

Description of the Maspro 2SPN8 Satellite 2-way Splitter

November 1st 2017, Matthias Bopp, DD1US

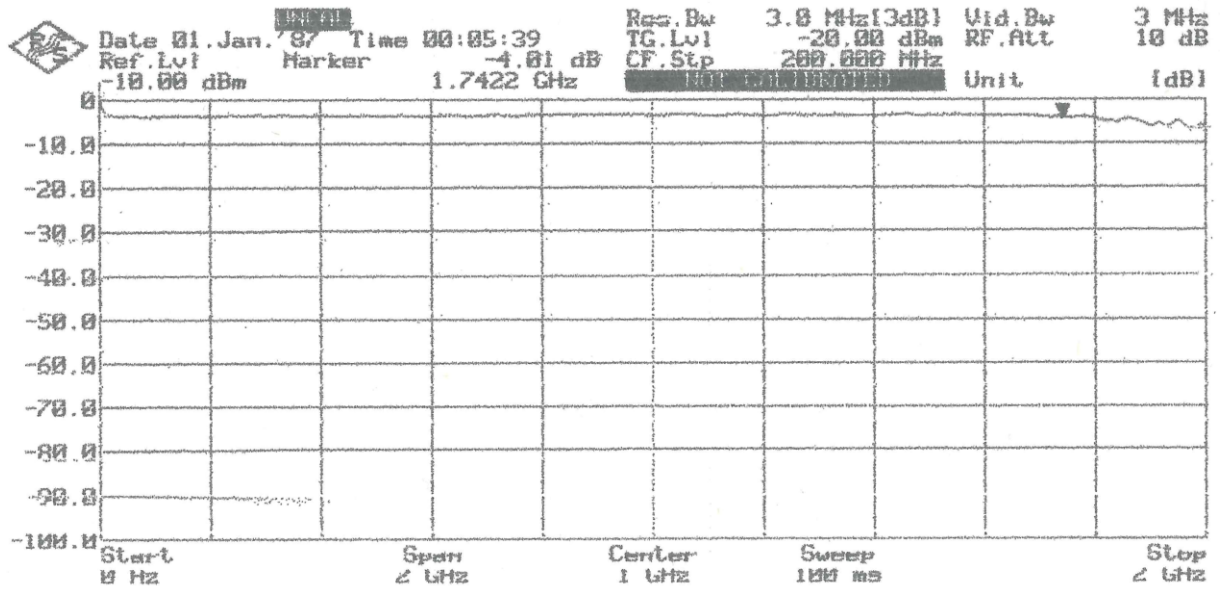
Recently I bought a MASPRO 2SPN8 Satellite 2-Way Splitter at a flea market. This power splitter features N-connectors which are 50 Ohm. One of the two output ports features a DC path, thus one can use this to power a LNA or LNC via the coaxial cable. The splitter is marked as having a frequency range of 950-1750 MHz. As I did not find any data on the internet I checked them out.

Here are some pictures of the 2SPN8:

