

Alex Pettit's advice on making antennae for 1420 MHz

SARA forum 3/2/2025

I understand. Actually, the one shown Can be built with hand tools .

The tedious part is slicing the cake pans... and

Each hole must be match drilled one at a time : drill hole, insert screw , repeat.

1.42 GHz Cantenna Components

10" wide 0.010" thick Aluminum Flashing

\$ 14.00 **Home Depot**

How to Get It

Ship to Store Pickup Oct 31 - Nov 3

Ship to Home Get it by Wed, Nov 2

Deliverin

Si Not a



TRIM & FLASHING SERVICE

ALUMINUM
10 in. x 10 ft.
#999-10-10

GIBRALTAR

CAUTION SHARP EDGES! Use gloves to prevent injury. This product is not recommended for direct contact with pressure-treated lumber.

WARNING

Clear and Repaintable Surfaces
www.HomeDepot.com/grip

Part # 999-10-10

Share



Fat Daddio's Round Cake Pan, 6 x 4 Inch, Silver

Visit the Fat Daddio's Store

Amazon

★★★★★ 22,008 ratings

\$11.69


prime

2 each

FREE Returns

Get a \$100 Gift Card: Pay \$0.00 \$11.69 upon approval for the Amazon Prime Rewards Visa Card. No annual

Share



bestkong 2 PCS Chassis N Female Jack 4 Hole Panel Mount PCB Solder RF Connector

Brand: bestkong

★★★★★ 27 ratings

Amazon

\$9.57

prime

FREE Returns

Share



K&S 3404 Round Copper Telescopic Tubing Assortment, 1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4 O. D. X .014" Wall Thickness X 12", 7 Pieces, Made in The USA

Visit the K&S Store

★★★★★ 359 ratings | 7 answered questions

\$8.99

prime

Amazon

FREE Returns

Share



Wirefy 30 PCS Tinned Copper Wire Lugs Kit - Battery Lugs - Crimp Battery Cable Ends - Ring Terminals - 6-2 Gauge

Visit the Wirefy Store

★★★★★ 1,295 ratings

Amazon's Choice in Ring Terminals by Wirefy

Amazon

-25% \$14.99

List Price: \$19.99

prime One-Day

FREE Returns

With Amazon Business, you would have saved \$140.47 in the last year. Create a free account and save up to 9% today.

Style: 30 PCS Kit - 6-2 AWG

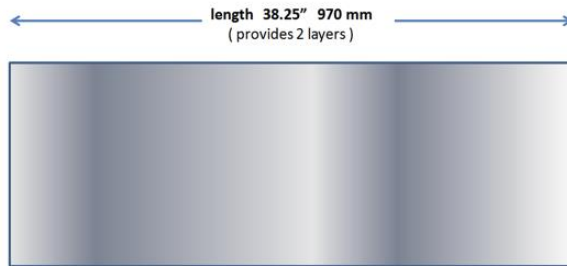
120 PCS Kit - 10-4 AWG	30 PCS Kit - 6-2 AWG
\$21.99 (\$0.18 / Count)	\$14.99
prime	prime

Roll over image to zoom in

1.42 GHz Cantenna Dimensions



10" wide aluminum flashing (0.010" thick)





Alex

Hello Adrian,

Its worth (again) **searching on-line restaurant supply houses** to see **if** this Actually Exists:

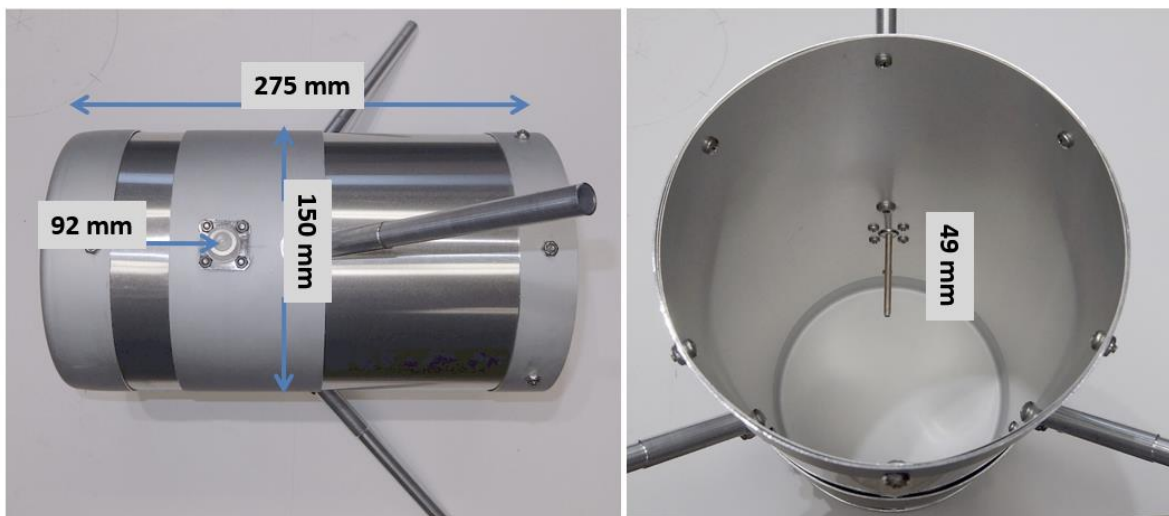
= **6" dia x 10" long aluminum container**

