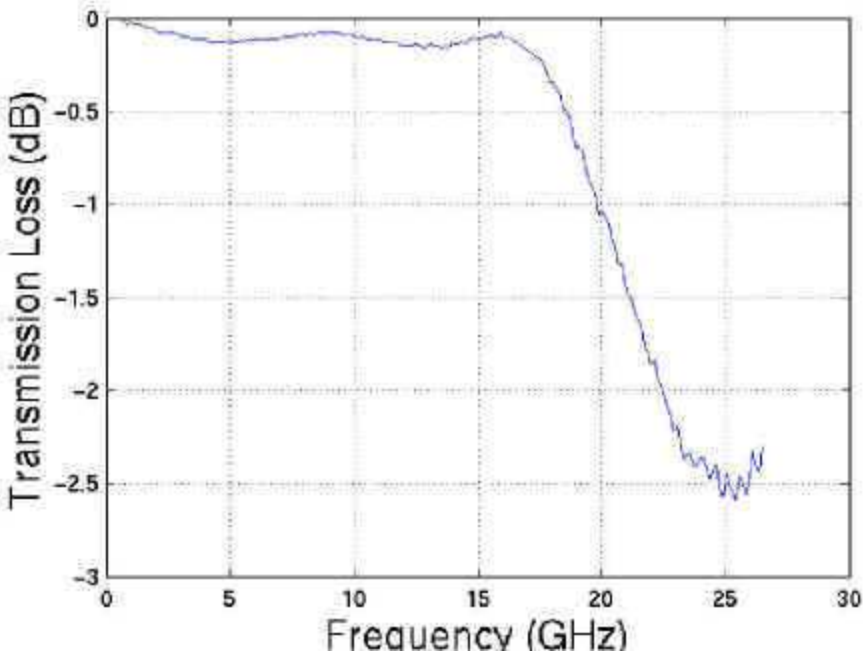
3. Straight Adapters (from website http://home.wxs.nl/~alphe078/contents.htm)

a) Straight Adapter Jack/Jack

A brand-new, shiny, nickel-plated jack/jack adapter.

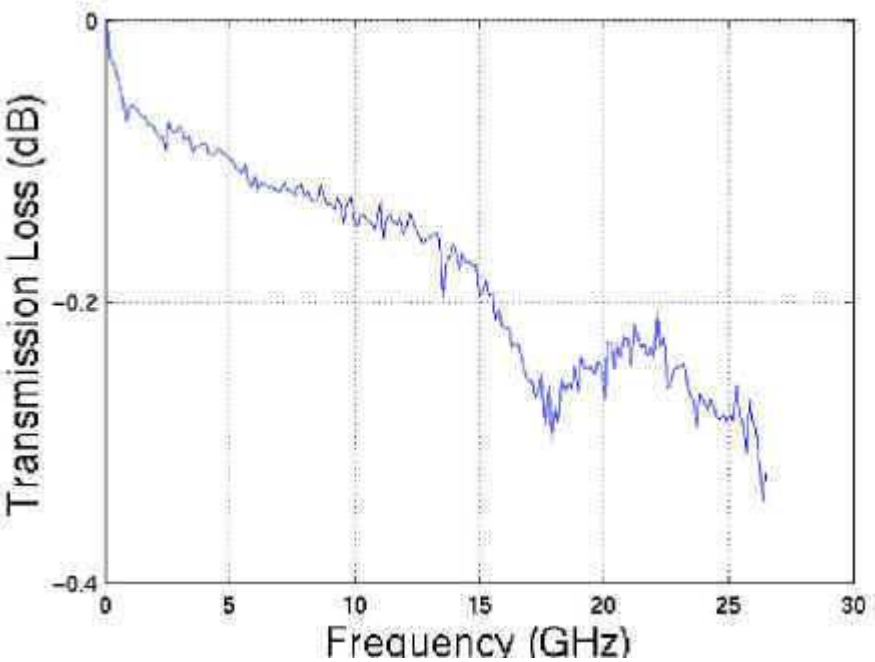
<u>*Conclusion*</u>: Can be used up to 18 GHz for non-critical applications. Not recommended at 24 GHz.