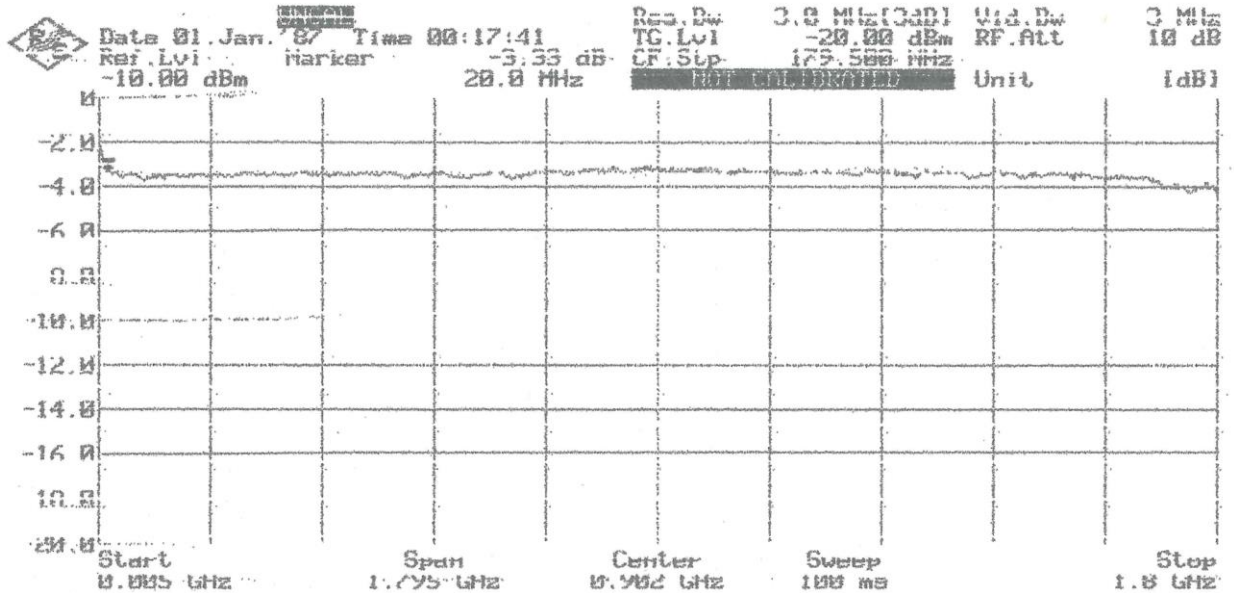


Next I made some measurements of the S21 transfer characteristic of the power divider using the scalar network analyzer function of my spectrum analyzer.

The first measurement was done from the input to output #1 (which includes the DC path). The other output port #2 was terminated with 50 Ohms. The vertical scaling is 10dB/div, the frequency range is 0...2 GHz.

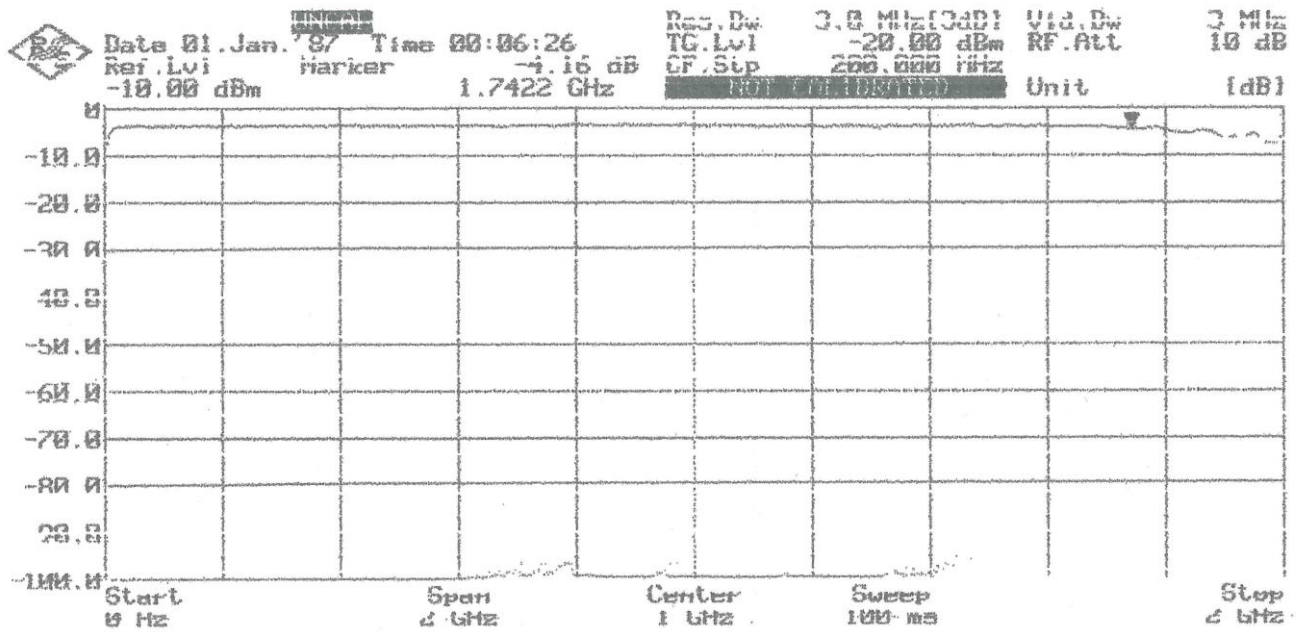


Next I increased the resolution to 1dB/div, the frequency range is now 5 MHz ... 1.8 GHz.



