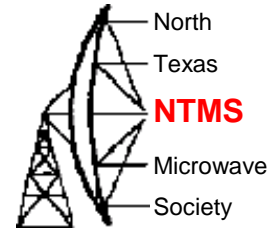North
Texas
NTMS
Microwave
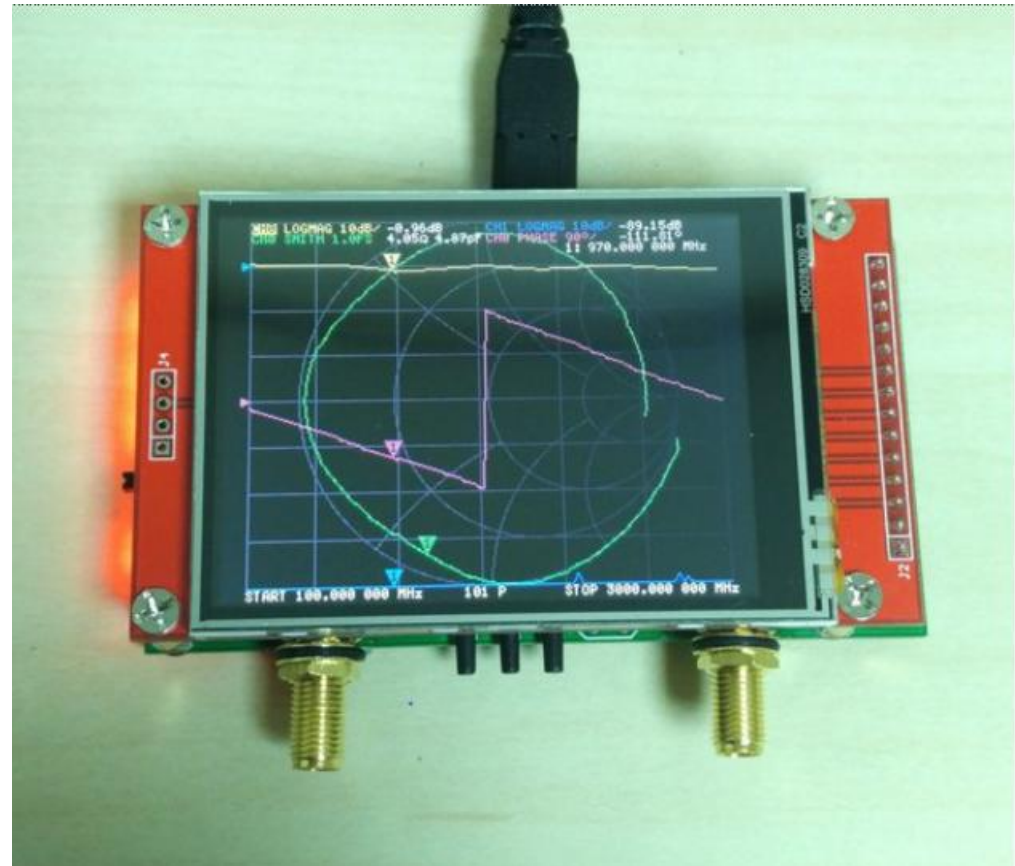Society