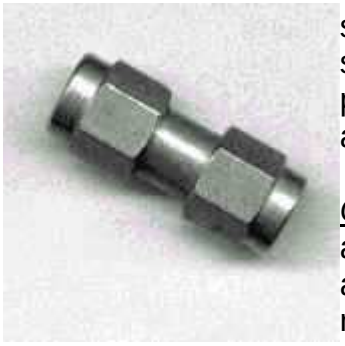
b) Straight Feed-Through Panel Adapter Jack/Jack

A second-hand gold-plated adapter.

<u>*Conclusion*</u>: a very nice adapter, no real problem to use this type at 24 GHz.

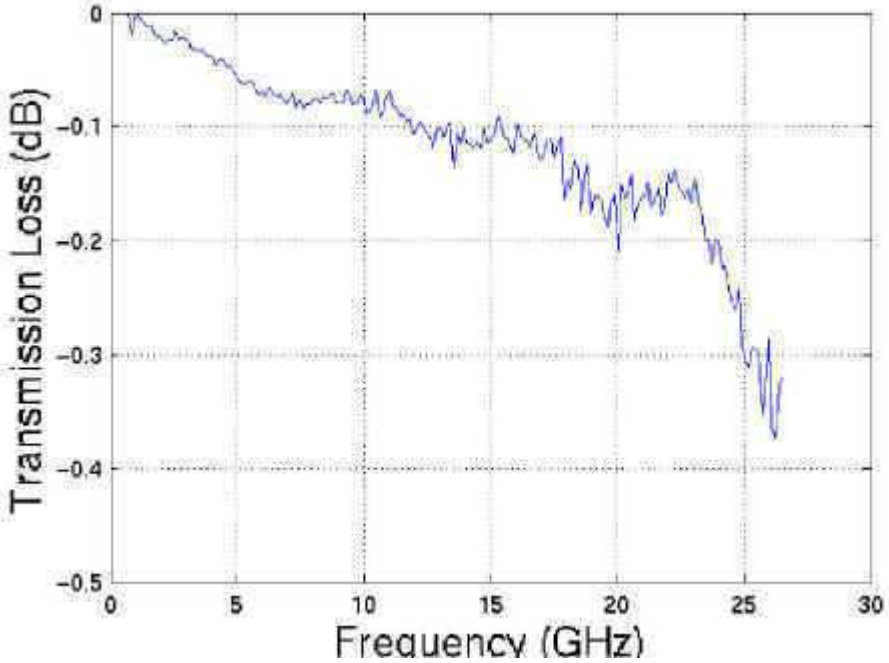


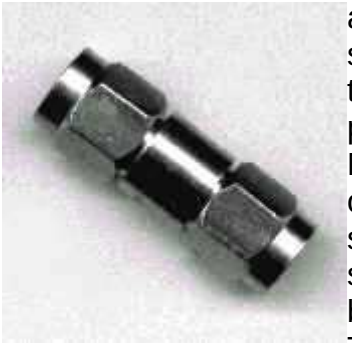
c) Straight Adapter Plug/Plug



A second-hand stainless steel plug/plug adapter

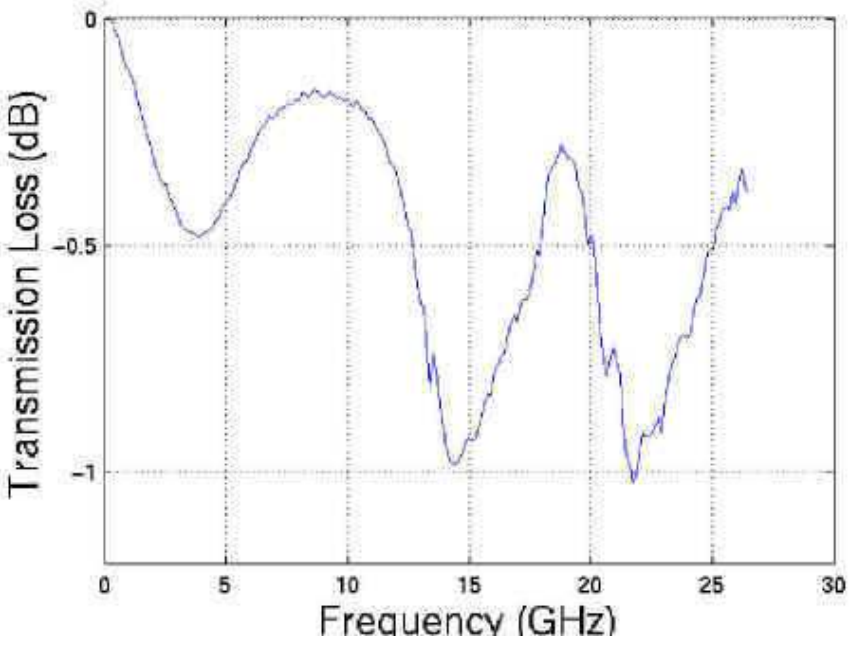
Conclusion: a nice adapter, no real problem to use this type at 24 GHz.