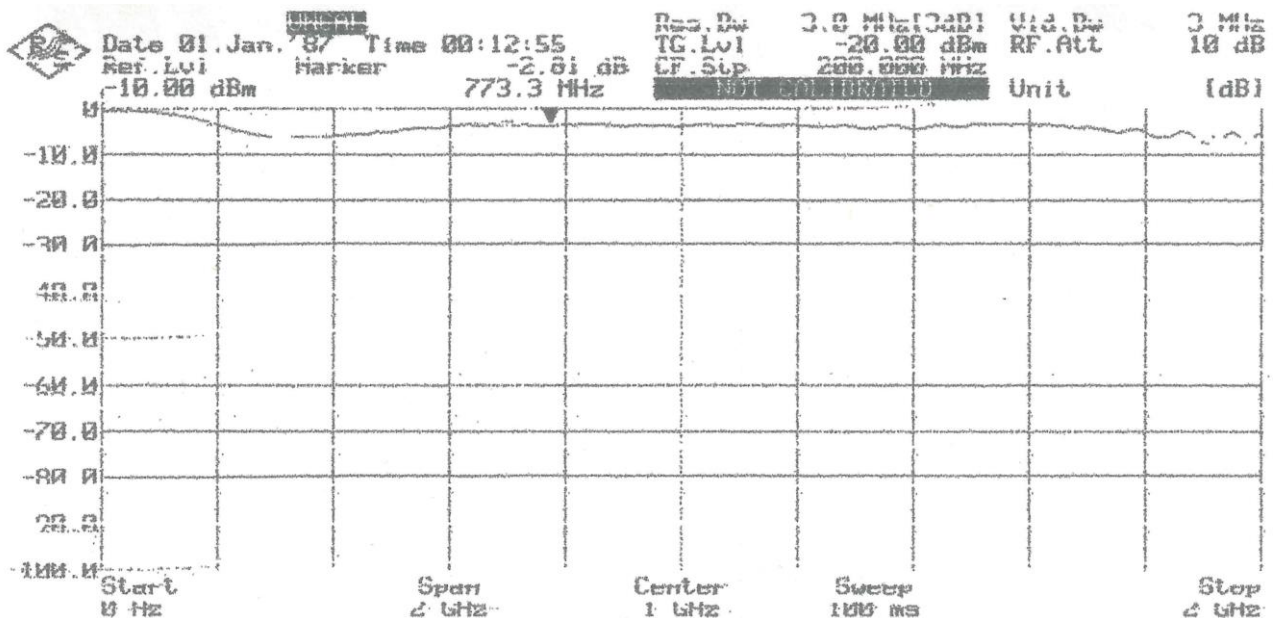
We can see a very nice flat frequency response down to about 20 MHz if the second port is properly terminated. The insertion loss is about 0.5dB over a wide range at increases to 1dB at 1750 MHz.

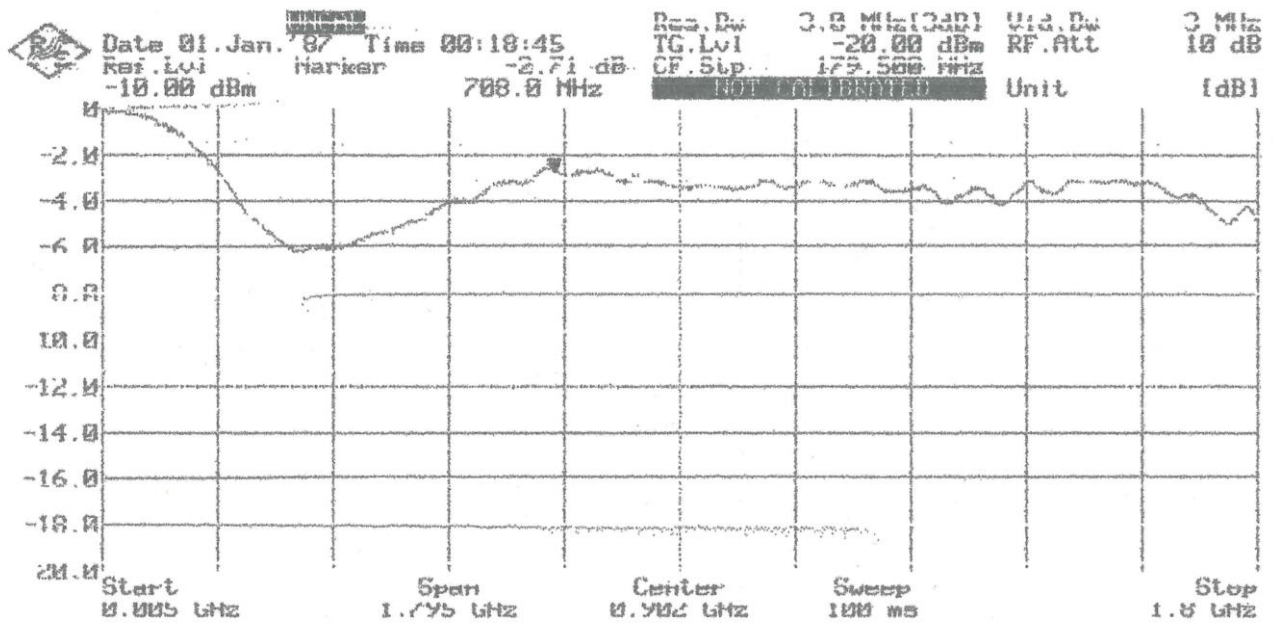
Next I repeated the same measurements this time from the input to output #2 (which does not include the DC path). The other output port #1 was terminated with 50 Ohms. The vertical scaling is 10dB/div, the frequency range is 0...2 GHz.



