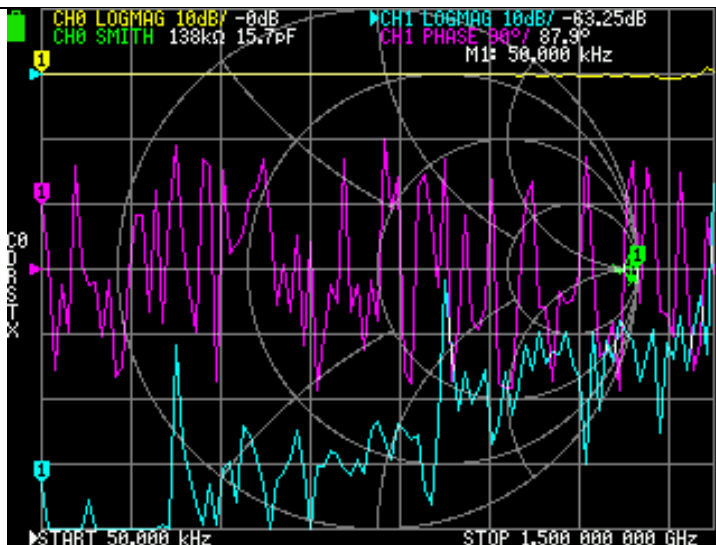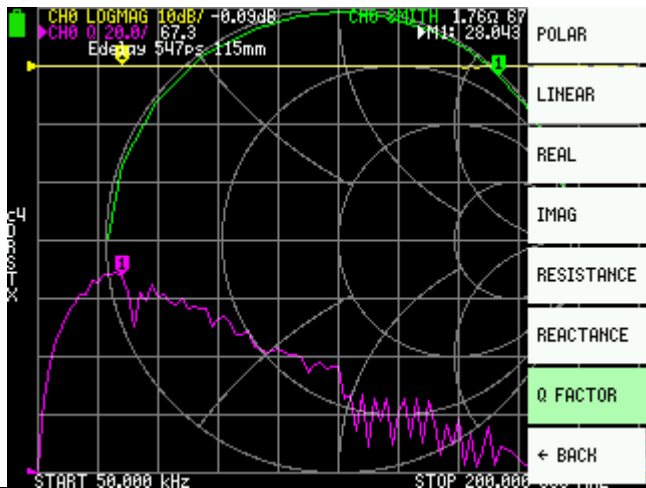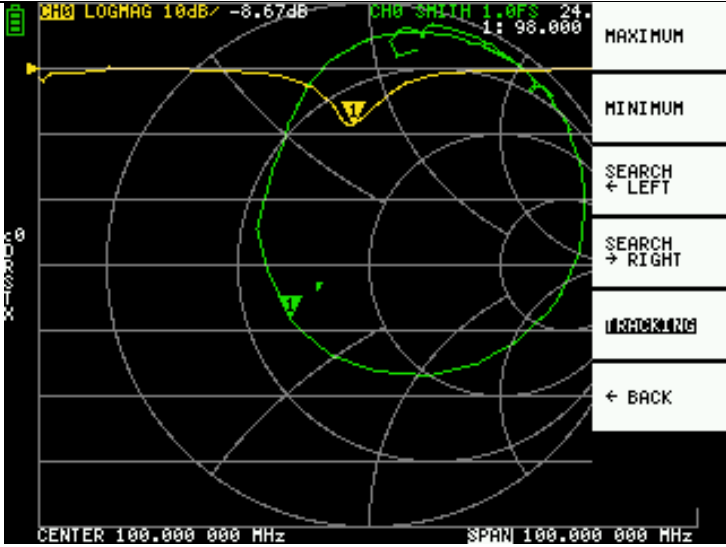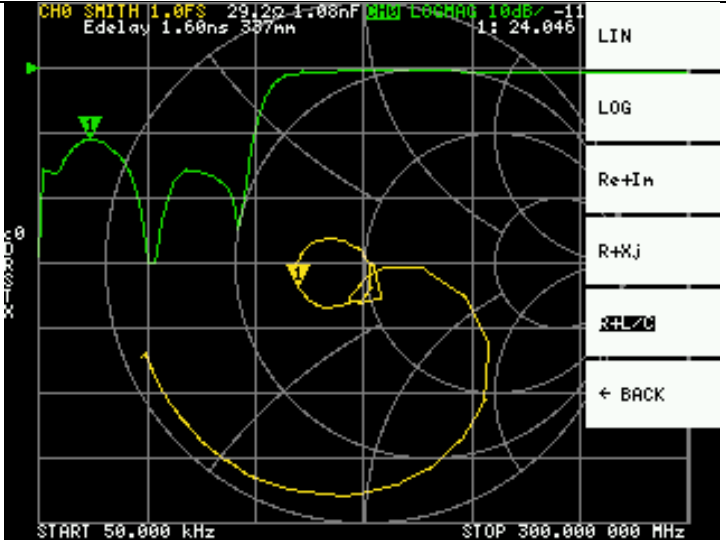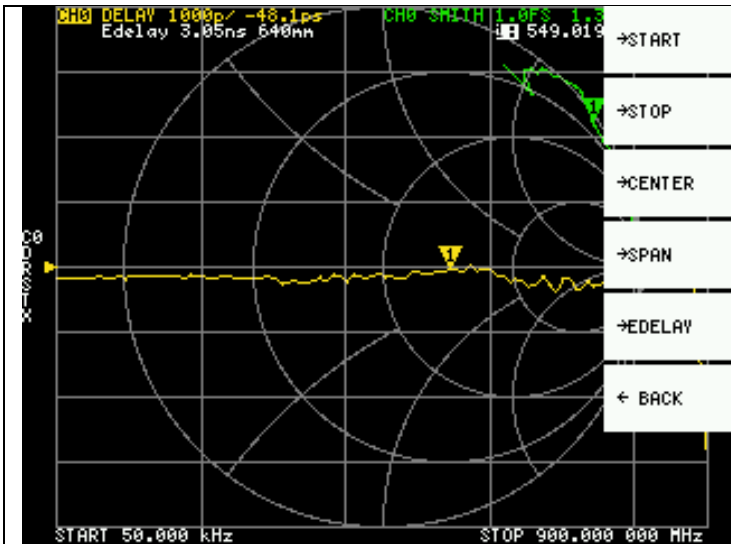|	
	0.8.0-20200620 edy555 released - Add format `Quality Factor` - Fix label `R+Xj` to `R+jX` - Add `bandwidth` command - some fixes

