North Texas NTMS Microwave Society

HP 11519A Adapter

W5LUA

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HP 11519A Adapter

WR-42
18 to 26 GHz

WR-28
26 to 40 GHz
Low freq cutoff = 21.1 GHz

- Very popular at flea markets as it allows one to convert from WR-28 to WR-42 or visa versa
- It has a ridged piece down the center of the WR-28 end 
- Ridged waveguide has also been touted as a waveguide with greater bandwidth compared to standard non ridged waveguide
- So why not use this little gem at 24 GHz?

This is why it does not work!

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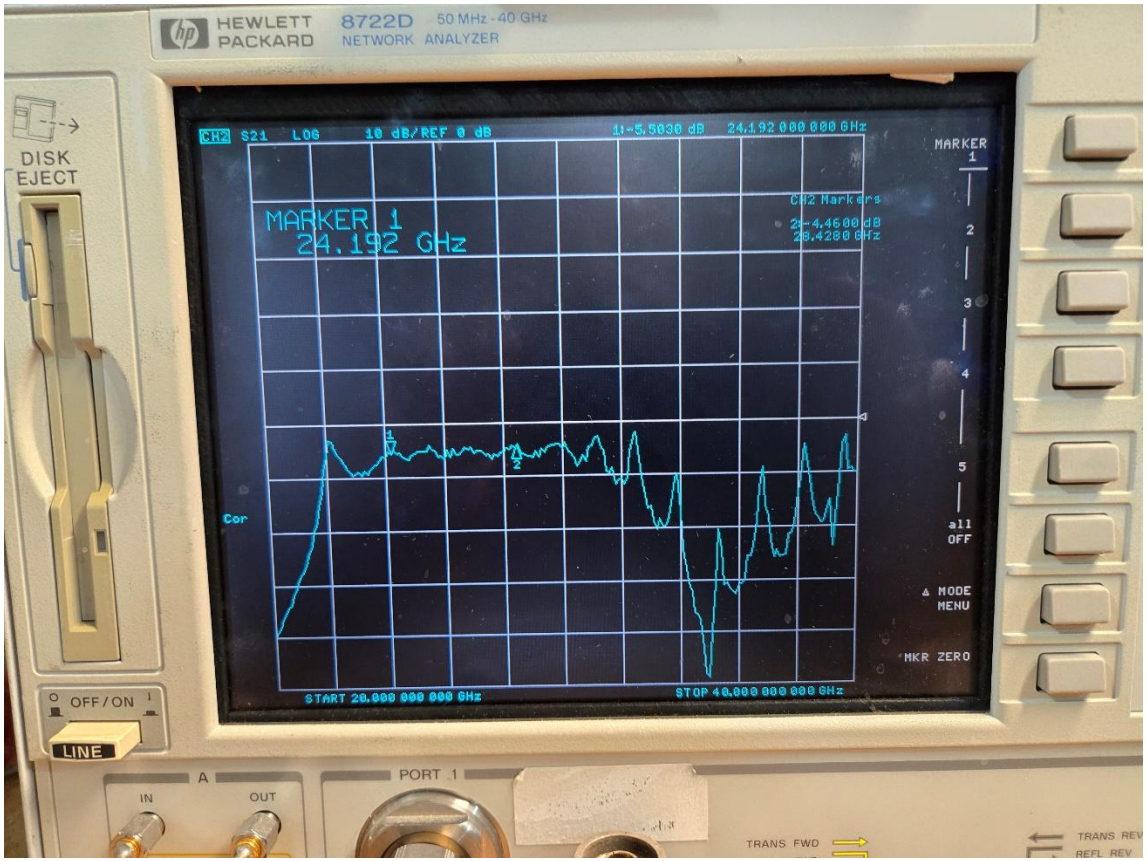

5 dB plus loss at 24 GHz!

Gosh, does this thing even have a useful purpose?? Somewhere??

