

OH1ZN

Direct Conversion

Receiver

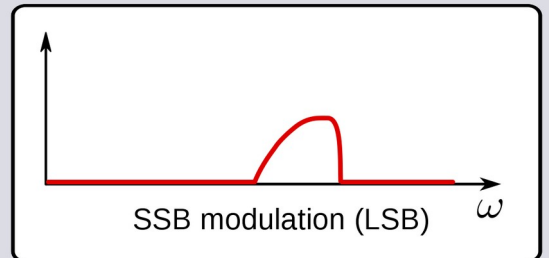
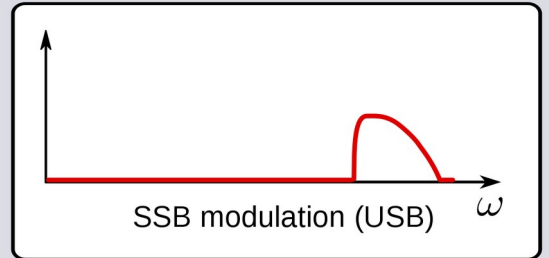
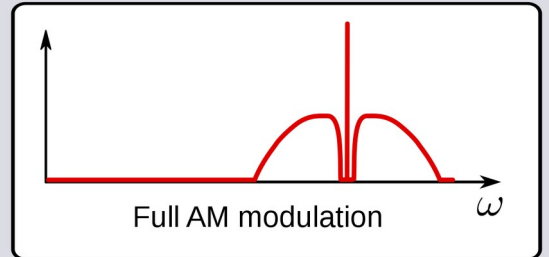
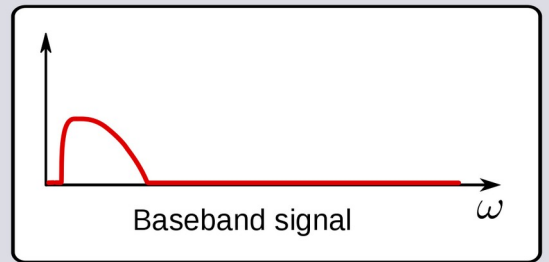
Juhani Jaakola OH1FSS

