ÖVSV

ÖSTERREICHSICHER VERSUCHSSENDEVERBAND
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UHF-VHF ANTENNA

Duoband J-Pole

240 Ohm Twin lead

Youngsters On The Air

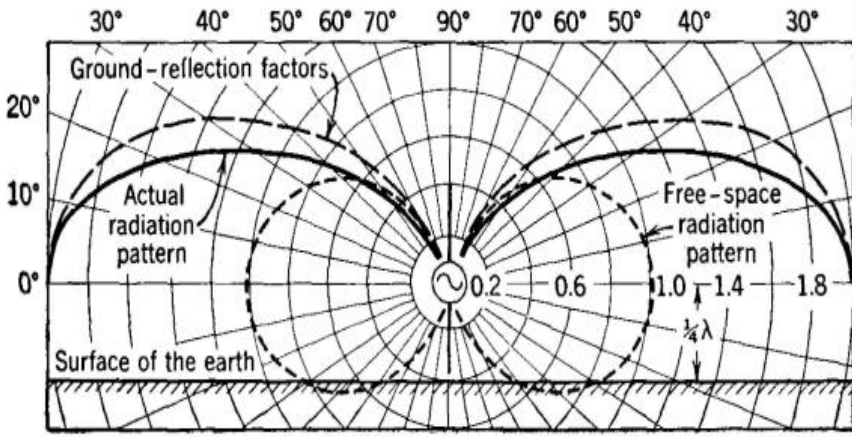
IARU
REGION 1

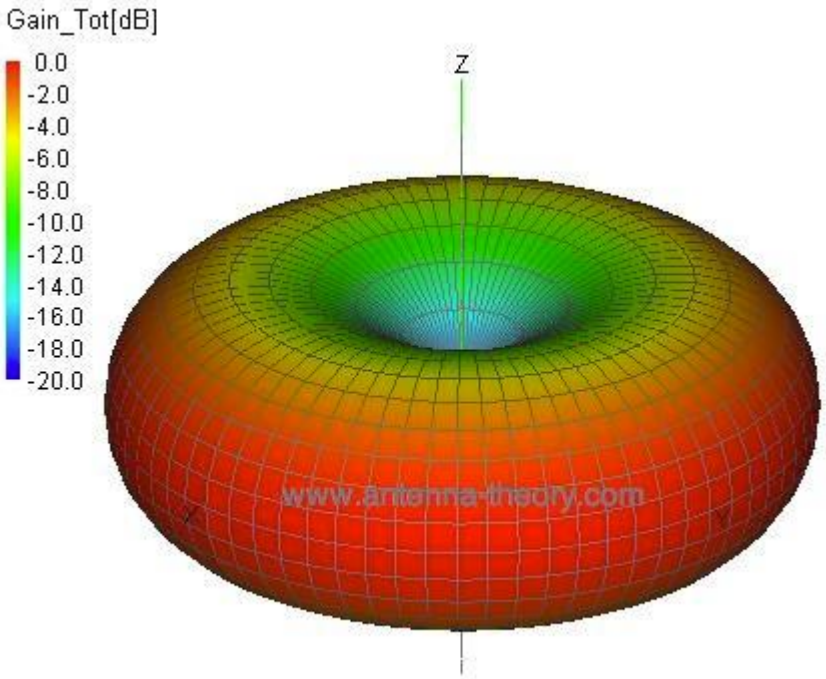
Halfwave Duoband antenna

PRINCIPLE

Features of ½ wave

- Building a duoband halfwave antenna for portable use
- Significant gain on both bands (144Mhz, 433Mhz)
- Easy to transport (roll-up)
- Perfect SWR
- Good radiation pattern