HP 11517A Mixer for HP8565A/HP8569A SA to extend coverage to 40 GHz

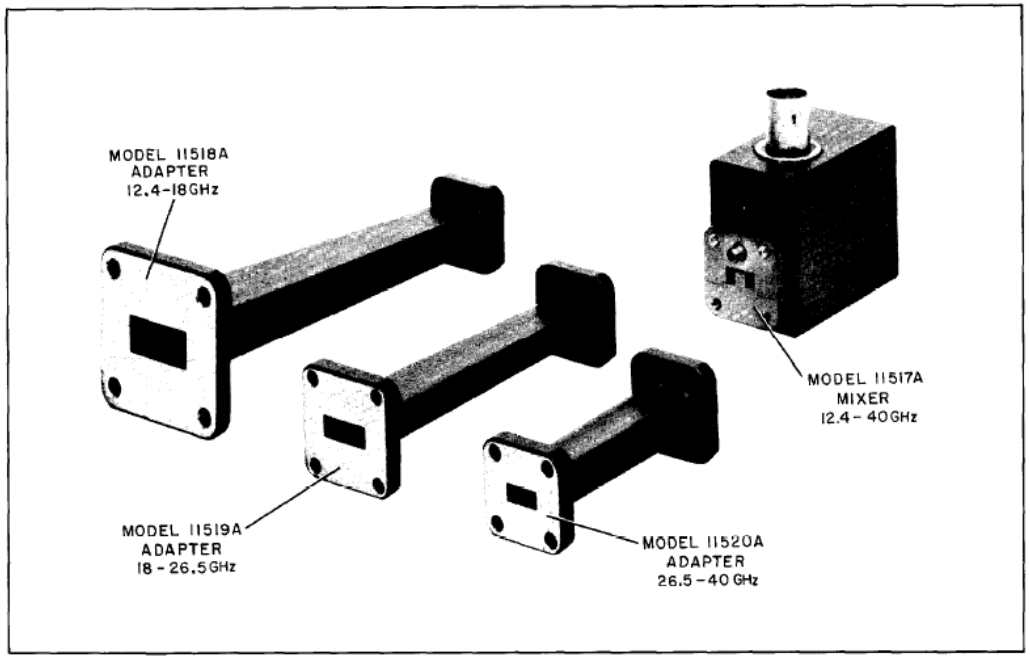

Figure 1. Model 11517A Mixer and Models 11518A, 11519A and 11520A Adapters (Flange Cap and Coaxial Cable not Shown)

How they squeeze 12 GHz though a piece of WR-28 is beyond me

When I google lower cutoff frequency of ridged waveguide all I find is that EM modeling is required.

Spectrum Analyzer Series
Application Note 150-12
May 1971

Any thoughts on this little item??

Waveguide Calculator

- I like this one from Pasternack
- https://www.pasternack.com/t-calculator-waveguide.aspx?srsltid=AfmBOop4Y0yjPcVmJSzdTH4VnChdjDBVO6n6oadeo6J6TIj-sK5ZA07o

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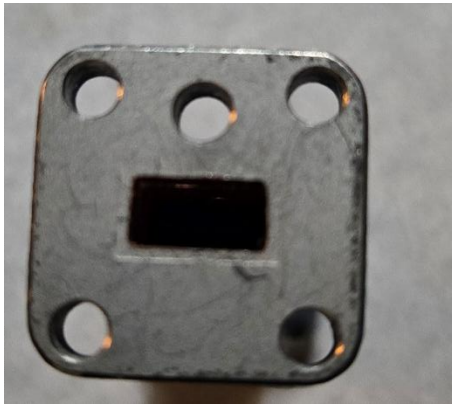
Filing the adapter



- Small file used by K8ZR. It took hours to file out the tapered ridge on the WR-28 side of the adapter

The new performance after filing!!

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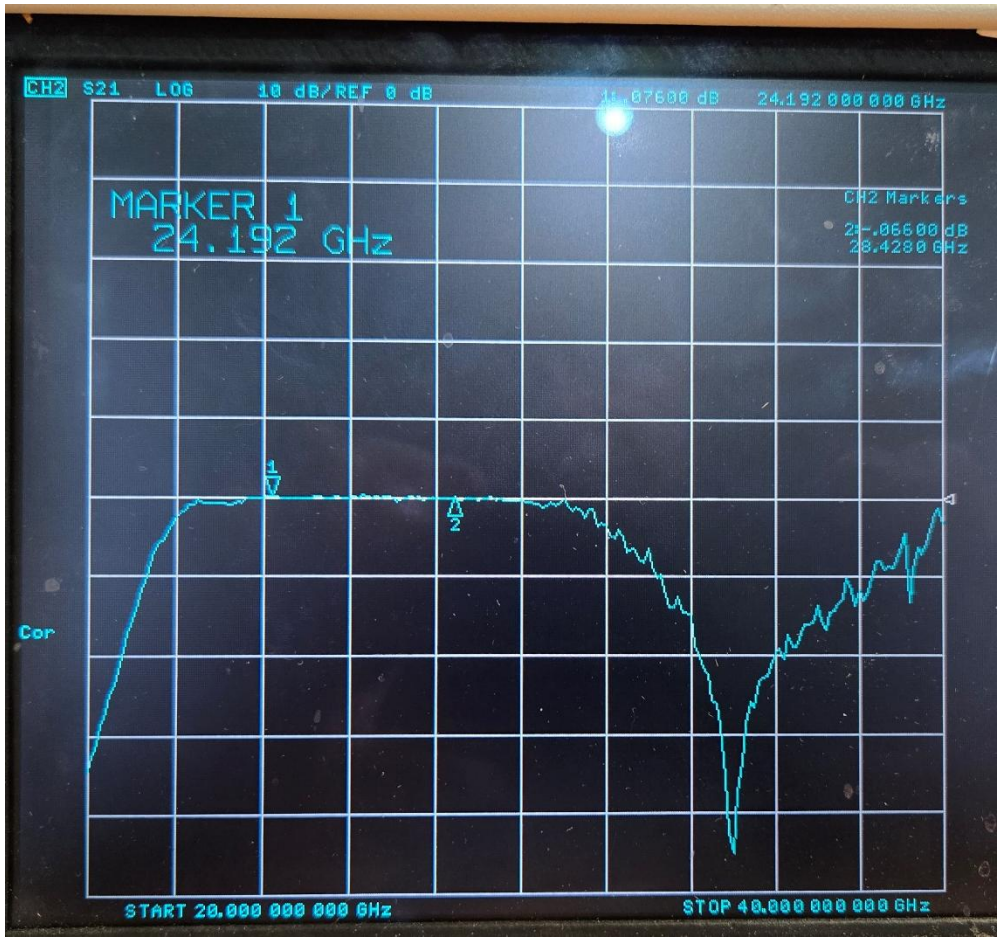

Loss = .07 dB at 24 GHz!

Thanks Tony K8ZR for his filing!

Any questions?