

13cms Yagi from Pringles Can

From: G8MNY@GB7CIP.#32.GBR.EU

To : TECH@WW

From : KB9MWR

(More comments added Mar 06)

2.4 GHz Pringles Can Yagi Antenna (12-15 dBi)

Parts List:

Part	Approx Cost
All-thread, 5 5/8" long 1/8" OD	\$1.00
two nylon lock nuts	\$0.10
five 1" washers, 1/8" ID	\$0.10
6" aluminium tubing, 1/4" ID	\$0.75
female N connector	\$3.00
1 1/2" piece of 12-gauge solid copper wire	-
a tall Pringles can (any flavour)	\$1.50
Scrap plastic disc, 3" across (like another Pringles lid)	-
TOTAL:	\$6.45

Required Tools:

Ruler, Scissors, Pipe Cutter/Hack saw, Heavy Duty Cutters, Hot Glue Gun, Soldering Iron.

Front Collector Construction:

Mark and cut four pieces of tubing, about 1 15/64 inches (a 1/4 wavelength). Cut the all-thread to 5 /58 inches. Pierce a hole in the Pringles can lid big enough for the all-thread to pass through.

Cut a 3" plastic disc just big enough to fit snugly inside the can. Poke a hole in the centre of it, and slip it over the lengths of pipe.

Now assemble the pipe. The pipe is a sandwich that goes on the all-thread as follows:

Nut, lid, washer, pipe, washer, pipe, washer, pipe-with-plastic, washer, pipe, washer, nut.

Tighten the nuts to be snug.. you now have the front collector.

Preparing the Can:

Wipe out the can and measure 3 3/8 inches from the bottom of the can. Cut a hole just big enough for the connector to pass through. This "sweet spot" is usually directly between "Sodium" and "Protein."

Element Construction:

Straighten the heavy copper wire and solder it to the connector. When inside the can, the wire should be just below the midpoint of the can (1 1/16").

Hot glue or use the nut and washer if your N connector has one to hold the connector in place.

inside end of the pipe should not touch the copper element; it should be just forward of it. If it touches, your all-thread is probably to long.

There you go. Keep in mind when connecting your coax that you're screwing into cardboard. It's very easy to forget and accidentally tear the wall of the can.

Suggested Use:

High Speed Amateur Packet Radio Using Part 15 Wireless Devices:

<http://www.qsl.net/kb9mwr/projects/wireless/plan.html>

Or for Amateur TV. Radio Shack sells Part 15 2.4 GHz Audio/Video senders, aka WaveCom Jr.

From : KB9MWR

Trev VK5BWF, noted that six inches of tubing will not make 4 pieces at almost 2 inches long, and even if they did would not fit a 5.625 rod. He thought about 3 cm should be the pipe length, and maybe the three front washers should be about 3 cm , with the fourth a bit larger.

Take care, kindest regards. DE Trev VK5BWF@VK5ALE.#EYP.#SA.AUS.OC
Locator PF75WG

This antenna does not work on 2.4GHz.

Test results show that the antenna is better on 3.5(ish)GHz.

Most Pringles antennas have worse than -10dBi gain on 2.4GHz.

Despite the fact that antenna test range results show this, and like the Good Times Virus warning for the virus that didn't exist, this design keeps getting republished. So, if you want an antenna for 2.4GHz operation rather than an attenuator, build something other than the Pringles can. 73 de Andy GM7HUD

Date/Time : 12-Mar 06

From: G0MBA@GB7COS.#31.GBR.EU

After good good(ish) results with a pringles can, I got my local metal work company to produce a few steel tubes using 84mm diameter material, with an end cap welded on to the tube. Using the exact measurements from the formula for the 2.4ghz antenna, the results were super with 20db over a dipole possible. Compared with my 3foot mesh dish antenna, the tube give better results & is a fraction of the size. Regards Tony G0MBA in sunny Clacton, Essex. UK

It may not be a good design or even a yagi, but many have tried it out now & gone on to maker better designs, is that not what amateur radio is about?

Why don't U send out an interesting bul?

73 De John, G8MNY @ GB7CIP

/EX