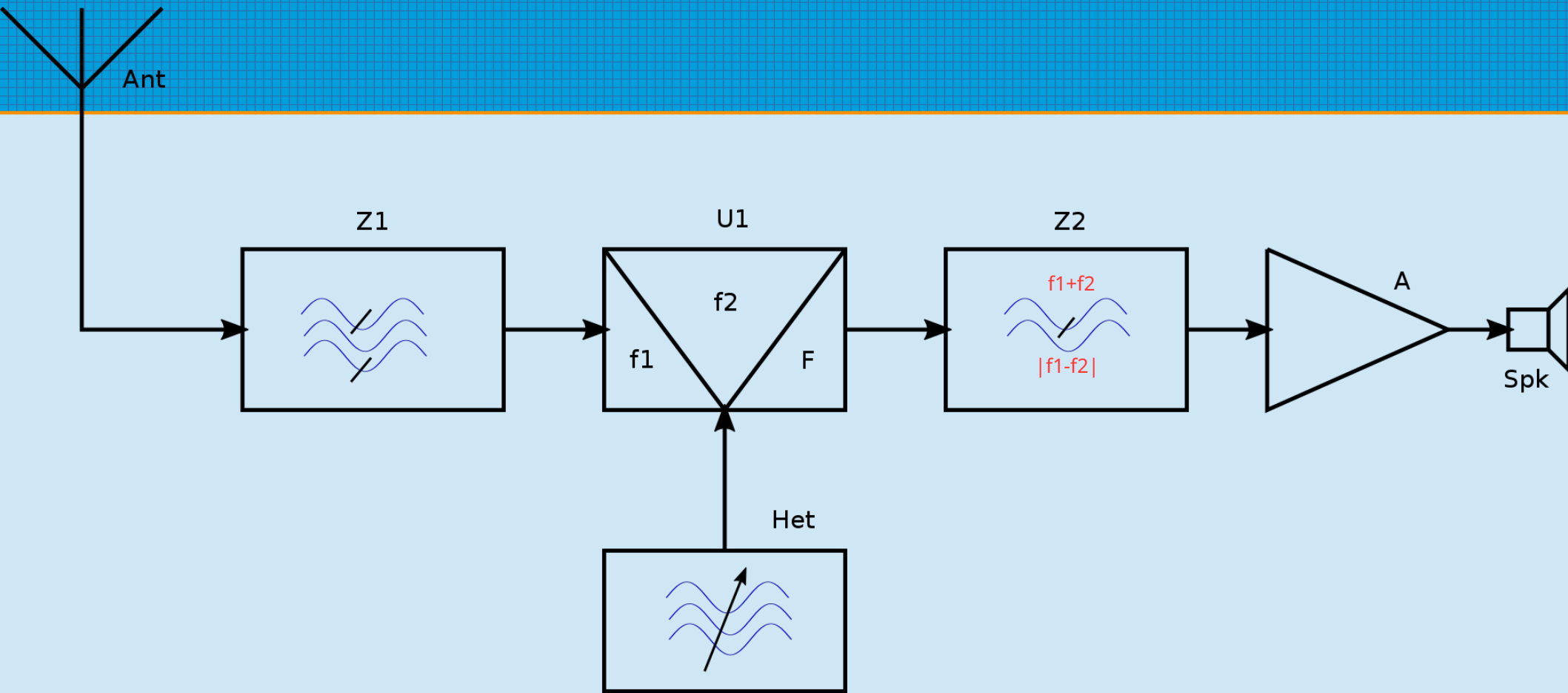
Direct Conversion Receiver

- Homodyne
- Synchrodyne
- zero-IF receiver
- Suora superi

