NanoVNA - £1000 Instrument in your pocket!

Mike Wogden G4KXQ, ADARC

Vector Network Analyser

- **Vector –phase and amplitude, complex impedance, resistance, capacitance, inductance**
- **Network –one or two port circuit systems**
- **Analyzer –comprehensive measurement and test suites**
- **Were sold for $10,000-$50,000 in the 80's**

Anritsu 37247B 40MHz-20GHz Vector Network Analyzer Opt 10A 11 Wiltron VNA Cal'ed

Condition: **Used**

£8,023.70

Buy it now

Add to basket

Make offer

👁 Watch this item

100% positive Feedback

Collect **300** Nectar points Redeem your points | Conditions

NanoVNA

- **The open source NanoVNA project has been around since 2016, but only recently have Chinese sellers begun mass producing the unit**

- **Tremendous community support and great software – Windows, Mac, Android**

- **Top of my list of recommended ham test equipment, replace most antenna analyzers**

- **Surprisingly excellent manual**

NanoVNA

- Check your antenna SWR, low return loss like an antenna analyzer.
- Find the lengths and discontinuities of cables.
- Measure the resistance and reactance of components
- Measure the transmission bandwidth of a filter as well as its reflection.
- Measure the self-resonance frequency of inductors and capacitors, for example, of traps on dipoles.
- Measure the choking impedance of a balun as a function of frequency.
- The permeability of ferrite toroids.
- Many other measurements...

NanoVNA

Walkaround

USB-C
- Multifunction switch –Press, roll right or left
- Touch screen –can work with fingers, but recommend stylus
- 101 sample points –limits narrowband analysis, BUT, software supports multiple 101 point "segments!

- 2 SMA female ports
- Snm -power from port m to port n
- S11 -power from port 1 (CH0) to port 1 –reflected power
- S21 –power from port 1 to port 2 (CH1)

Screen

Busy, but very readable and informative

1 -Start frequency

2 -Stop frequency

3 -Markers -very powerful -number at same frequency on all traces

4 -Calibration status

5 -Reference position

6 -Marker status, active, previous active

7 -Trace status –
CH (0, 1)selected inverse,
Format, Scale,
Current value

8 –Battery status
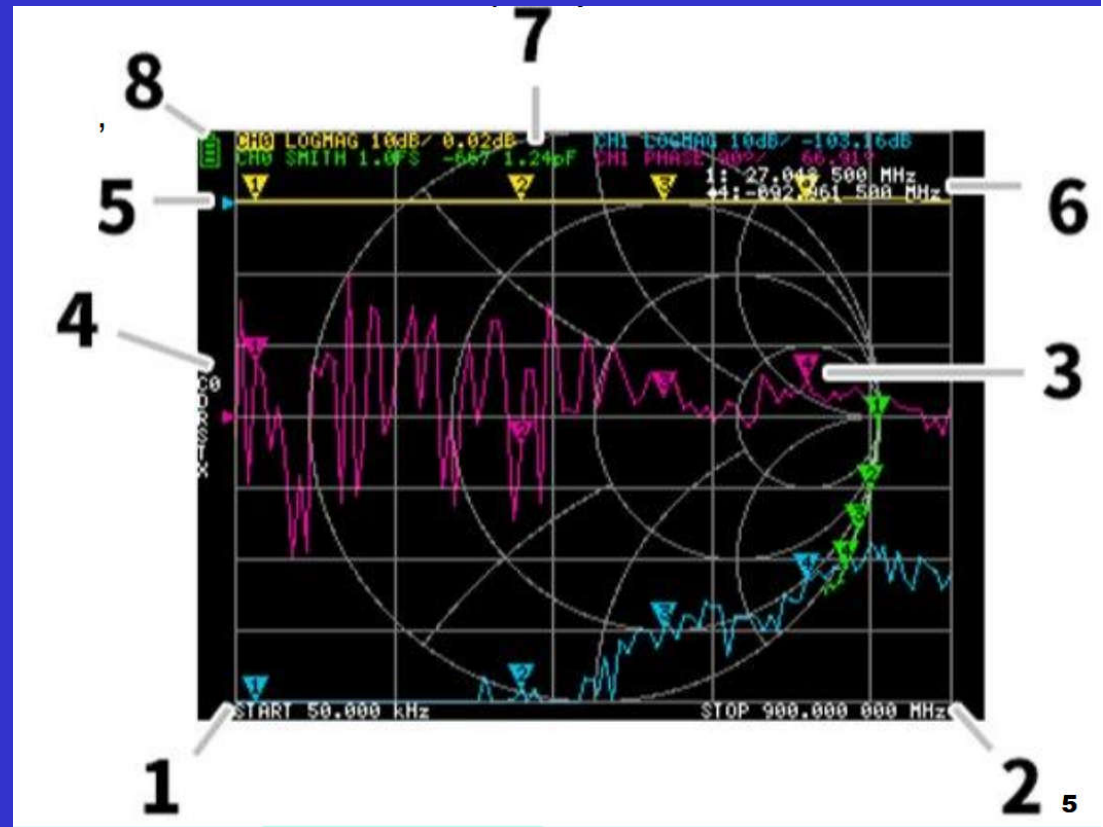
User Interface

Quick look at the user interface – Better than expected for such a small screen.