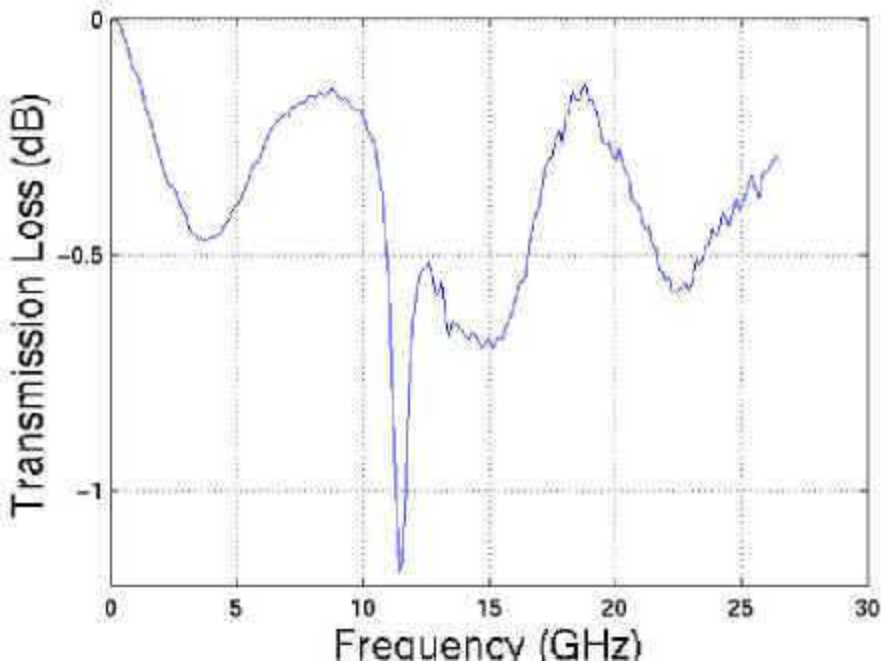




A brand-new shiny nickel-plated plug/plug adapter. It is slightly longer than the previous one. Measurements on different samples show similar behaviour. Two representative measurements are shown in the plots.

Conclusion: It is better not to use this type of adapter.