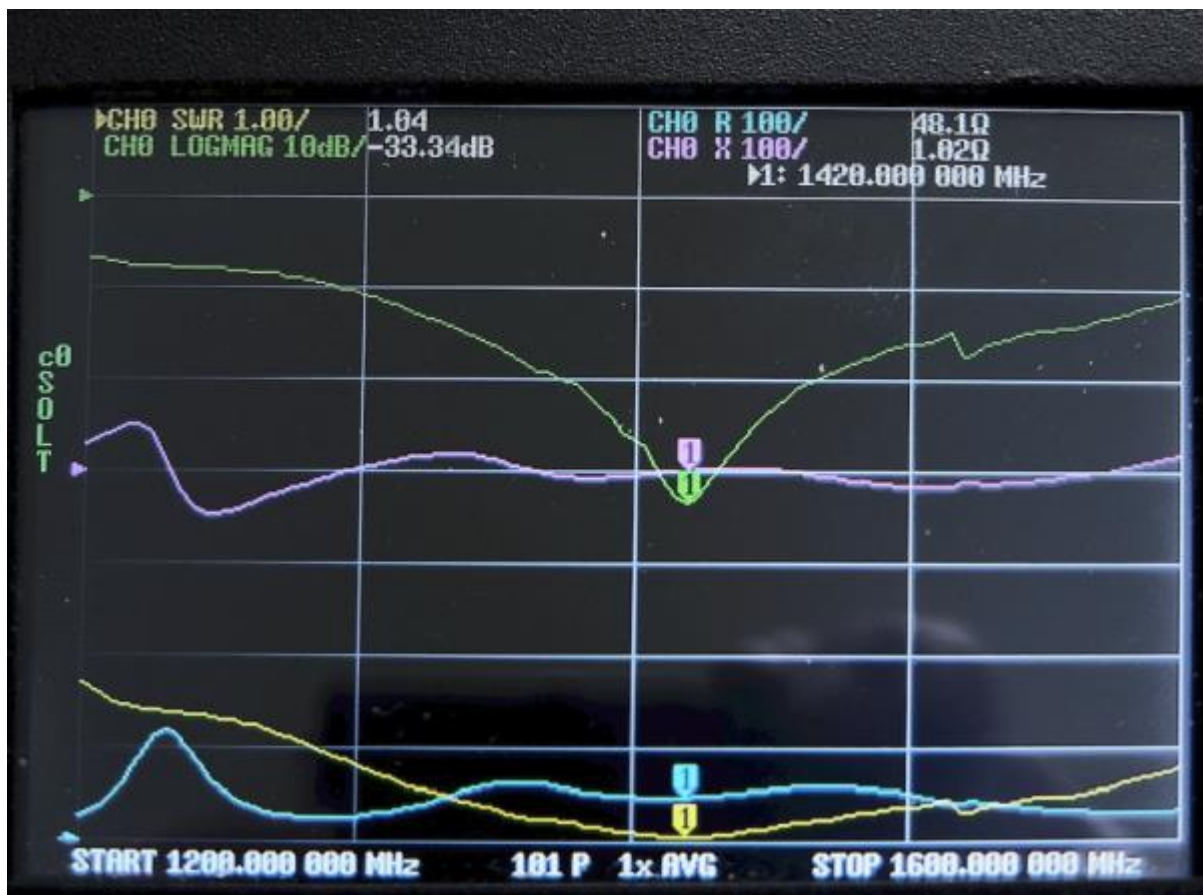


Alex

That calculator worked fine. This was made with the dimensions it provided

1.42 GHz Cantenna





On Saturday, February 1, 2025 at 07:38:03 PM EST, Adrian <kjansky1@gmail.com> wrote:

Alex, the problem with this online calculator site and similar others is that they only focus on the optimal dimensions for a given frequency and are nearly useless if one want's to apply other parameters to them for available readily acquired containers for feeds. I have tried using the Windows Bing copilot AI and it seems reasonable to give at least general parameters for non-optimal sized containers and not just only for the custom built devices or for the overpriced and mostly unavailable surplus standardized microwave waveguides and such.