•• Touch open area or push control to popup menu

•• Touch menu item or roll control to select

•• Touch number pad
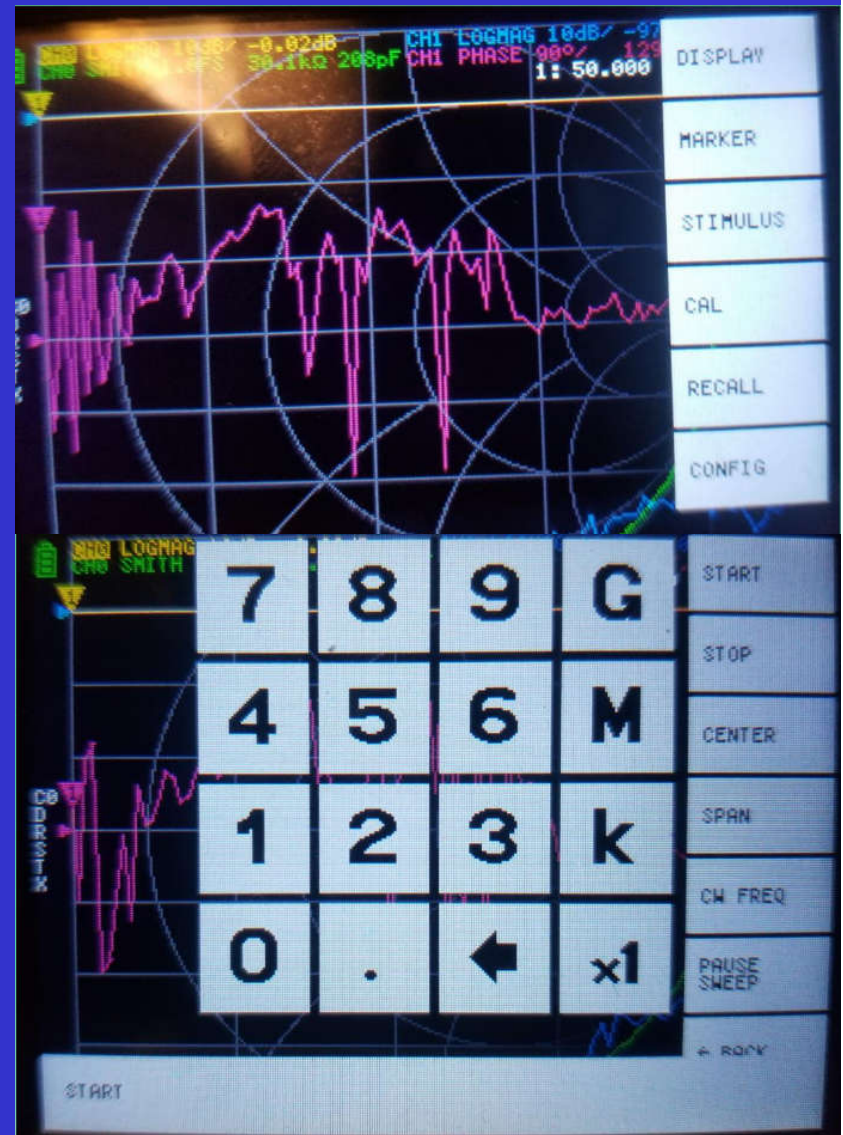
User Interface

Selecting the frequency band

1M for 1 MHz start frequency
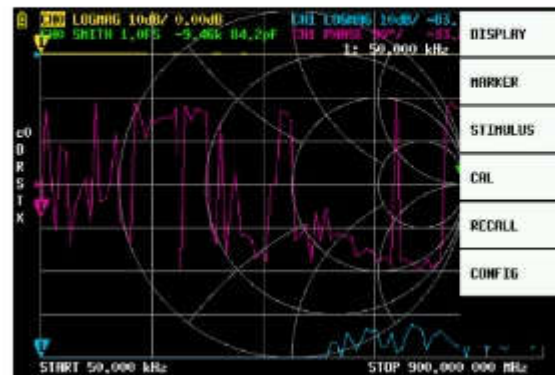
Stimulus
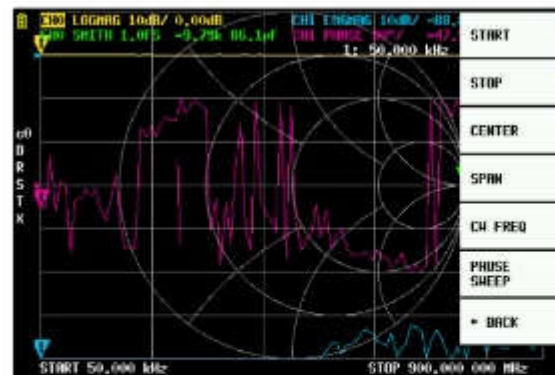
Start Frequency
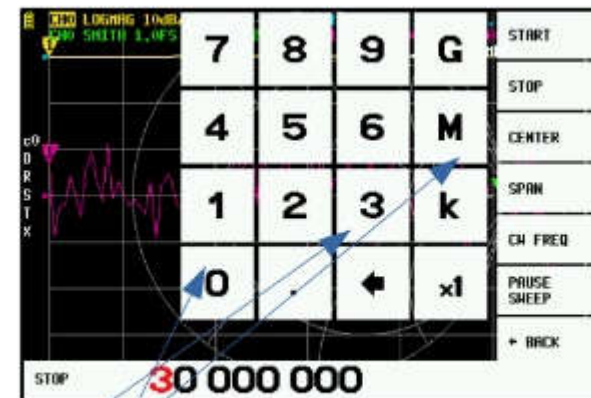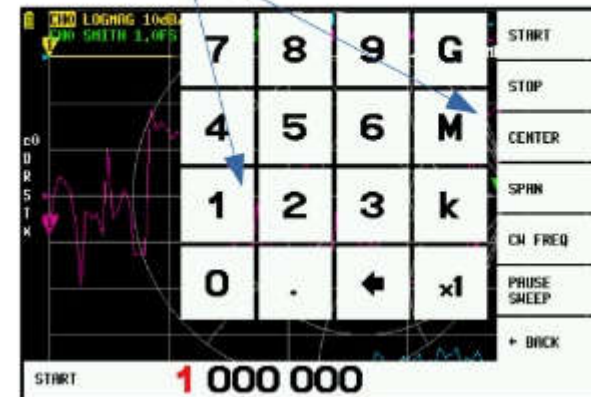
Stop Frequency