NanoVNA V2

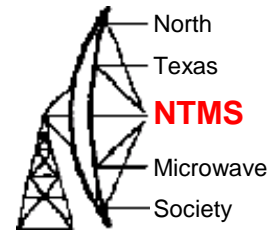## Greg McIntire, AA5C
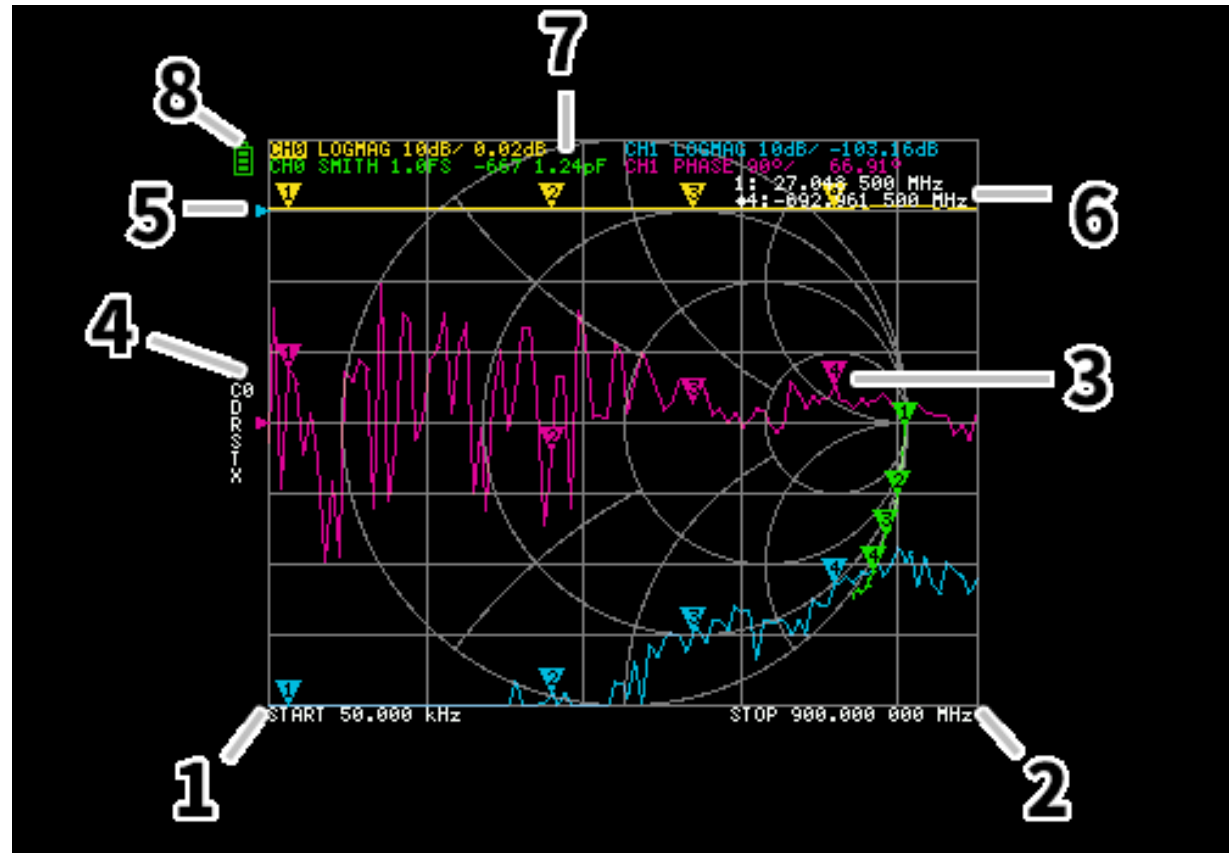## May 2, 2020

NanoVNA V2

- 50 KHz – 3 GHz
- Dynamic Range
    - 70 dB f<1.5 GHz
    - 60 dB f>1.5 GHz
- 1-1024 sweep points
- Powered by USB port or external Li-Ion battery
    - 350 mA typical current
- Designed by OwOComm
    - Hardware design not based On NanoVNA
    - Firmware is based on NanoVNA
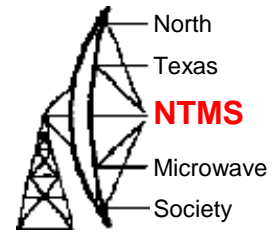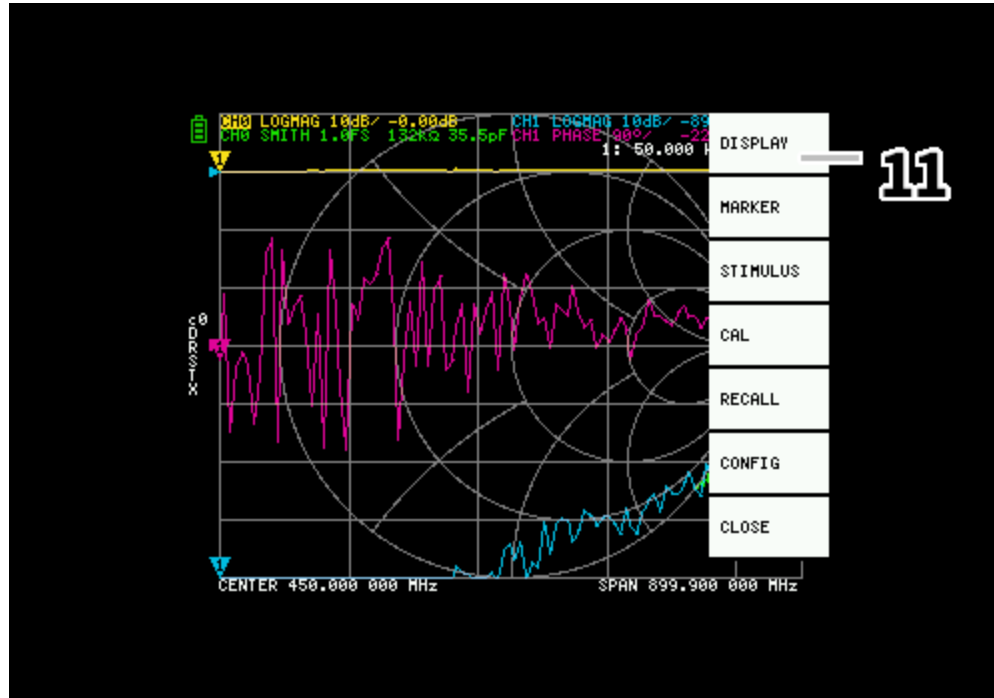- Various manufacturers