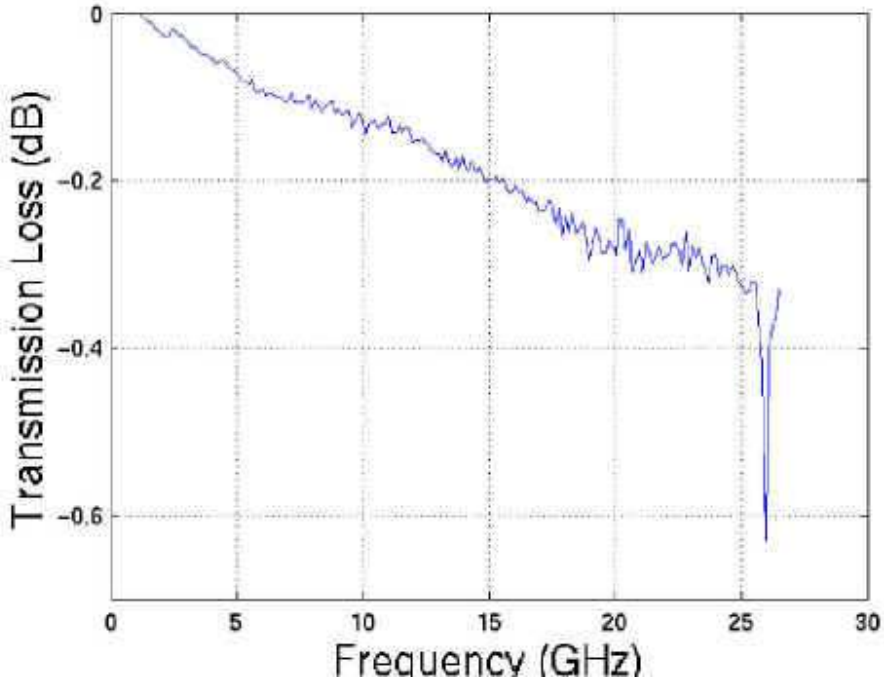




d) Straight Adapter Plug/Jack

Second-hand gold-plated adapter.

Conclusion: a very nice adapter; no problem to use this type at 24 GHz. The plot also shows a resonance at a frequency above 25 GHz.

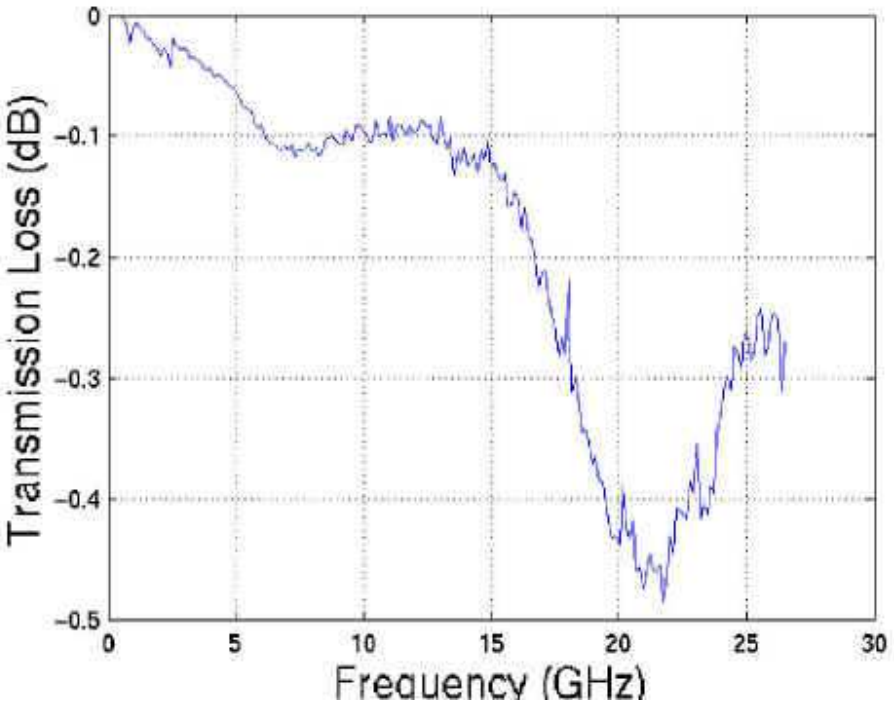


4. L-Adapters

a) L-Adapter Jack/Jack

Second-hand gold-plated adapter.

<u>*Conclusion*</u>: reasonable behaviour for a right angle adapter!