30M for 30 MHz stop frequency

NanoVNA Block Diagram
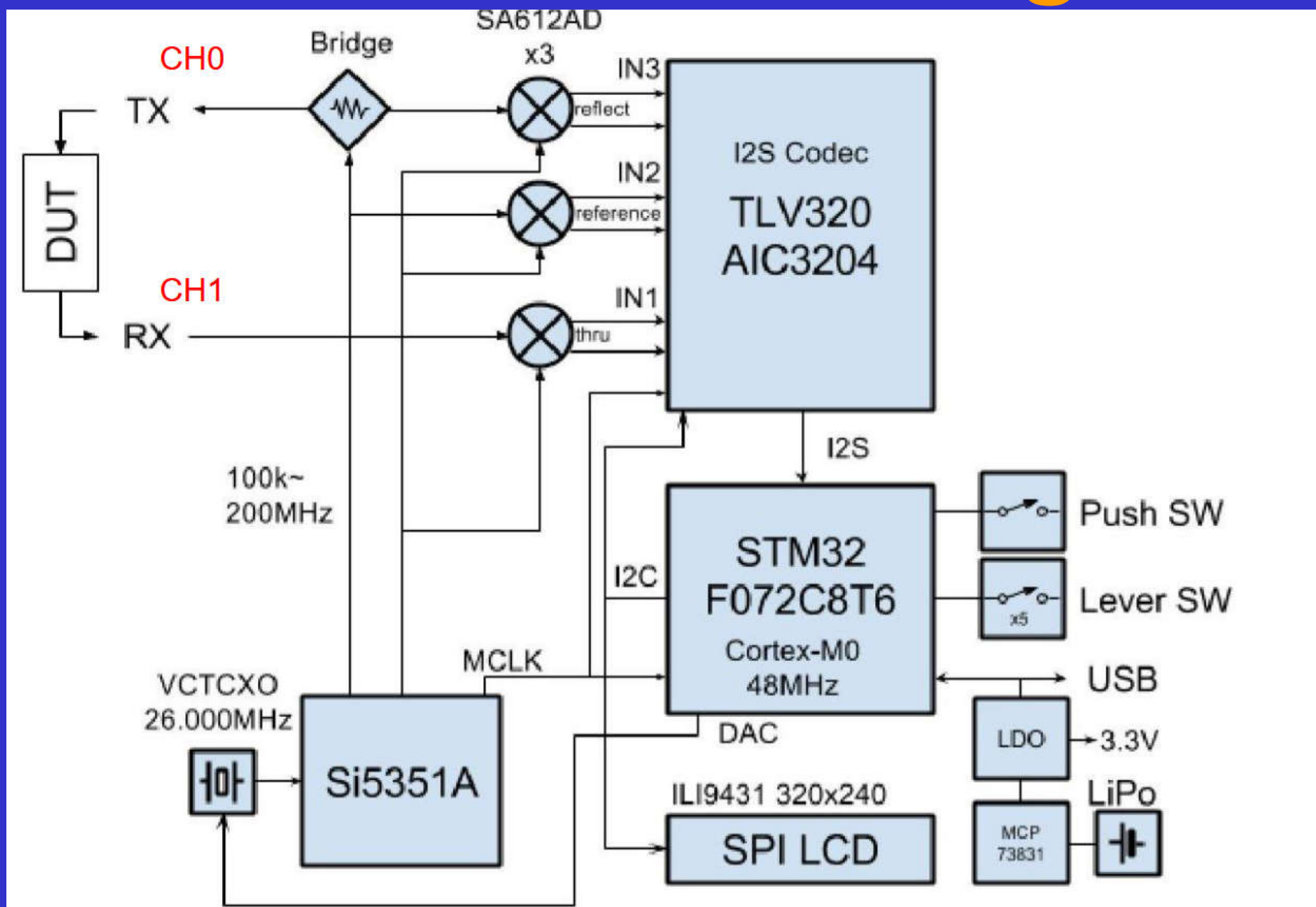
Calibration

Supplied with 50 ohm Load, Short and Open

Loopback procured separately
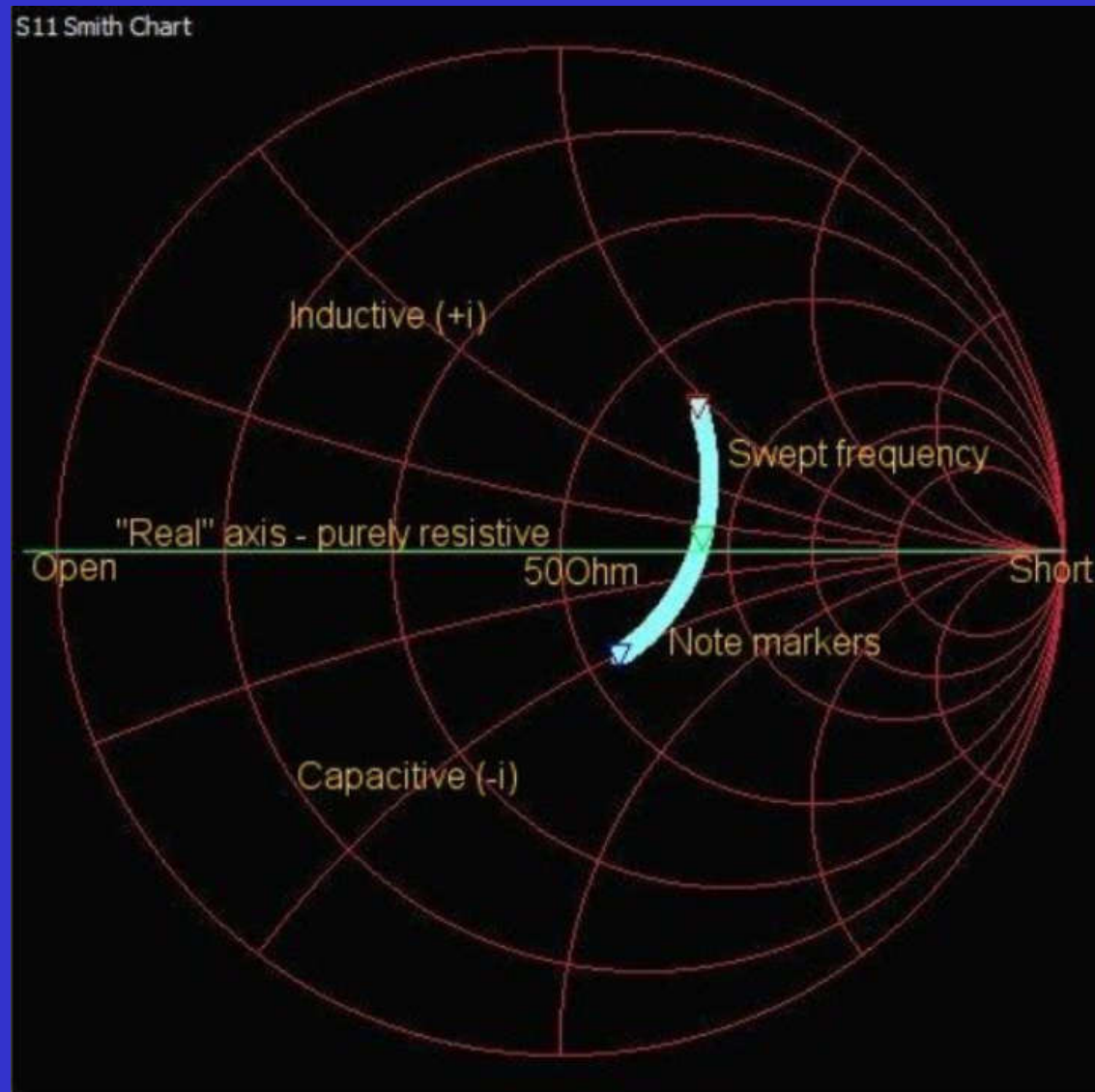
Smith Chart

Dual Band Co-Linear
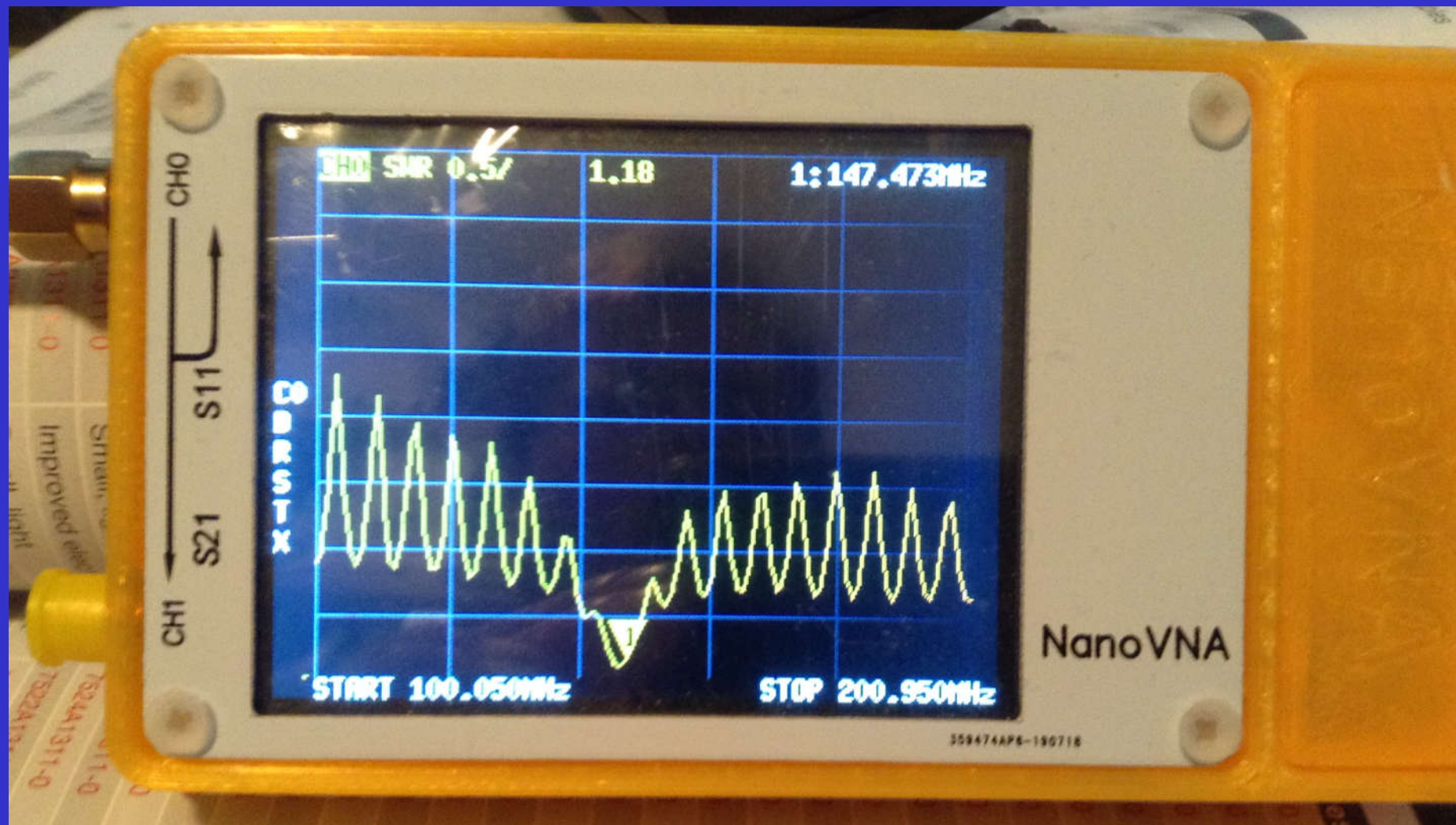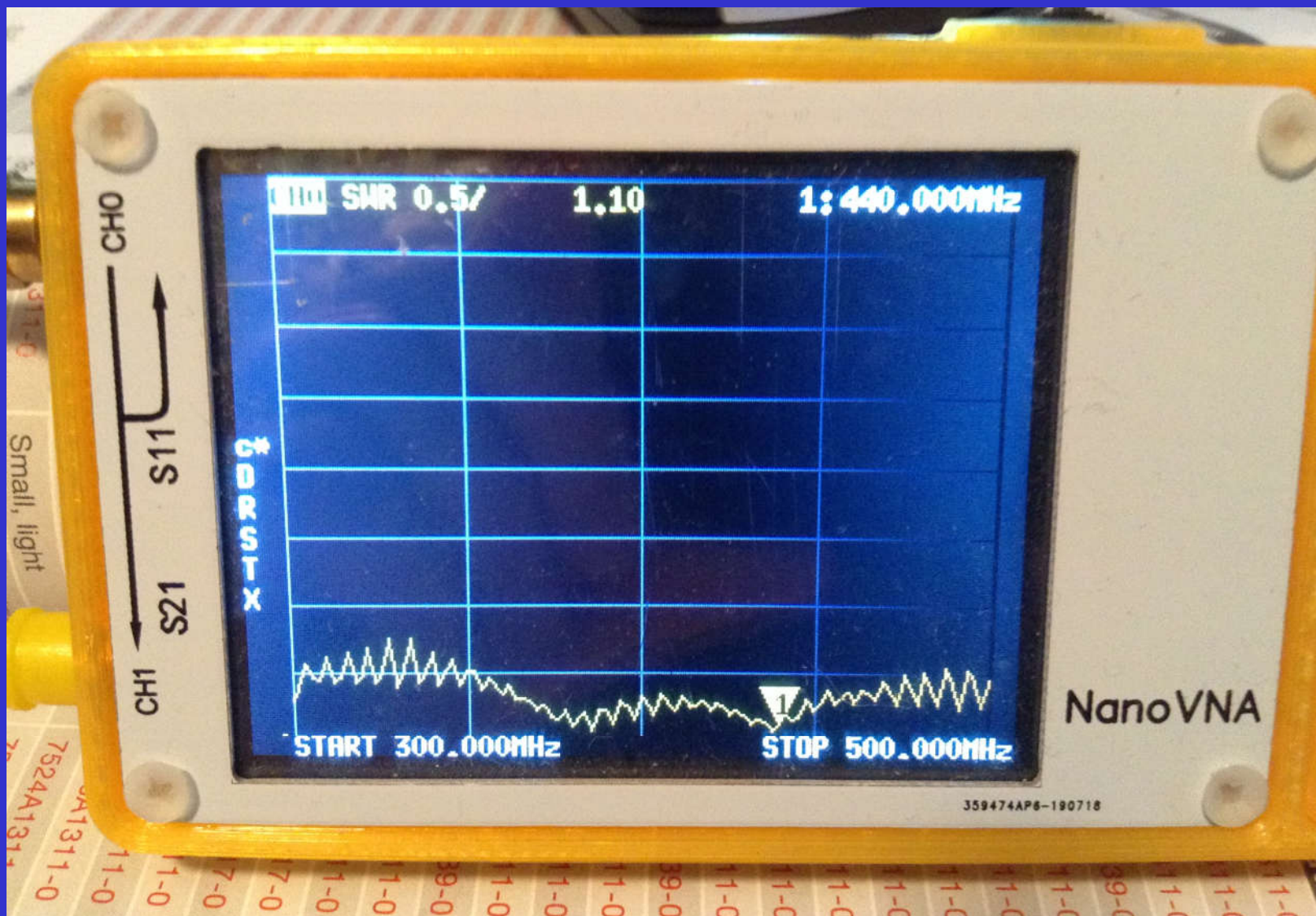
Dual Band Co-Linear