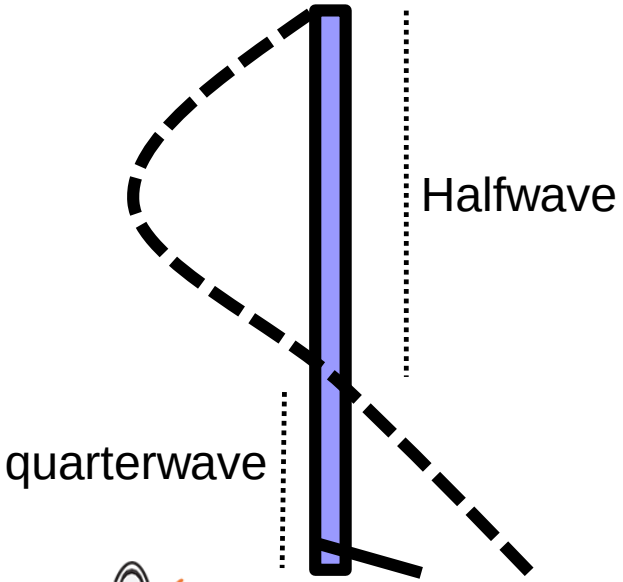




Functional principle

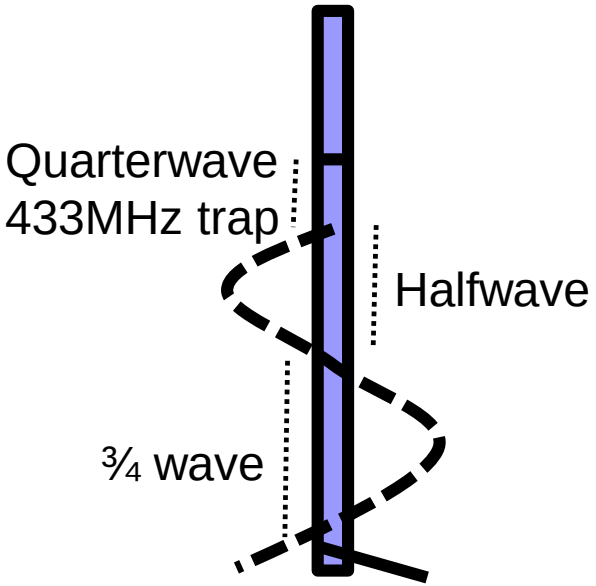
144Mhz

- Half Wave radiator
- Quarter wave transforming line



433Mhz

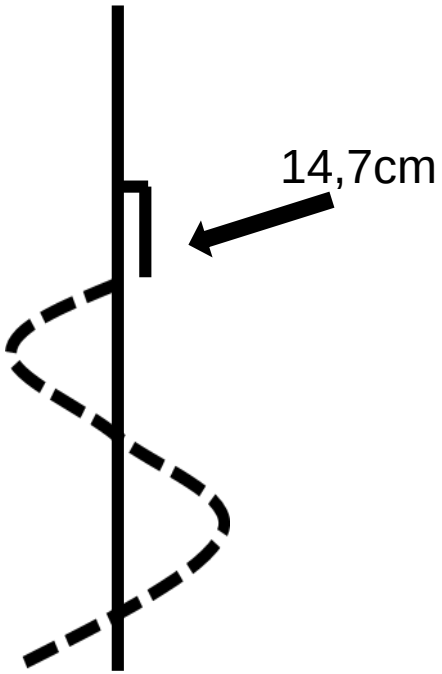
- Half wave radiator
- Quarter wave stub (trap)
- ¾ wave transforming line