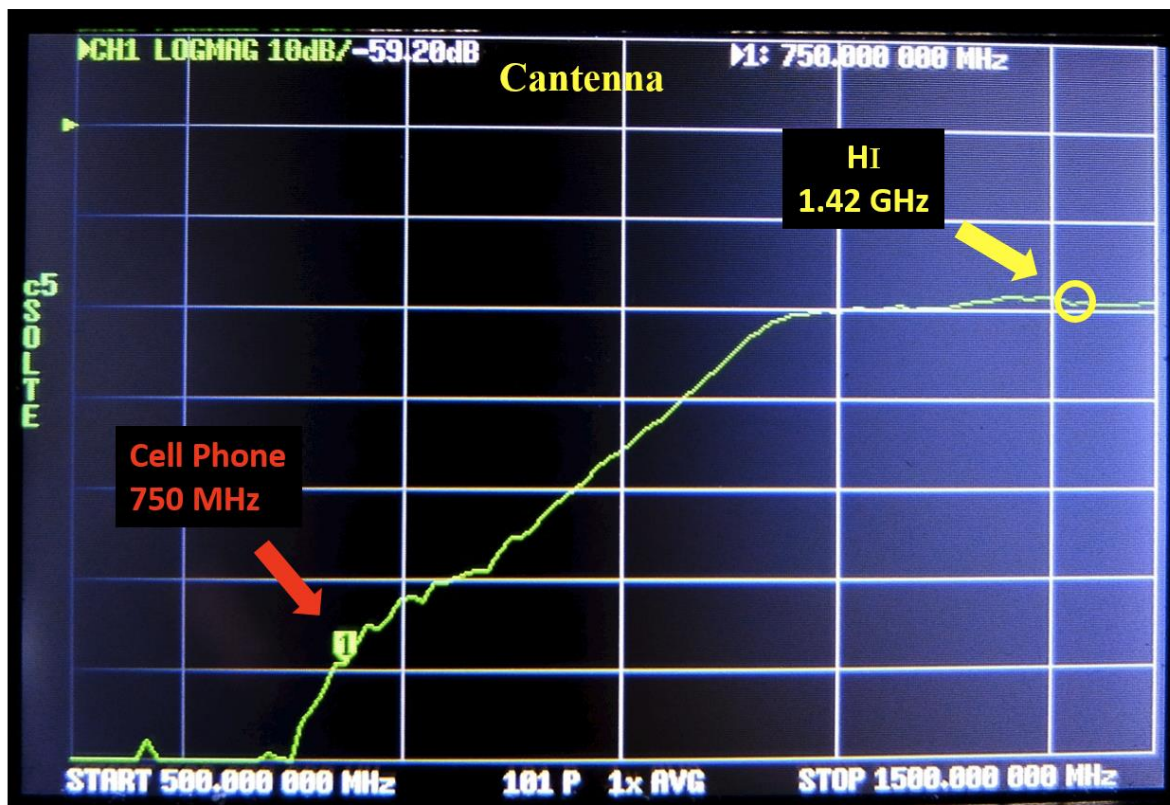
Adrian

KJ6GYC

Model for a **150mm** tube

Freq. of operation [MHz]	1420
Can Diameter [mm]	150.0
Cut-Off Freq. for TE11 Mode [MHz]	1171.32
Cut-Off Freq. for TM01 Mode [MHz]	1529.90

& The build with a 150mm dia tube agrees with the model for TE11 cutoff



An **83mm** tube shows problems



Freq. of operation [MHz]	1420
Can Diameter [mm]	83.0
Cut-Off Freq. for TE ₁₁ Mode [MHz]	2116.85
Cut-Off Freq. for TM ₀₁ Mode [MHz]	2764.88
Waveguide Wavelength $L_g = \lambda_g$ [mm]	NaN