HB9CV – 2M
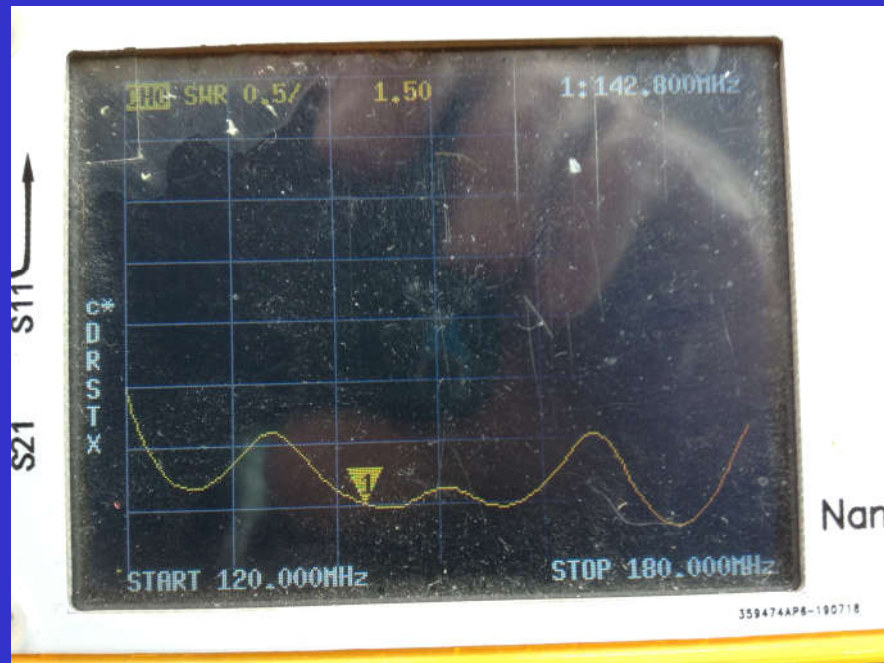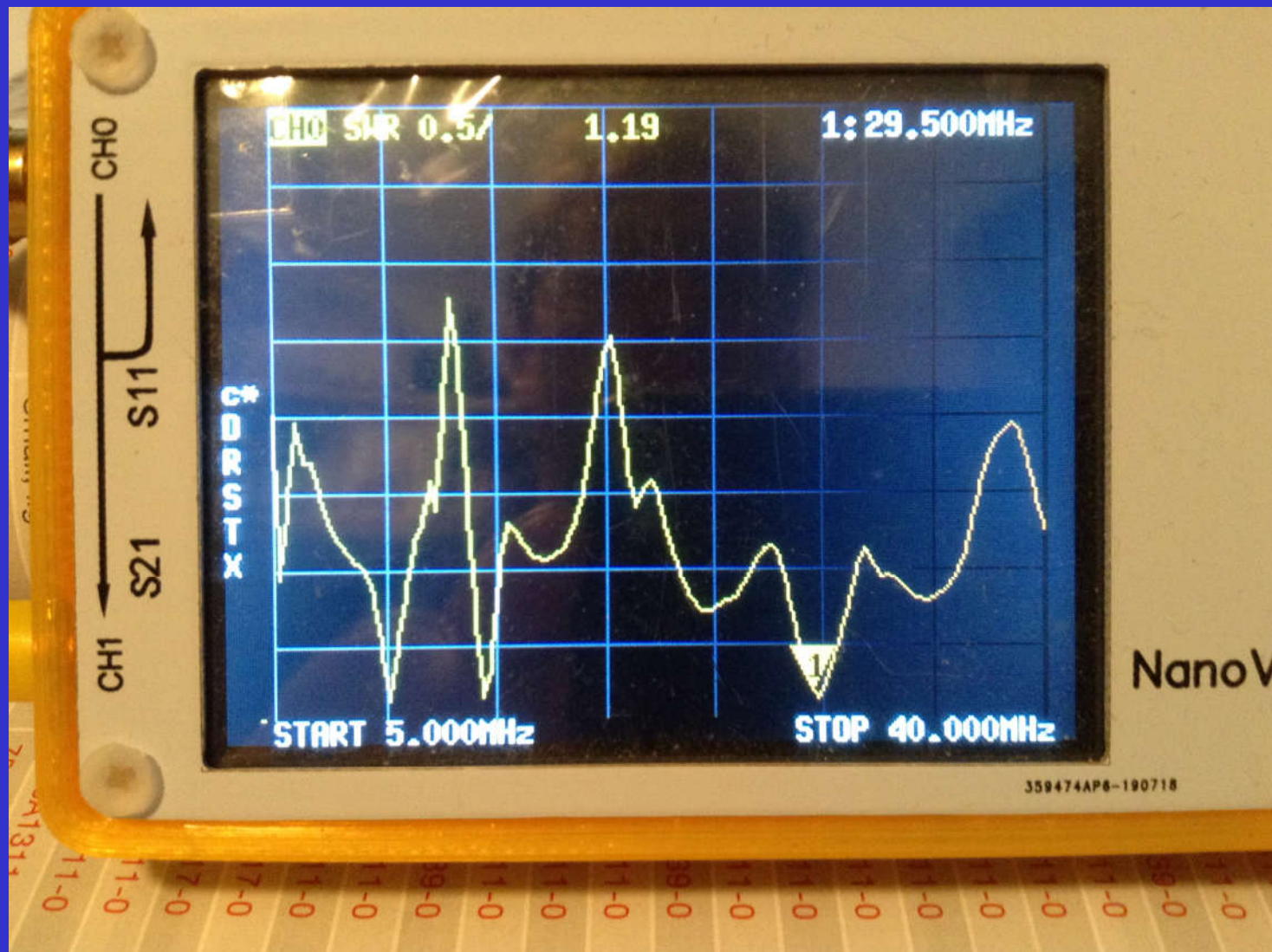
Loft Dipole