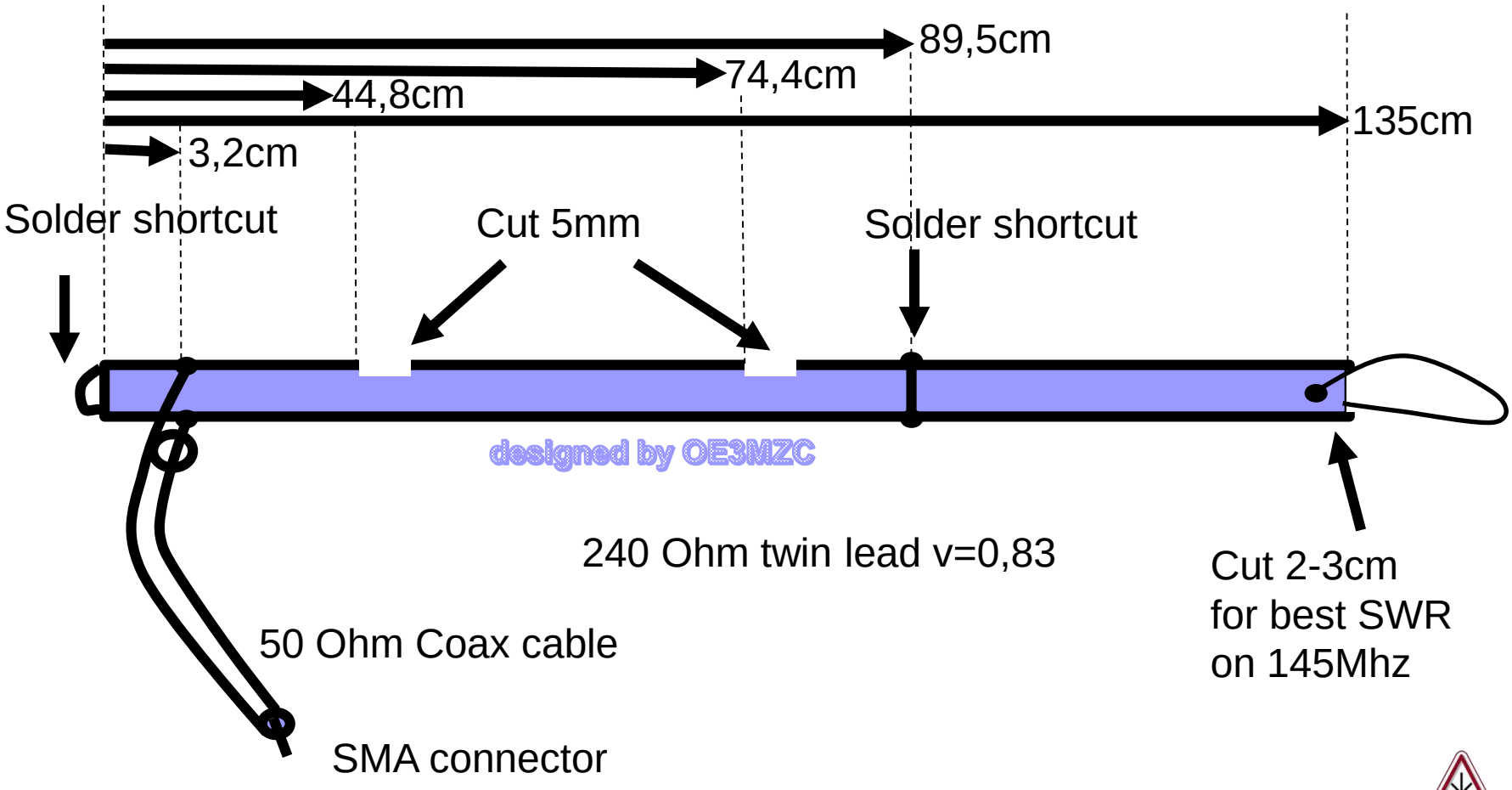
Quarter wave trap

A quarter wave is blocking 70cm

- Paralell cable is 1/4w * Vf
- 70/4=17,5*0,83=14,7cm
- Like parallel resonator
- High impedance
- Cut-off upper section
- Principle also works on HF
- Called „trap“ or „stub“



Construction plan



Building it in steps

- Cut 140cm of twin lead
- solder short-cut at bottom end
- Measure from bottom end 44,8 cm and cut-out 5mm on one side only!
- Measure from bottom end 74,4 cm and cut-out 5mm on same side only!
- Measure from bottom end 89,5 cm and solder short cut
- Measure from bottom end 3,2 cm and solder coax cable (inner lead on long part of antenna)
- Cut overall lenght to 135cm and check SWR for 1:1,5 on both bands (145MHz/433MHz)

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READY!

Please us it
at SOTA excursion!

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