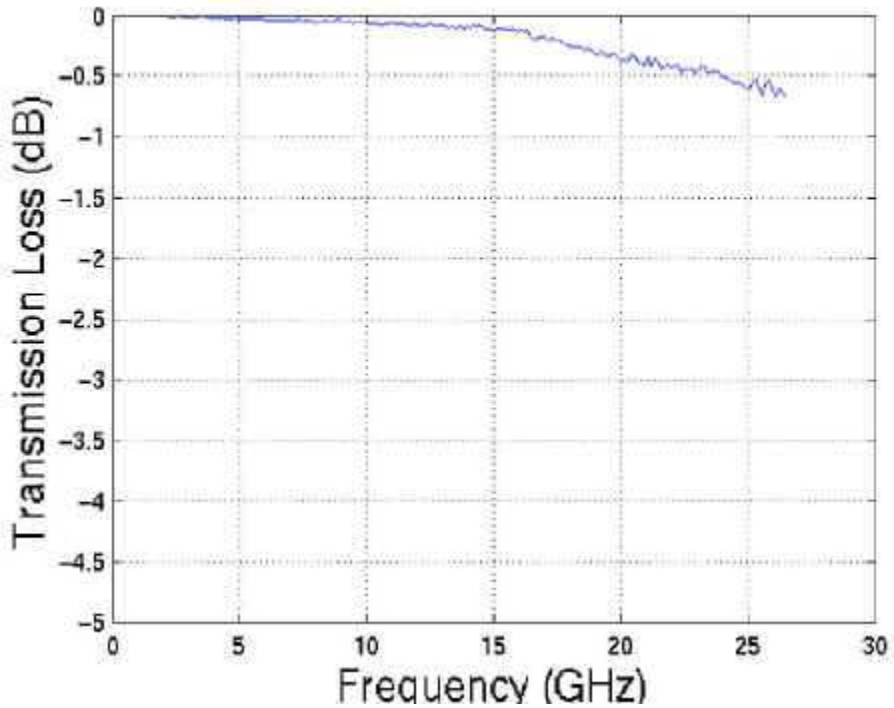
b) L-Adapter Plug/Jack

Note: the scale of the plots is different.

The next measurements show quite big differences in behaviour between the measured plugs. Detailed photographs of some of the adapters show the small differences.

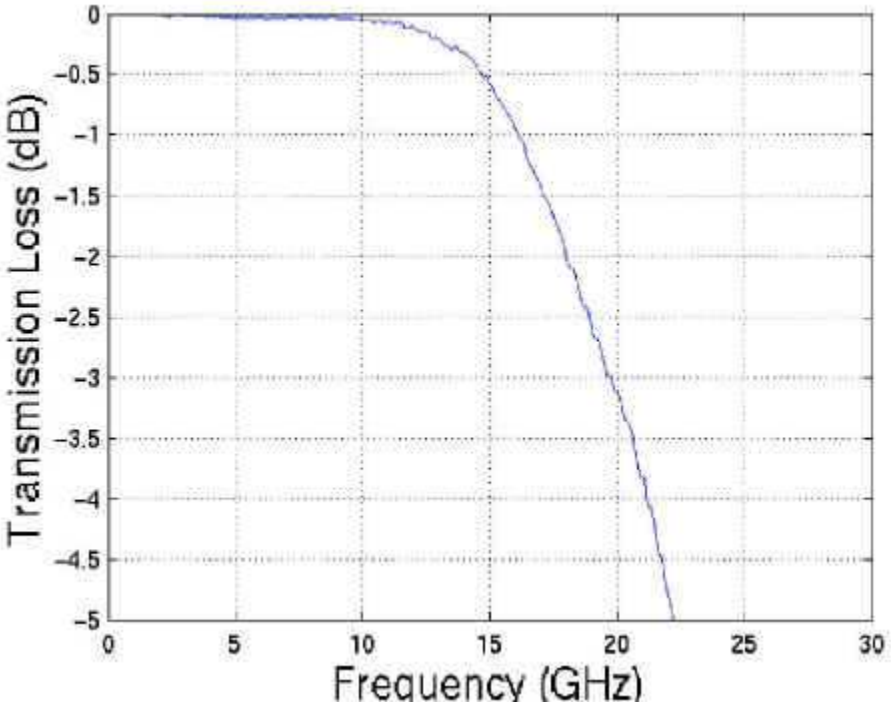
Second-hand gold-plated adapter.

<u>Conclusion:</u> this is a reasonably nice one and can be used on 24 GHz when a right angle adapter is needed.