SaverVNA

- • Loft Dipole
- • 10 MHz, 14 MHz & 28 MHz
- • Touch number pad
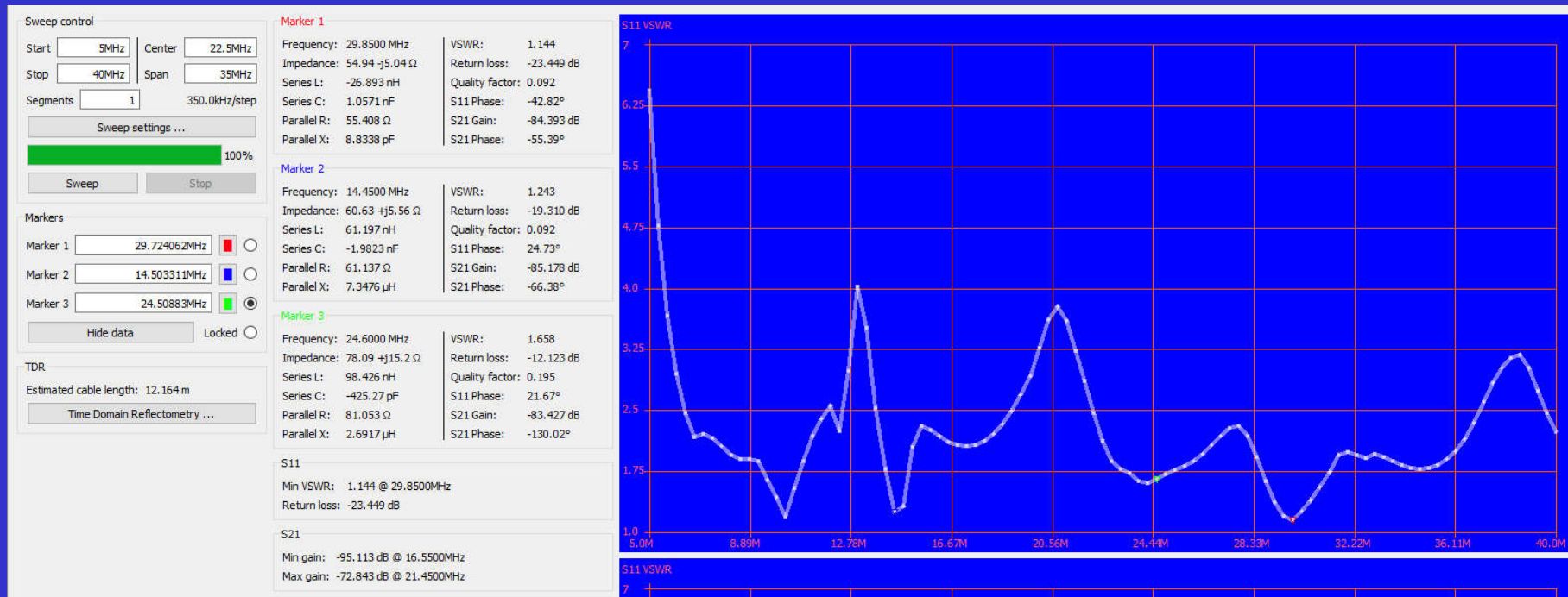
SaverVNA