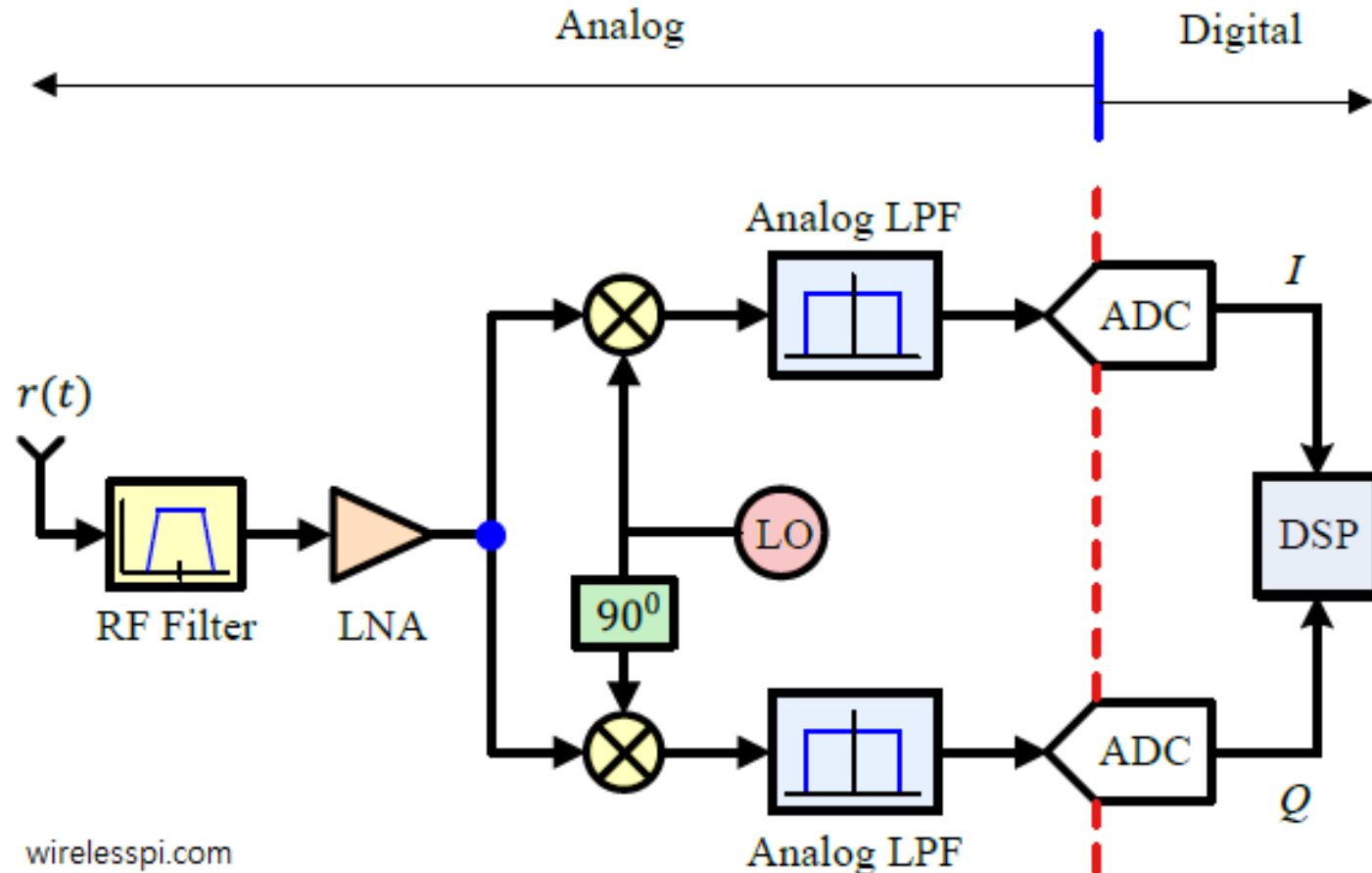
SSB

- Sivunauha sekoitetaan takaisin audioksi
- LSB ja USB ovat "peilitaajuuksia"