Main Screen

1 Start Frequency
2 Stop Frequency
3 Marker
4 Cal Status
5 Ref Position
6 Marker Status
7 Trace Status
8 N/A

Menu Screen

North
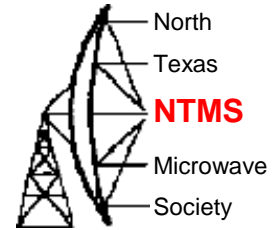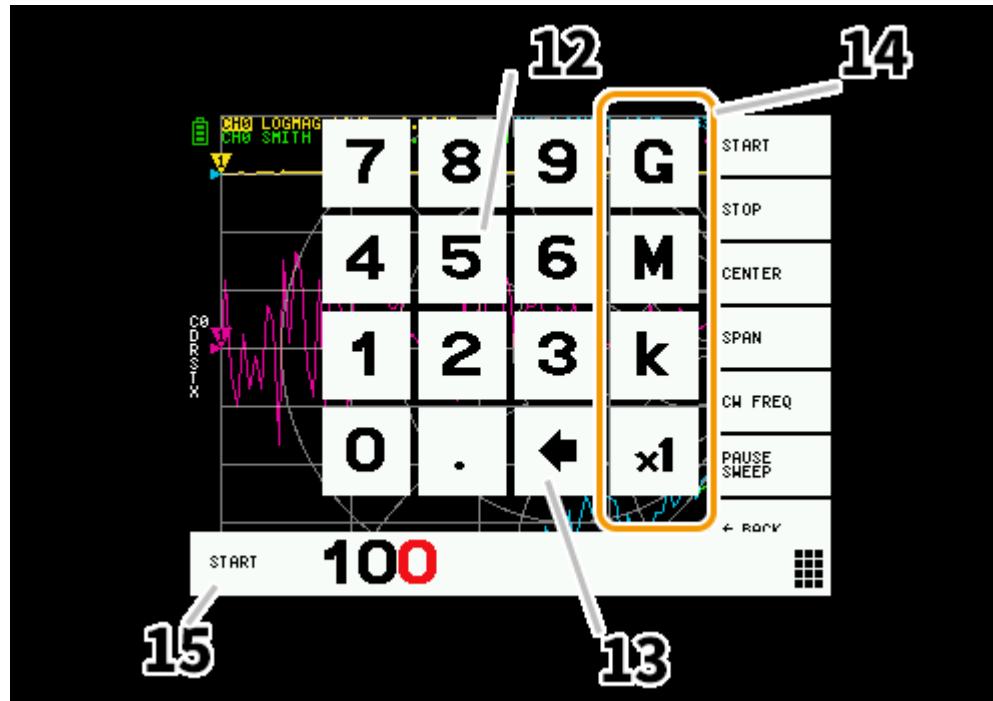Texas
NTMS
Microwave
Society