••   Numerous Measurement Modes

4:1 Balun

Figure 1

Figure 2
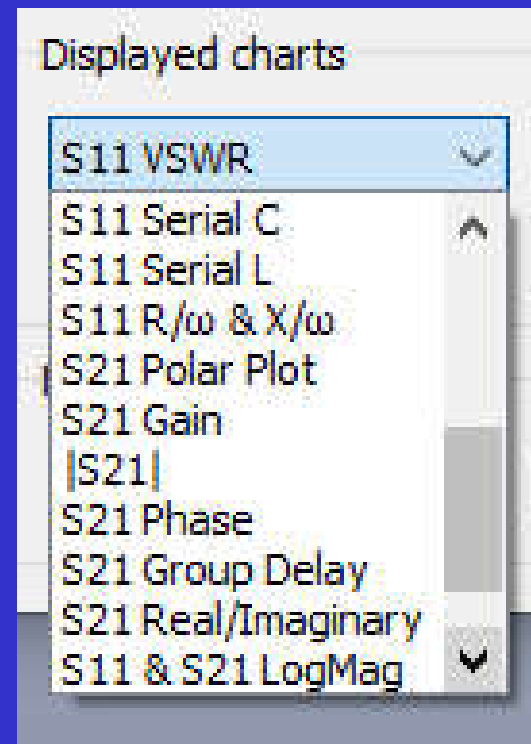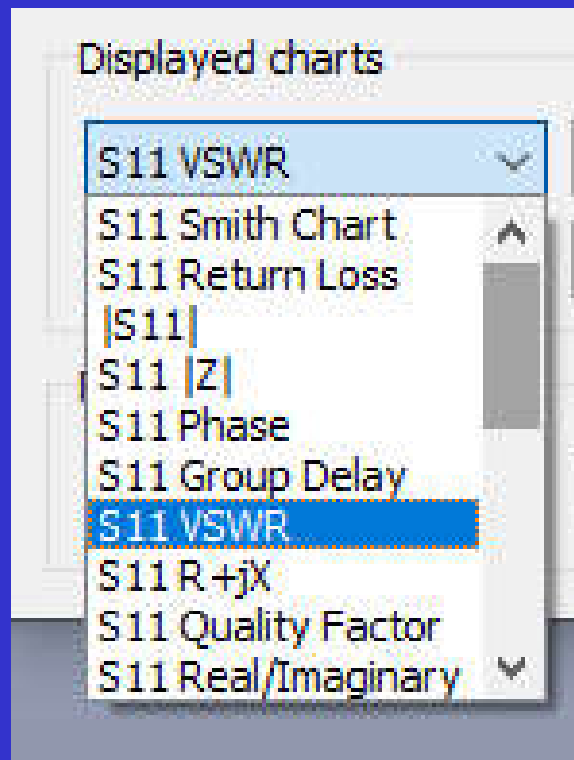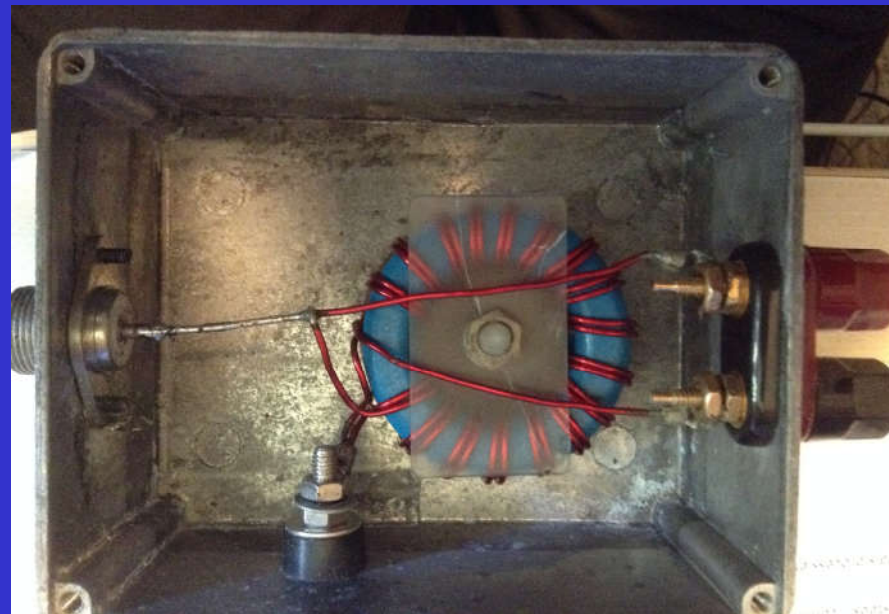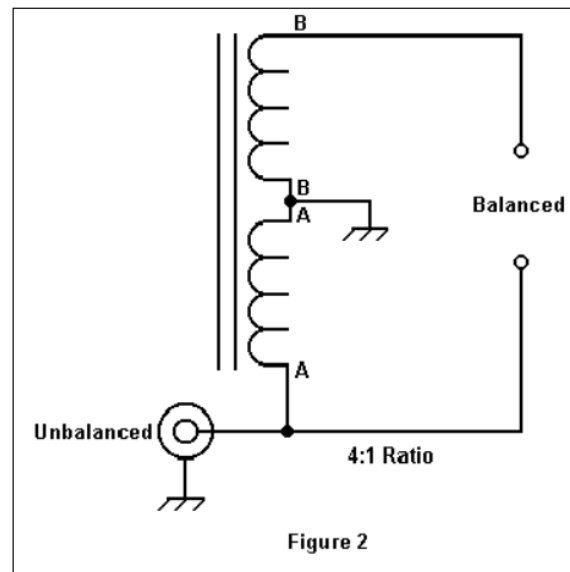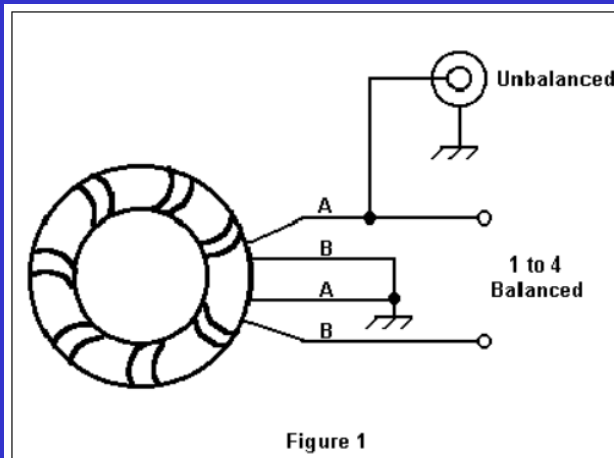
4:1 Balun
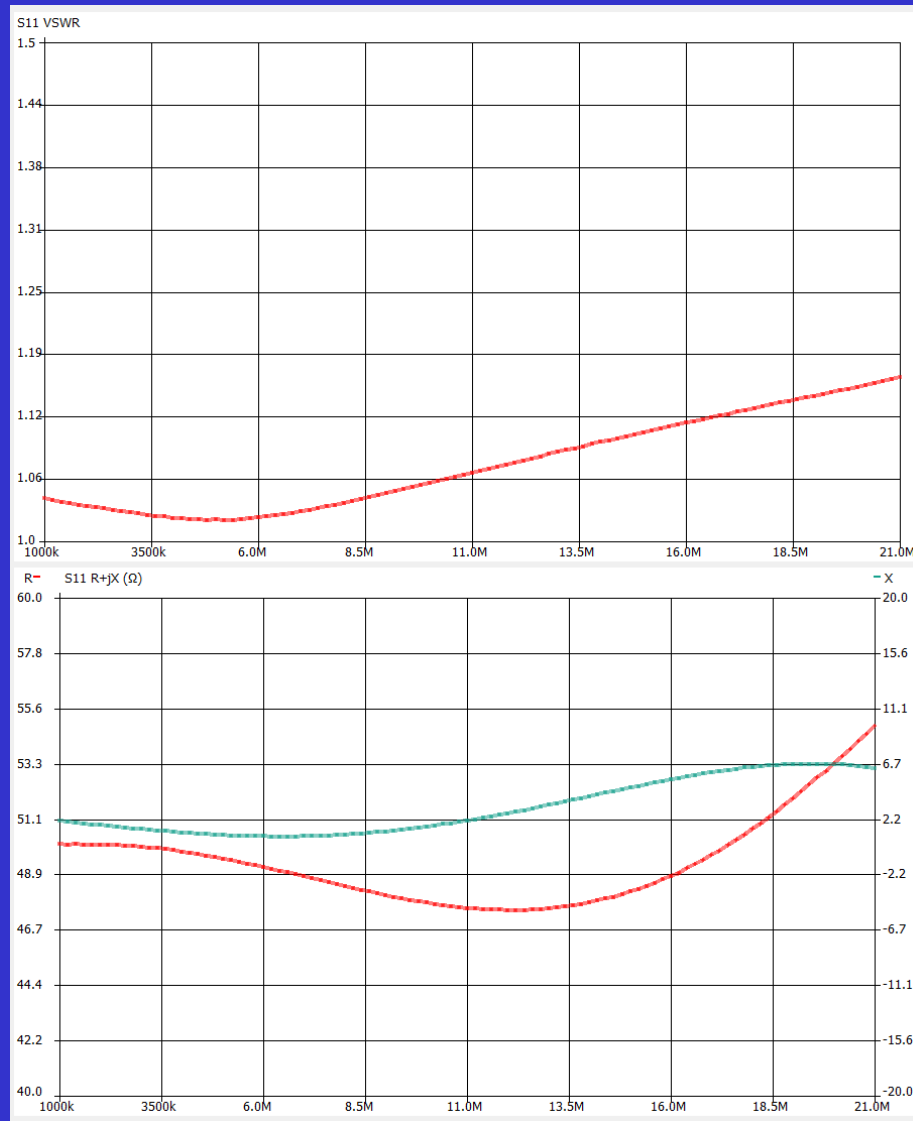
2-Port Filter Testing