Software Defined Radio



OH1ZN 14 MHz DC RX

RF esivahvistin

AF vahvistin

Kap, diodit

LM386

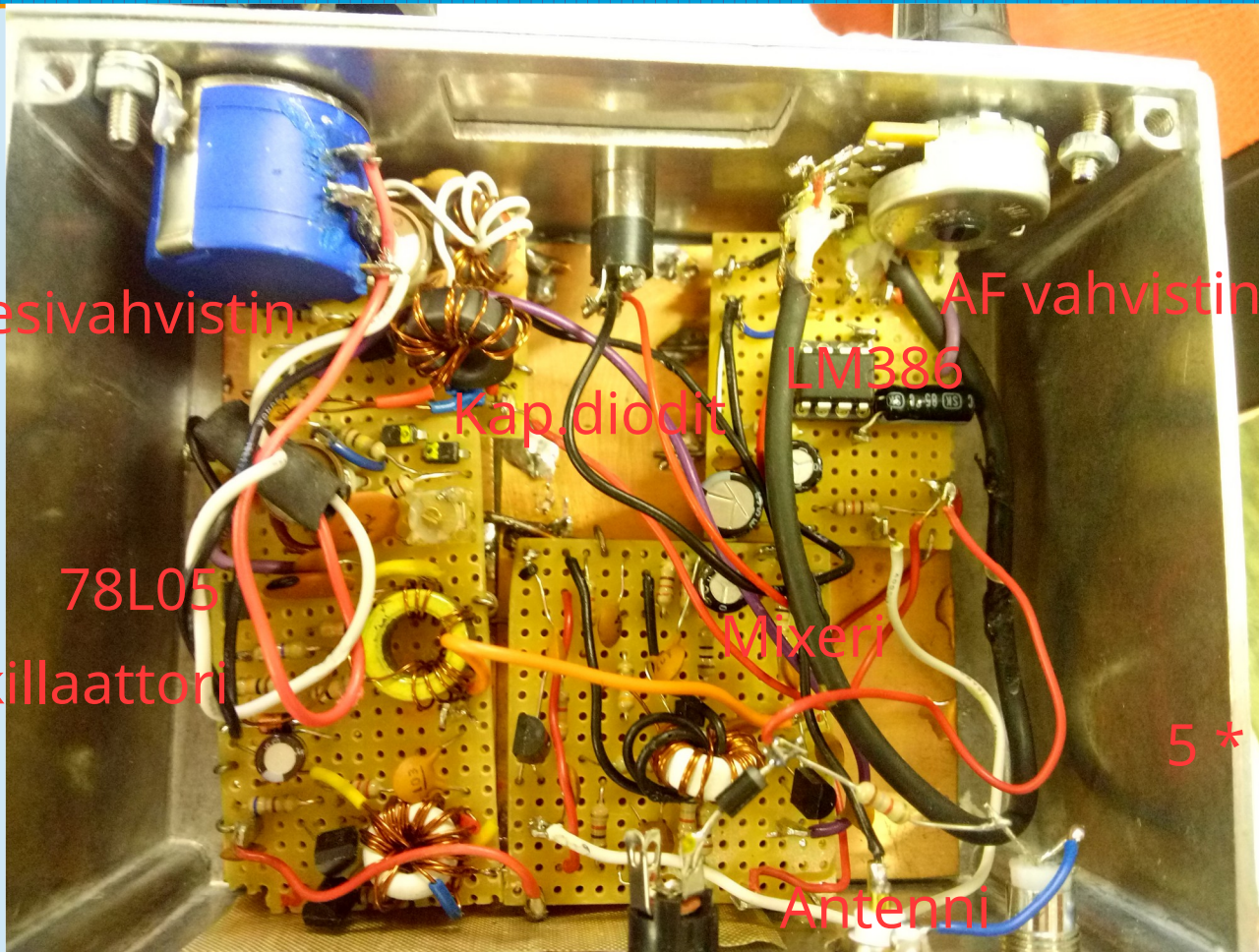