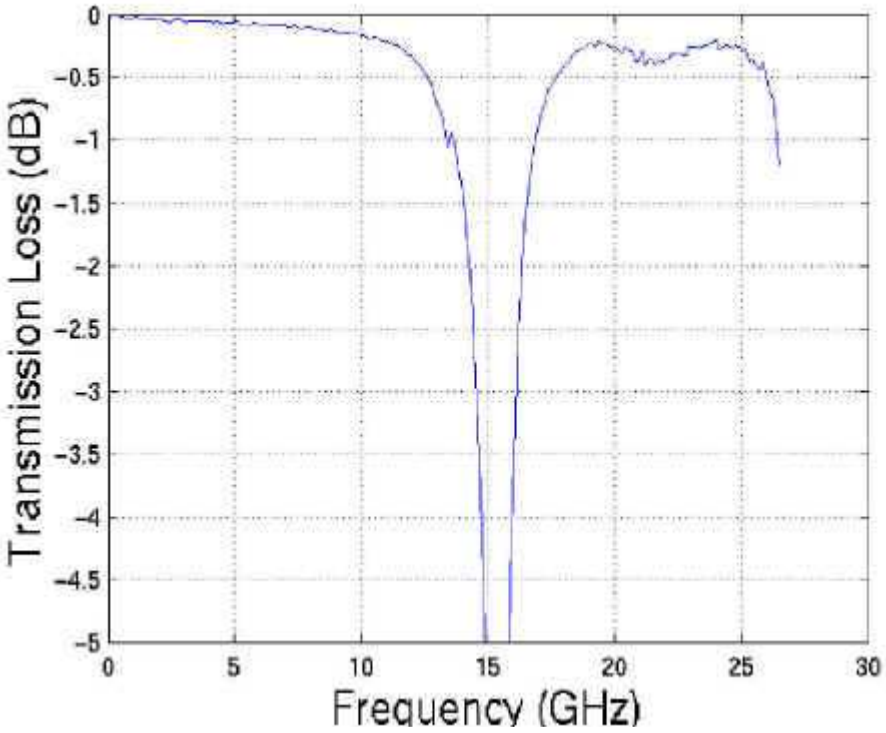
Second-hand gold-plated part.

Conclusion: the look is only slightly different from the adapter above but the behaviour is quite different. This adapter cannot be used at 24 GHz!



Second-hand gold-plated adapter.

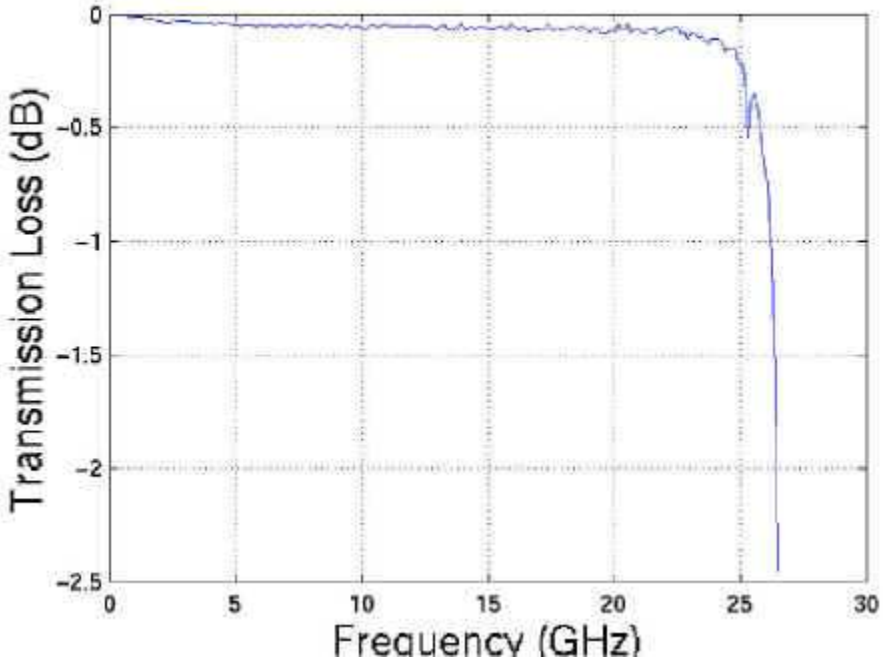
Conclusion: a resonance just above 15 GHz.



Second-hand gold-plated adapter.

-

Conclusion: a very nice part, no problem to use this type at 24 GHz.



***End conclusion for L-adapters*: There is a big difference in behaviour of this type of adapter. A relation between the physical properties and the measurements could not be found, as we did not have enough material to check our conclusions. For frequencies up to 10 GHz these right angle adapters can be used without any problem. When using the adapters at 24 GHz it is recommended to buy different types and do your own tests.**