•• Frog Sounds Forty-9er clone
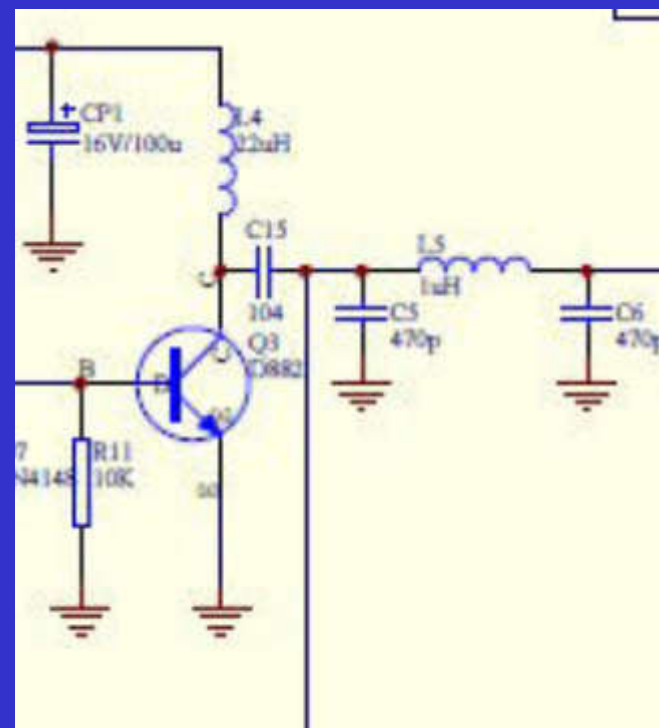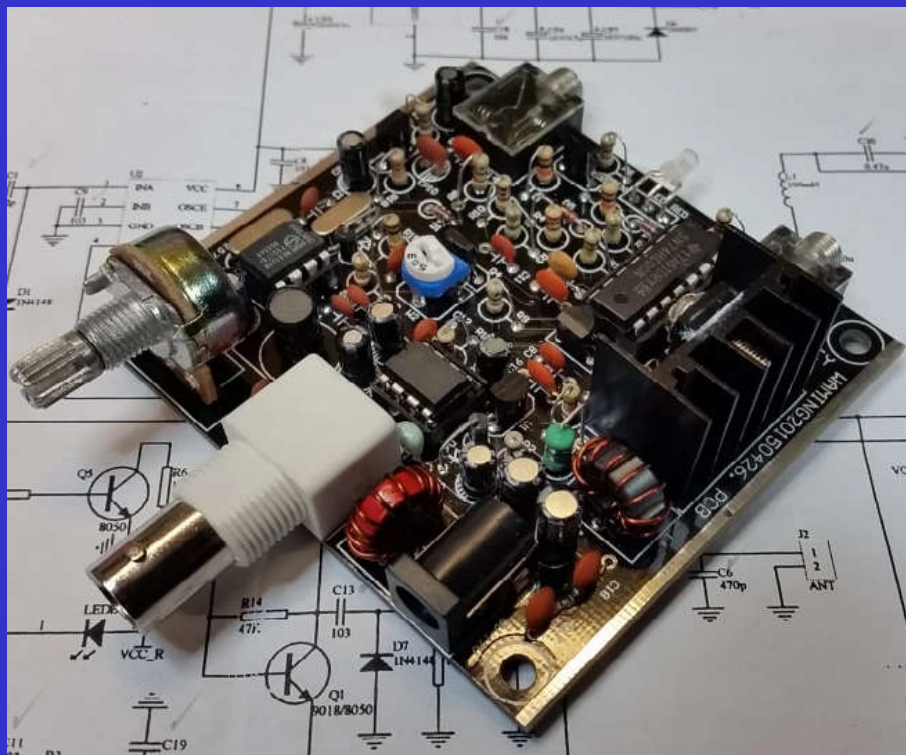
2-Port Filter Testing
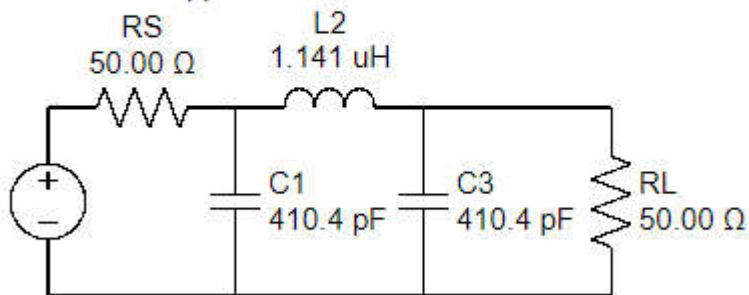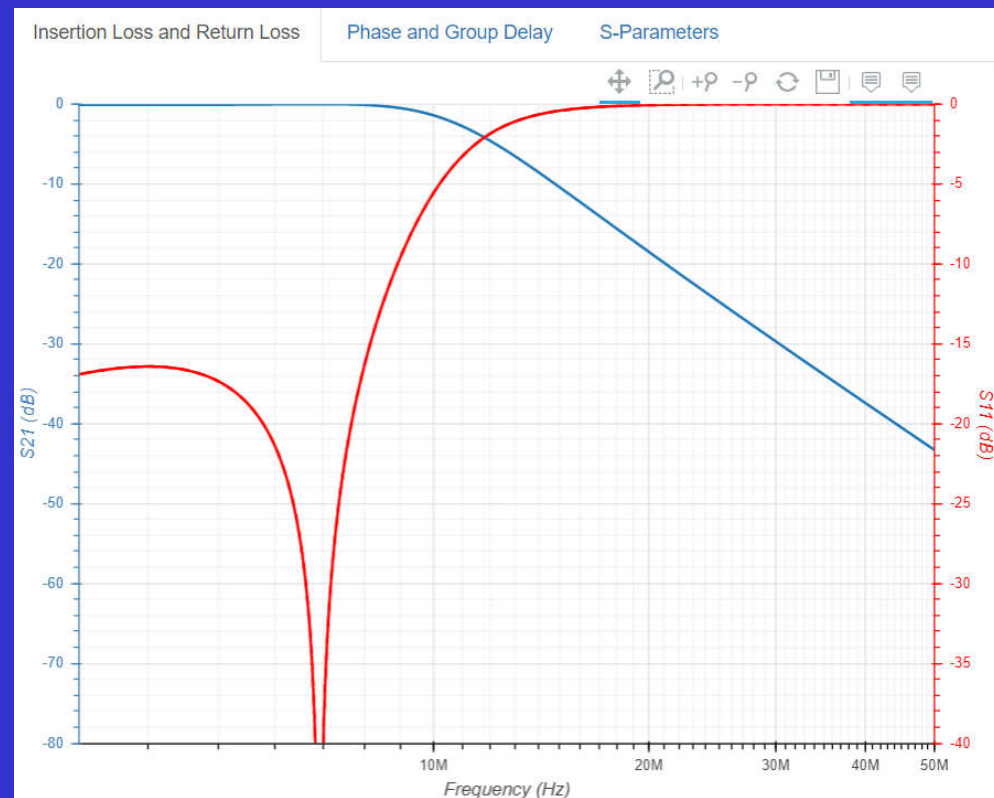
2-Port Filter Testing
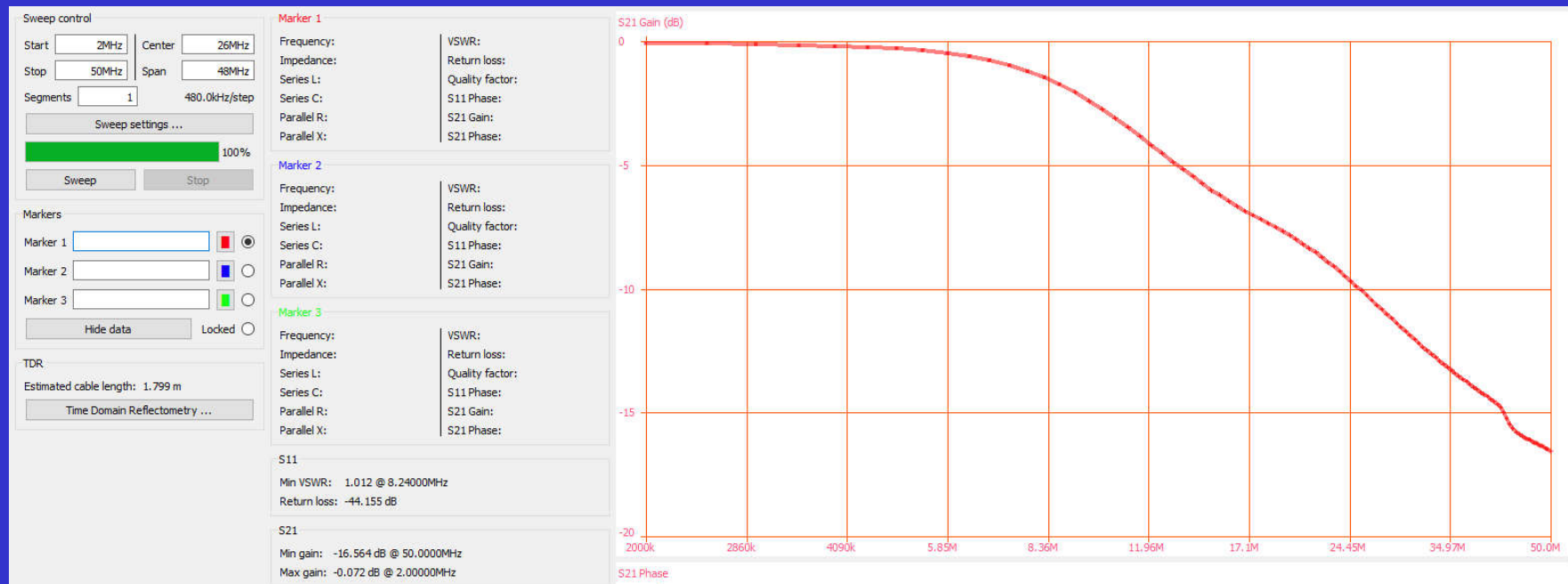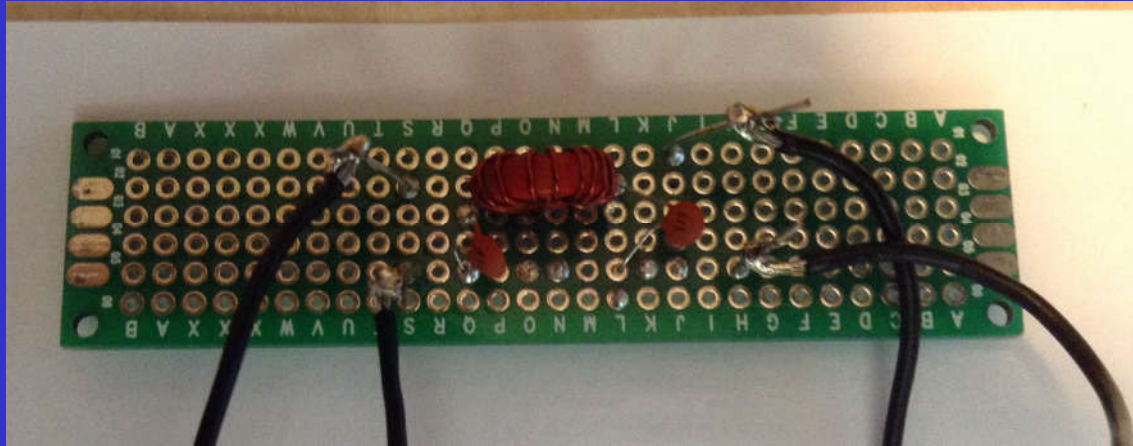
Support/Reference