78L05

Oskillaattori

Mixeri

5 * 2N3904

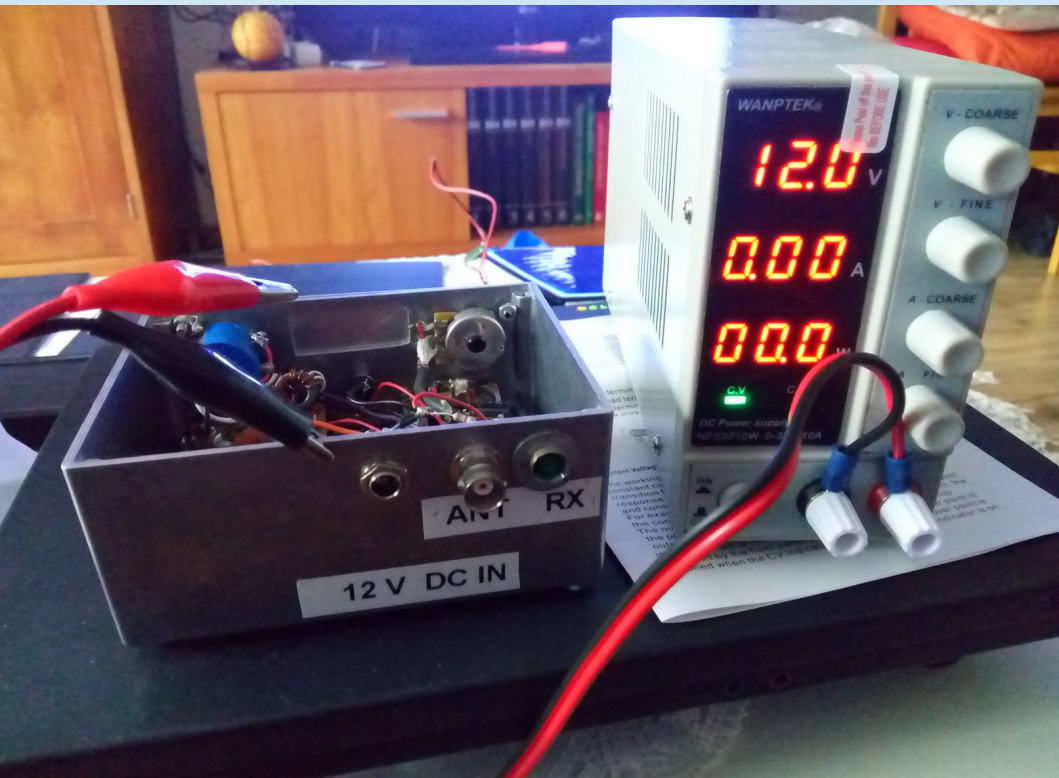
Antenni



Ensimmäinen virtaliitin löytyi