	0.7.1-20200321
	
	edy555 released
	
	- Contributions from @DiSlord
	  - shrink flash size
	  - fasten sweep
	  - added color command
	- added lever operation for the electrical delay
	- fixed code style

	0.7.0-20200223
	
	edy555 released
	
	- Merged incredible contribution from @DiSlord
	  - font face becomes smart, clear and having variable width
	  - update trace color to have good contrast
	  - update battery indicator
	  - changed marker icon
	  - changed focus sign of the lever mode
	  - replaced number formatting scheme
	  - remove the shell from chibios
	  - remove some unused command (info, thread)
	  - shrink the size of flash and SRAM
	  - cleaned a large amount of the codes
	- Lever operation updated
	  - disable lever mode change by frequency change
	  - clicking lower edge of the left and right changes lever mode to adjust the frequency of the stimulus
	  - dragging marker or clicking upper side makes lever mode to adjust the

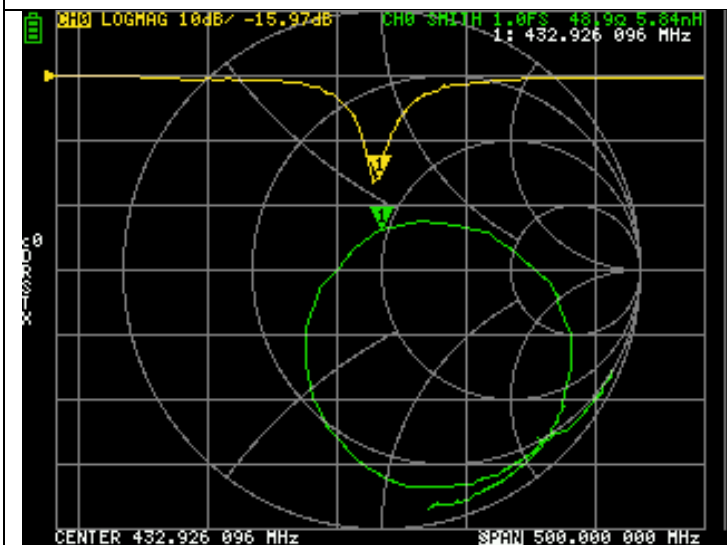|	
	frequency of markers Fixed checksum to prevent out-dated configuration from flash
	 DMR released Operating frequency <mark>10 KHz -1.5 GHz</mark>. Old, familiar colors, and increased marker movement speed.
	0.6.0-20200118 edy555 released - add marker tracking feature - make smith value format persistent - fix freeze in the number pad - some minor fixes After updating firmware, recommend doing `touch cal` and do `clearconfig`.
	0.5.4-20191210 improved accuracy of frequency (fixed #54). There were frequency errors distributed in some tens of Hz in stimulus and IF. But now, the error becomes less than 1Hz. (It's ready to implement bandwidth setting as next issue.) 0.5.3-20191130 add marker smith value menu, which enables to select value format LOG, LIN, ReIm, R+Xj, and R+L/C. draw marker values in the color of white