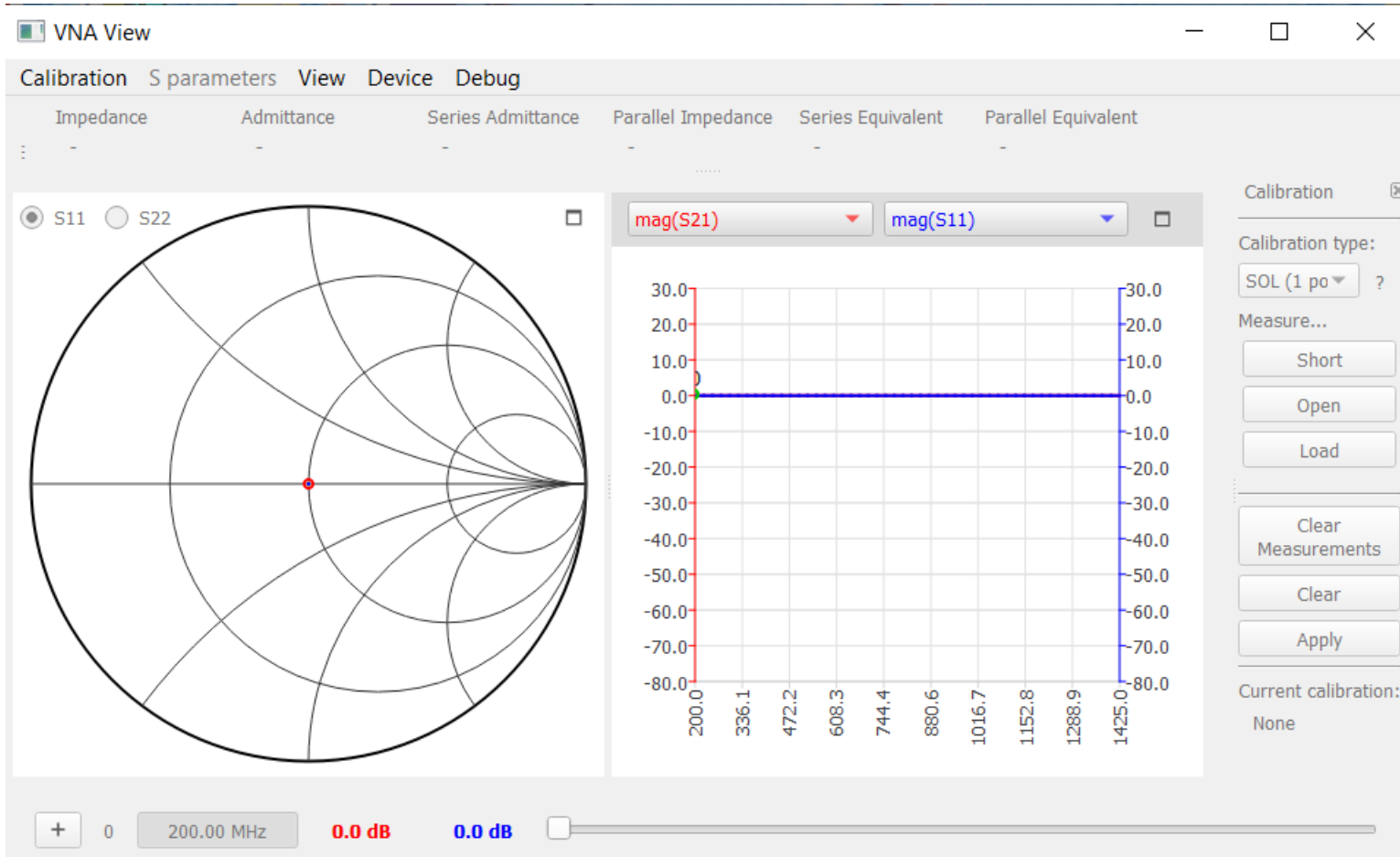11 Menu List
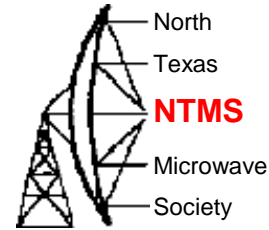

