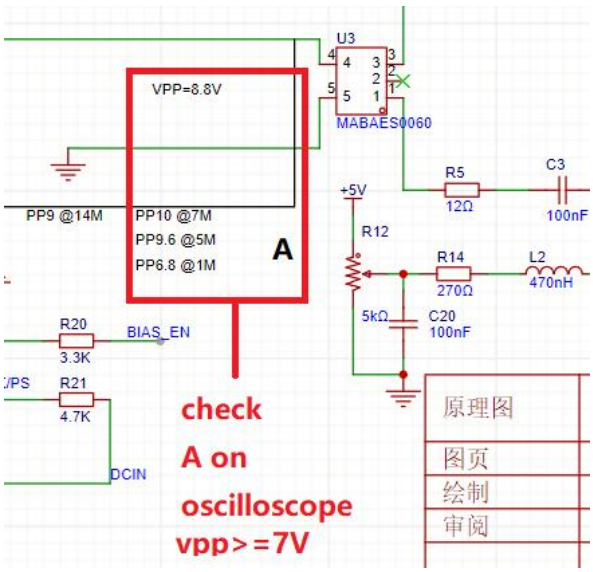
some radioberry.rbf don't work wth PA mode,BIAS and ENVPA must HIGH on TX or TUNE

Test with SPARKSDR USB Connect Juice RBV2 only work 10CL025

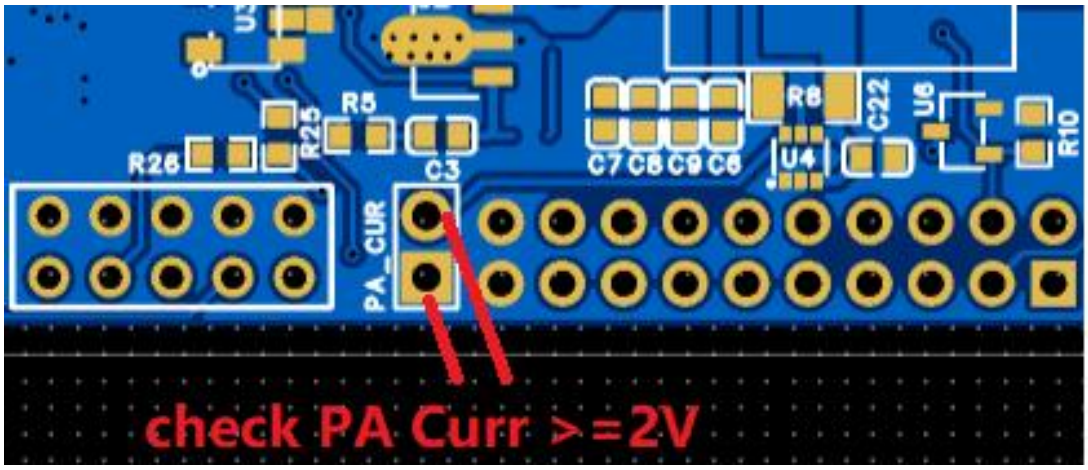
8. FQA

if the PA don’t work, pls check the 1. 2. and The D. TX LED is RED ?

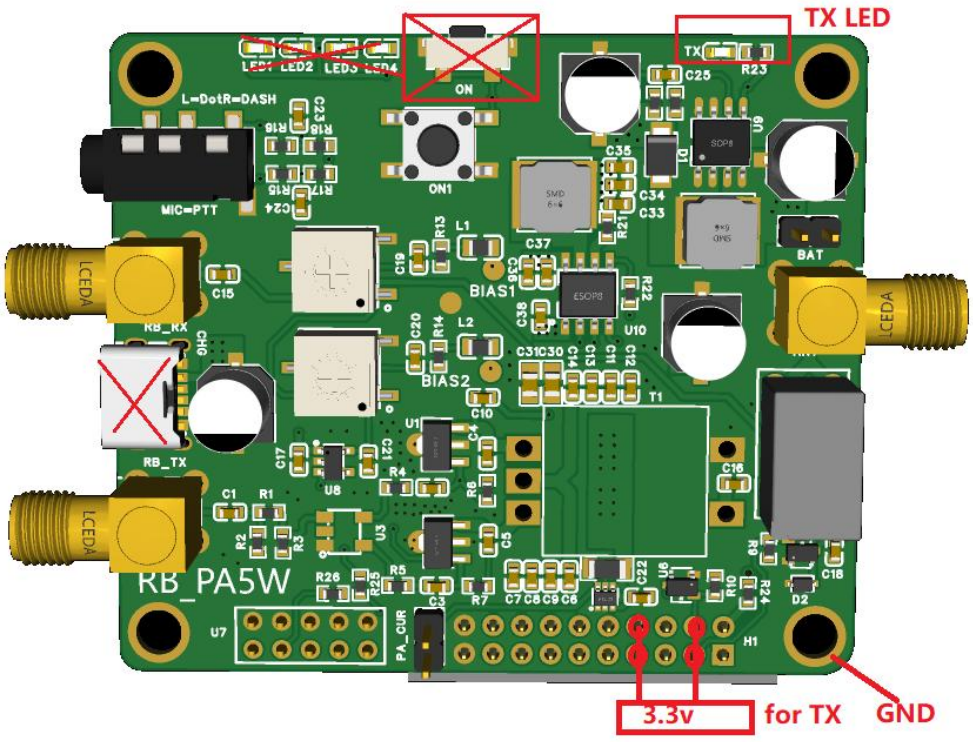
C. Check input Vpp >=7V



Check Pa Curr >=2V ,it is the output of INA199A1DCKR with 40mR RES Current to Vol ,2V=1A



#if C. and D. the MOS is fail



What is the RF range?

The frequency range is 1mhz-50mhz

i cannot get any of my Windows machines to load the Radioberry Juice card.

I've followed the instructions, but it did not succeed. My Juice board comes up with a Code 10 error in the Windows 10 Device Manager every time I plug it in. It is possible that I damaged it while removing the C777 resistor on the underside even though it claims it needs to be removed to use with the preamp.

The back of R777 is for power supply, and it does not need to be removed. It can be replaced with a wire connection. It can normally work without modification.

What voltage do I set the bias pots for and what is the procedure to do this.

Set to 2.7V, press Tune, and adjust the relay when you hear a sound during transmission. Counterclockwise to increase, clockwise to the minimum first.

I would like to use the pre-amp board I purchased without a RadioBerry, just as a pre amp. Could you tell me if I need to enable permanent TX with the PTT input? Do I need to provide any other signal or connection to operate the pre-amp as a stand alone Pre-amp?

Please refer to this diagram.