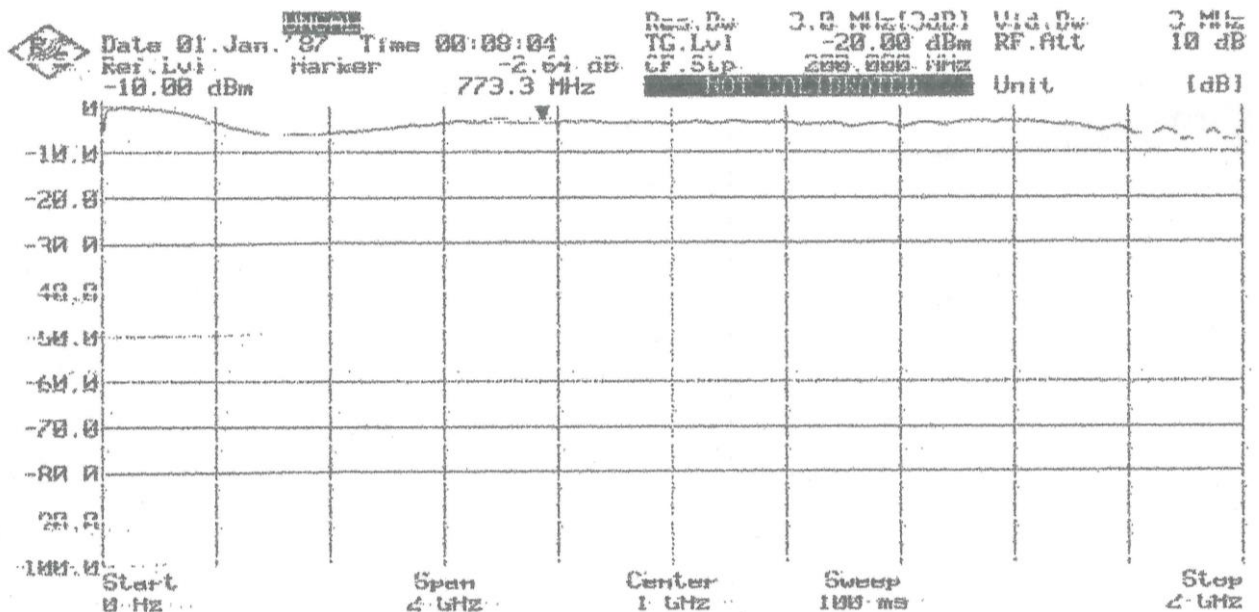
The result is very similar to the measurement before. The splitter shows a nice symmetrical behavior.

The next measurements were done again from the input to output #1 (which includes the DC path). The other output port #2 was this time not terminated but left open. The vertical scaling is first 10dB/div, and then repeated with 1dB/div.





Finally, I verified the symmetrical behavior of the power splitter by repeating the measurement from the input port to output port #2 (without DC path).



We can see that the frequency response stays reasonably flat in the specified range from 950 – 1750 MHz but shows much more fluctuation versus frequency at lower frequencies.

In summary, the performance of this power splitter is quite nice and when terminated properly it can be used from 20 MHz up to 1.8 GHz.

I always appreciate feedback and additional information. Please send them to my Email address which you can find below. Many thanks in advance.

Best regards

Matthias

Email: DDIUS@AMSAT.ORG

Homepage: <http://www.dd1us.de>