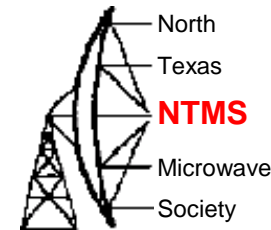Use Touch Screen to Bring Up Menu and Make Selections

Keypad Screen

12 Numeric Keys
13 Back Key
14 Unit Key
15 Input Field

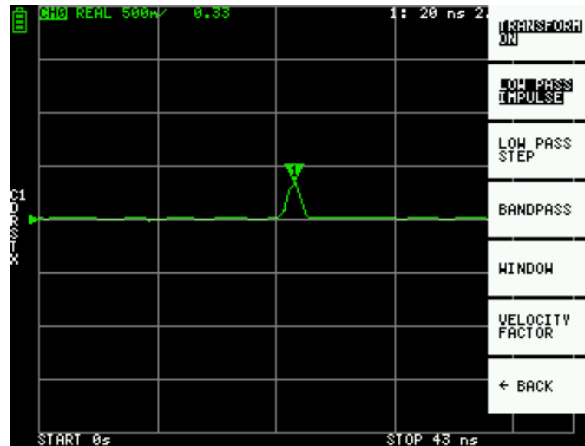# PC Software View

W5HN

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Time Domain Operation

Open   Open

Filter Impulse Response
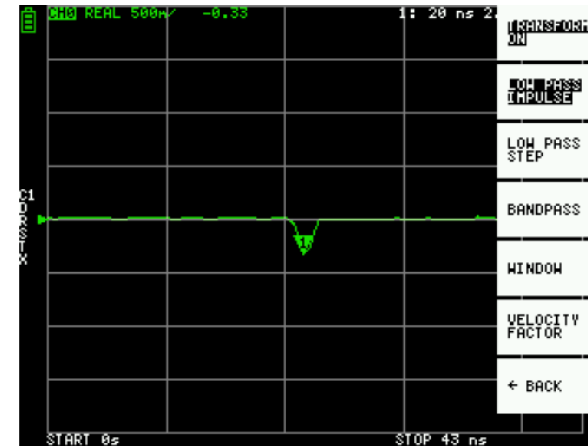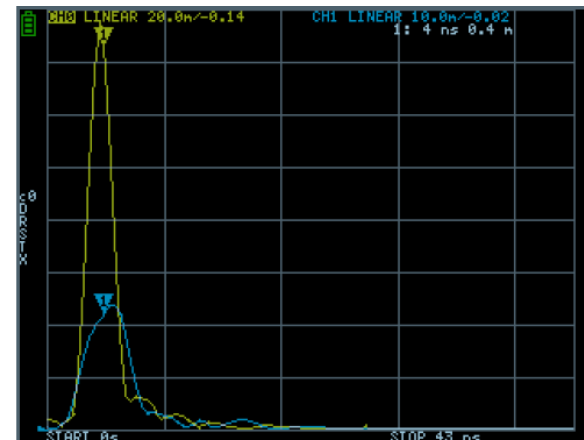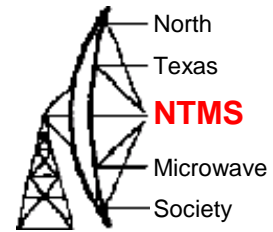