- Amazon

Look inside ↓

A GUIDE TO THE
NanoVNA

CHRISTOPH SCHWÄRZLER, OE1CGS
MAXIMILIAN SCHWÄRZLER, OE1SML
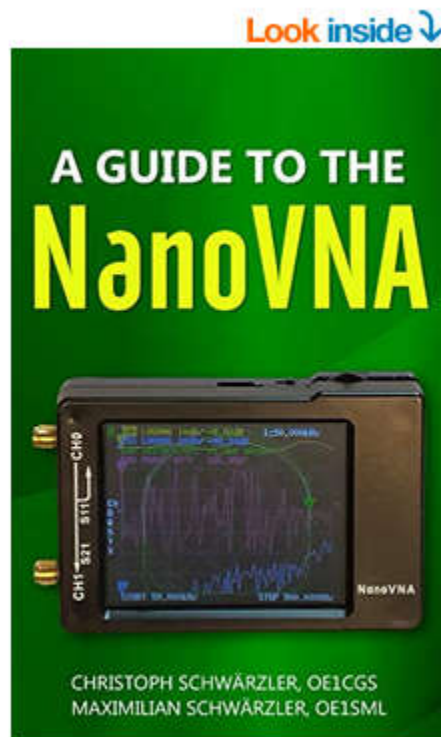
A guide to the NanoVNA Kindle Edition

by Christoph Schwärzler ∨ (Author), Maximilian Schwärzler (Author) | Format: **Kindle Edition**

★★★★☆ ∨   52 ratings

› See all formats and editions

Kindle Edition
£2.28

Read with Our **Free App**

Being a low-cost but high-precision measurement instrument, the NanoVNA created a lot of interest in the engineering and ham radio community. It has the potential to replace several, bulky and expensive tools and to open the field of vector network analysis to many new users. The NanoVNA is readily available for online ordering but ships with no manual. In five chapters and with 50 figures, this book helps the potential buyer of a NanoVNA to decide and shows the first time user how to handle it.

‹ Read more

Length: 106 pages ∨   Word Wise: Enabled ∨

Page Flip: Enabled ∨
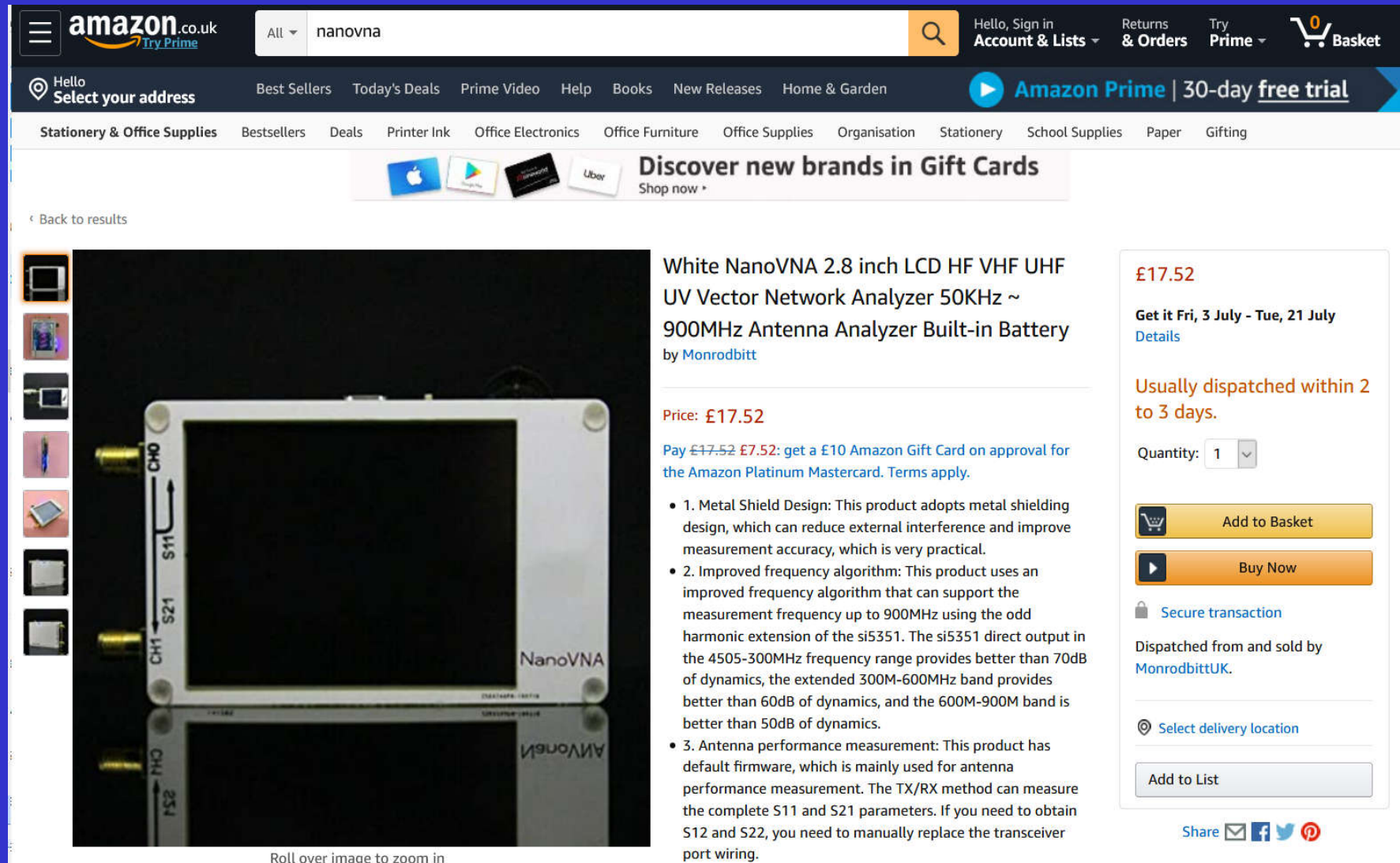
Support/Reference

- Facebook

Where To Purchase