Virtalähde, jossa virran rajoitus 1A

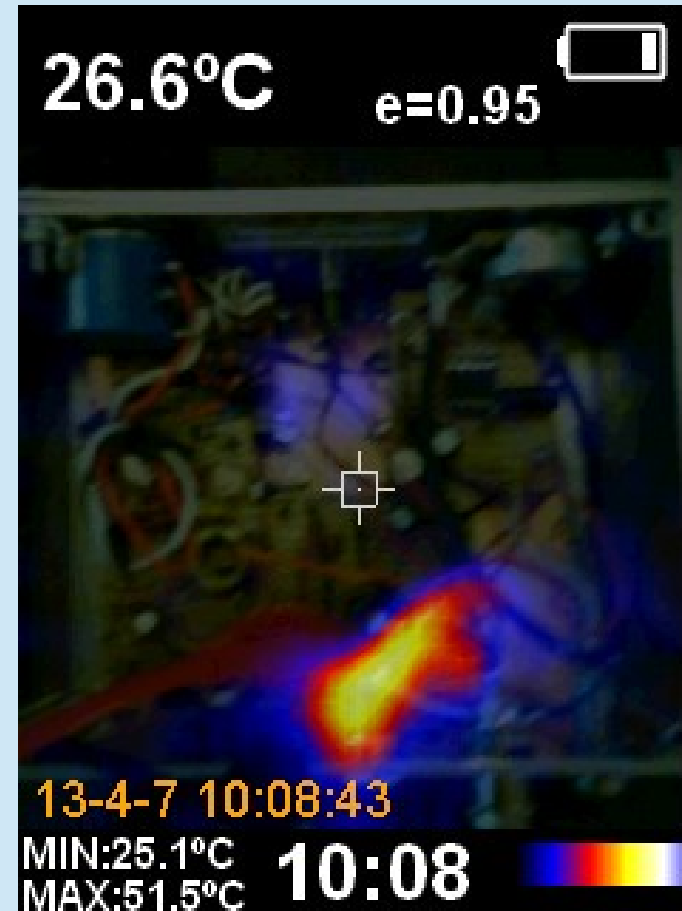
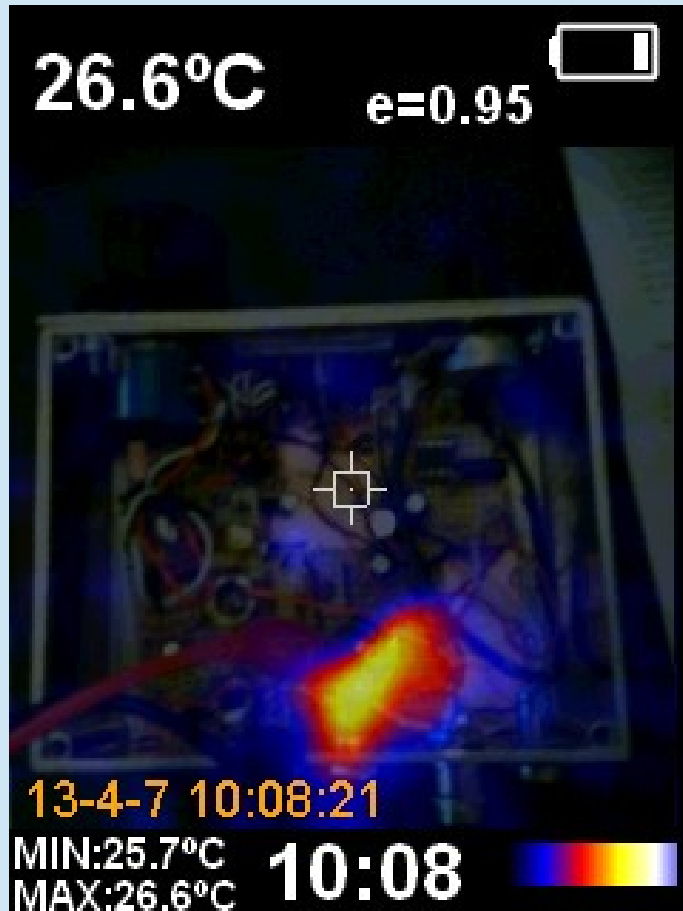