- Bandpass Impulse
- Low Pass Impulse
- Low Pass Step
- Time Domain Reflectometer
  - Enter Cable Velocity Factor
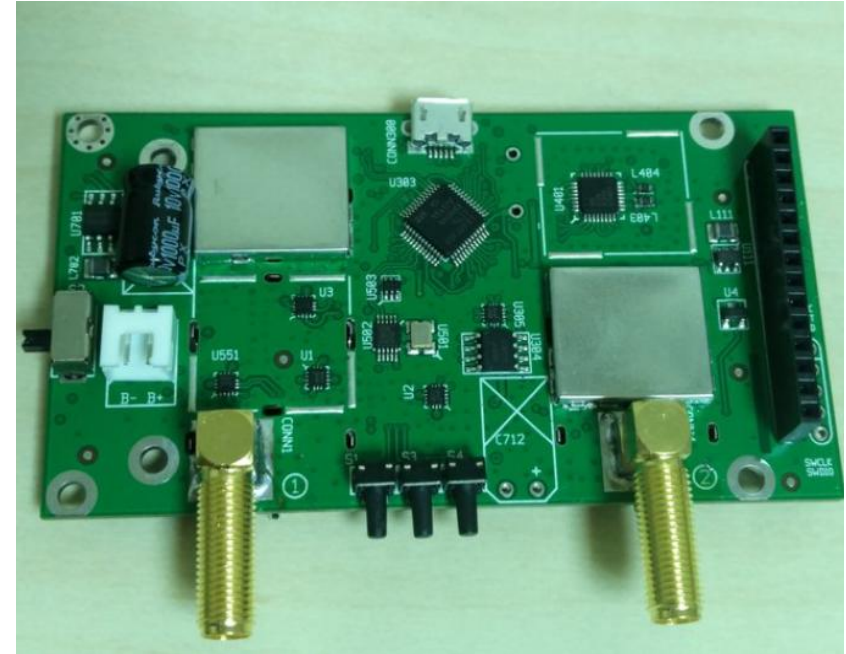
Hardware Design

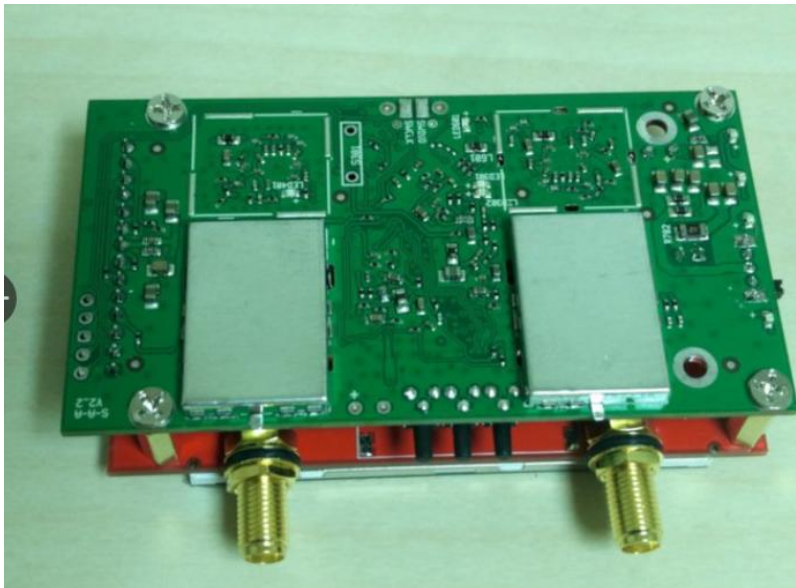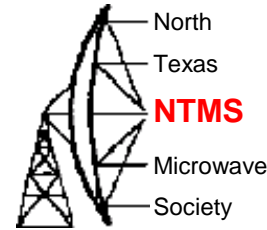- Two ADF4350 synthesizers
- One SI5351 synthesizer
- GD32F303 MCU

Pros and Cons

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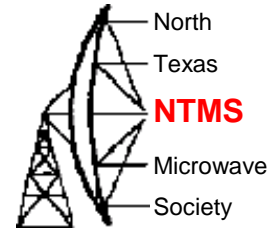
- Comes Bare bones
    - NanoVNA V2 and stylus
    - No battery, USB cable, RF cables, cal short or thru….
- Needs a case
    - Online cases available but currently expensive
- Documentation is Available Online
    - Fair – good on general operation as a VNA
    - Push button switches and slide switch not explained well
    - Battery use not explained
- Small screen (2.8 inch) a bit hard to use with old eyes
- PC software VERY useful and PC display really makes this a useful device
- Various Suppliers – buyer beware
    - I bought mine from Tindie for $58.25 plus $6.00 shipping

Overall – Two Thumbs Up!

NanoVNA V2 Online Support

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- PC Software
  - https://github.com/nanovna/NanoVNA-QT/releases
- User Guide
  - https://github.com/nanovna/NanoVNA-QT/raw/master/ug1101.pdf
- 3D Printer Design Files to Build Your Own Case
  - https://www.thingiverse.com/thing:4285813

Large Online User Community