	  show multiple marker information add marker delta mode NanoVNA-0.5.1_20191123 0.5.1-20191123 add marker operation groupdelay → edelay
	NanoVNA-0.5.0_20191117 0.5.0-20191117 • add lever operations that support shifting center freq, zoom span and marker search • change touch cal default for 2.8 inch lcd panel • some minor fixes After updating firmware, recommend to do `touch cal` and do `clearconfig` if traces become scratched.
	0.4.0-20191106 edy555 released this on Nov 6 2019 • add marker function to search maximum and minimum • update `nanovna.py` script • reduce flash size • add guide after clearconfig • some minor fixes • add list of pc tools in README.md After updating firmware, don't forget `touch cal` and try `clearconfig` if traces become scratched.
	0.3.1-20191021 edy555 released this on Oct 21 2019 • fix sign of group delay 0.3.0-20191020

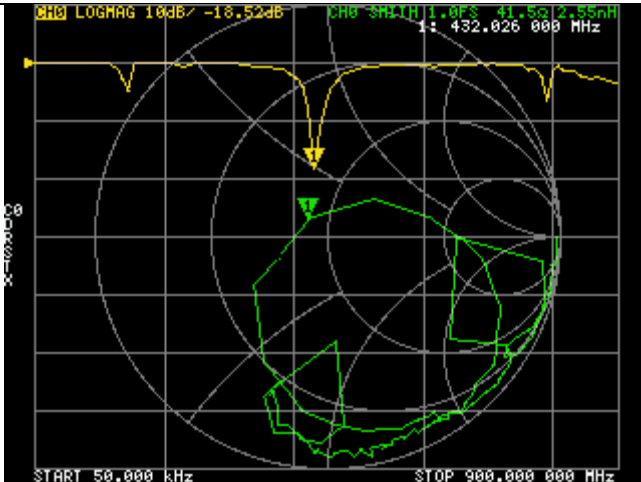|	
	edy555 released this on Oct 20 2019 - make group delay trace format work - support negative time value - remove close menu item - minor fixes
	[0.2.3-20191008](#) edy555 released this on Oct 7 2019 - change toggle behavior of trace menu and marker menu - add `transform` command to change mode of TDR - add `threadshold` command - remove cal glitch between different harmonic modes - **NanoVNA-saver** in multisegment mode shall work well Needs touch calibration and save it after flashing firmware.
	[0.2.2](#) edy555 released this on Sep 29 2019 [0.2.1](#) edy555 released this on Sep 28 2019 `fixed: freeze device by clicking pause` [0.2.0-20190928](#) edy555 released this on Sep 28 2019 - in-device TDR support (contributed by [@cho45](#)) - add `scan` command for multisegment scan excess 101 points - fixed invalid sweep at the narrow span (<5kHz) - fixed failures caused by a race condition between USB and measuring loop - find device automatically in python script
	[0.1.1](#)

released this on Sep 19 2019

```
fix: increase stack area to prevent
fault caused from nanovna-saver
```


0.1.0-20190914

edy555 released this on Sep 14 2019

- use gcc-8.2.1 to build firmware
- contributed by cho45
  - add screen capture command (use script `./python/nanovna.py -c`)
  - add trace format of real/imag/impedance/reactance
  - add battery indicator (needs install D2. any small diodes are suitable. 1N4148WS or B5817WS is the best. see https://lowreal.net/2019/09/09/1)
  - add version info screen
  - add menu and command to enter dfu mode
  - add menu item to calibrate touch screen and test it
  - optimize line drawing
  - reduce sram usage

0.0.9-20190818

edy555 released this on Aug 20 2019

- support 900MHz x3 harmonic operation
- add experimental x5 harmonic
- adjust gain and drive strength of LO
- add sample command to evaluate IF amplitude and dynamic range
- add version command
- rearrange menu to reduce clicks
  - split save and restore
  - trace and marker menu
- remove glitch at first point in sweep span
- interpolate only when cal applied
- add visual feedback on correction/pause menu item
- add n, p key in number pad screen for electrical delay
- fix the mistake of error correction formula for s11
- fix the mistake of the impedance

	calculation formula

	[20170203]
	
	edy555 released this on Aug 11 2019 · [211 commits] to master since this release
	
	`0.0.5`
	
	`add schematics, block diagram and pcb photo, update README.md`

	[20170122]
	
	edy555 released this on Aug 11 2019 · [224 commits] to master since this release
	
	`0.0.4`
	
	`delete unused var`

	[20170120]
	
	edy555 released this on Aug 11 2019 · [231 commits] to master since this release
	
	`0.0.3`
	
	`add clearconfig command`

	[20170118]
	
	edy555 released this on Aug 11 2019 · [233 commits] to master since this release
	
	`0.0.2`
	
	`set scale and refpos temporally`

	[20170109]
	
	edy555 released this on Aug 11 2019 · [245 commits] to master since this release
	
	`0.0.1`
	
	`menu attribute change on trace selection and cal operations`