Ilman kuormaa

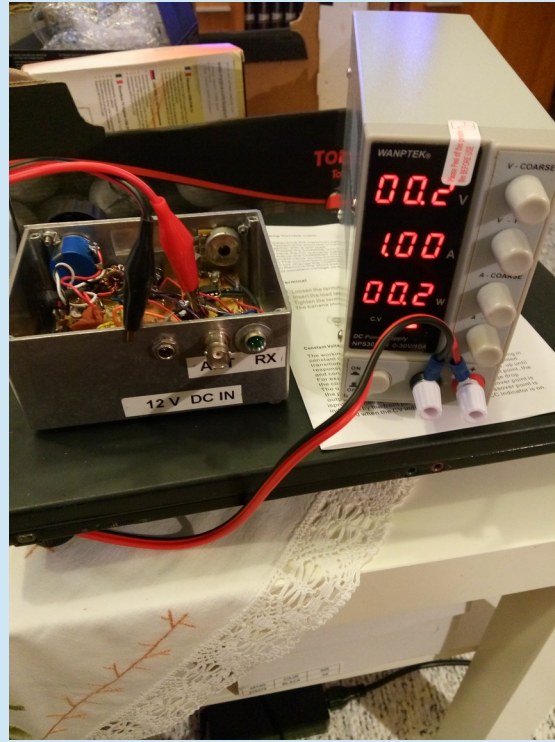


Yhdistettynä vastaanottimeen

Diodin jälkeen oikosulku



Ohitetaan diodi



Ohitetaan diodi

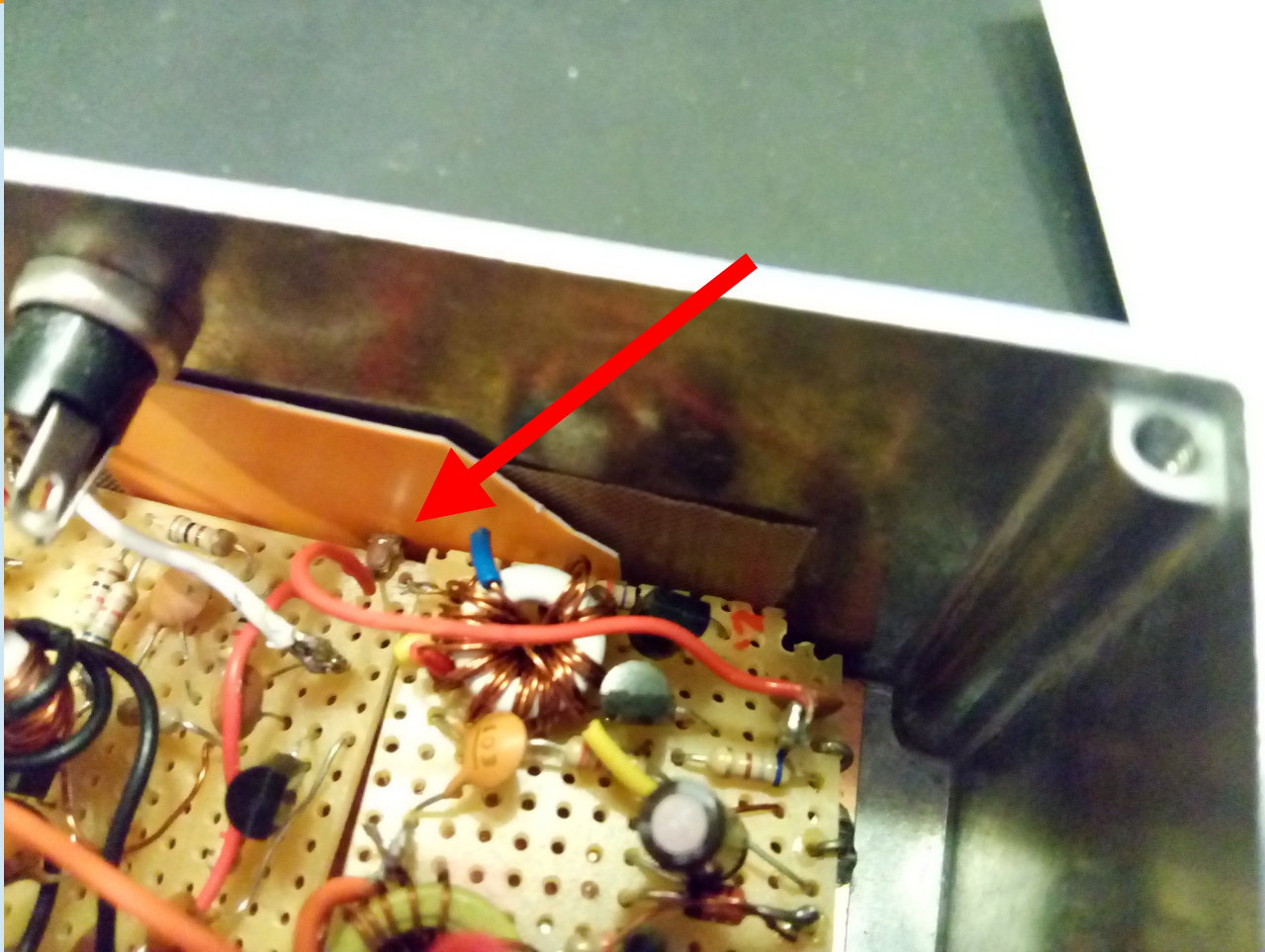
Punainen kohta siirtyy, kun siirtää kameraa => väärä hälytys



Eristetään moduilit

- Katkaistaan RF-esivahvistimen virransyöttö – ei vaikutusta
- Katkaistaan oskillaattori+mixeri – oikosulku katosi!
- Tutkitaan oskillaattori+mixeri tarkemmin

Oikosulun eristäminen pahvinpalalla



LED palaa ja kohinaa kuuluu!



Mikä on oskillaattorin taajuus?

Mitataan 10. harmooninen OpenRD5R spektrinäytöllä



20m IARU Region 1 Band Plan

- Radio kuuntelee 14010 - 14110

14 MHz	14000 - 14060	200	CW	CW contest preferred, 14055 kHz - QRS Centre of Activity
	14060 - 14070	200	CW	14060 kHz CW QRP Centre of Activity
	14070 - 14089	500	Narrow band modes	Digimodes
	14089 - 14099	500	Narrow band modes	Digimodes, automatically controlled data stations (unattended)
	14099 - 14101		International Beacon Project	Beacons exclusively
	14101 - 14112	2700	All modes	Digimodes, automatically controlled data stations (unattended)
	14112 - 14125	2700	All modes	
	14125 - 14300	2700	All modes	SSB contest preferred 14130 kHz - Digital Voice Centre of Activity 14195 +/- 5 kHz - Priority for DX-peditions 14230 kHz - Image Centre of Activity 14285 kHz - SSB QRP Centre of Activity
	14300 - 14350	2700	All modes	14300 kHz - Global Emergency Centre of Activity