

## **1700-2300MHz circulator ALCATEL FERROCOM 20B1-31**

Matthias, DD1US, updated January 22<sup>nd</sup> 2023

Hello,

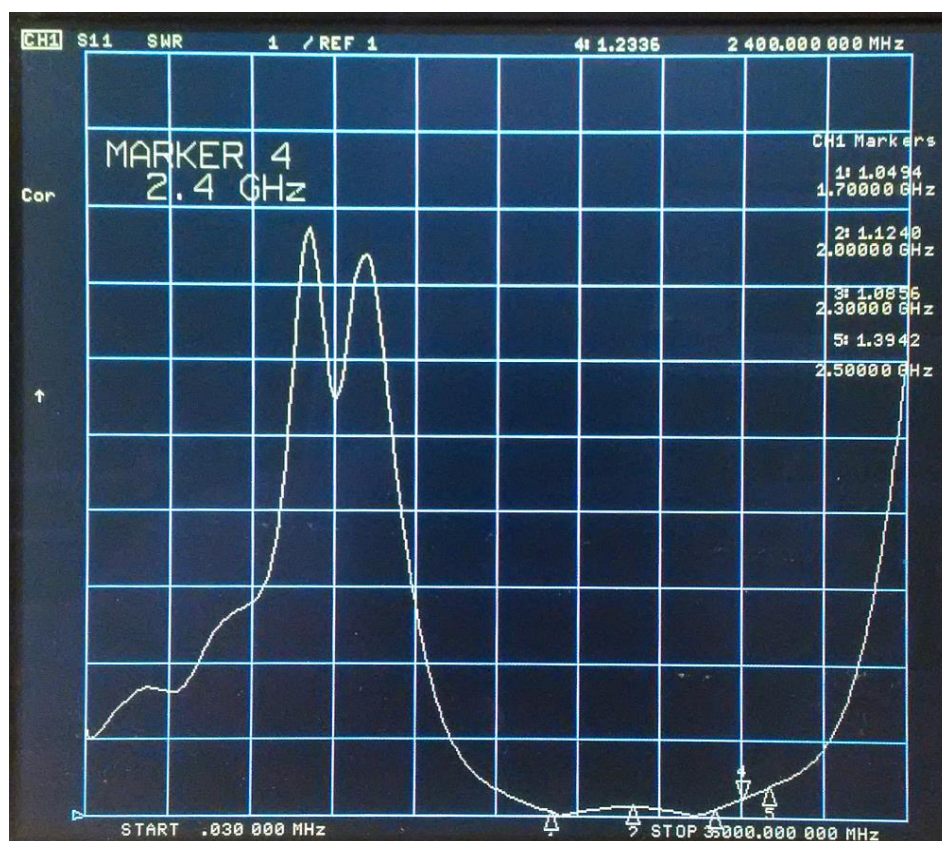
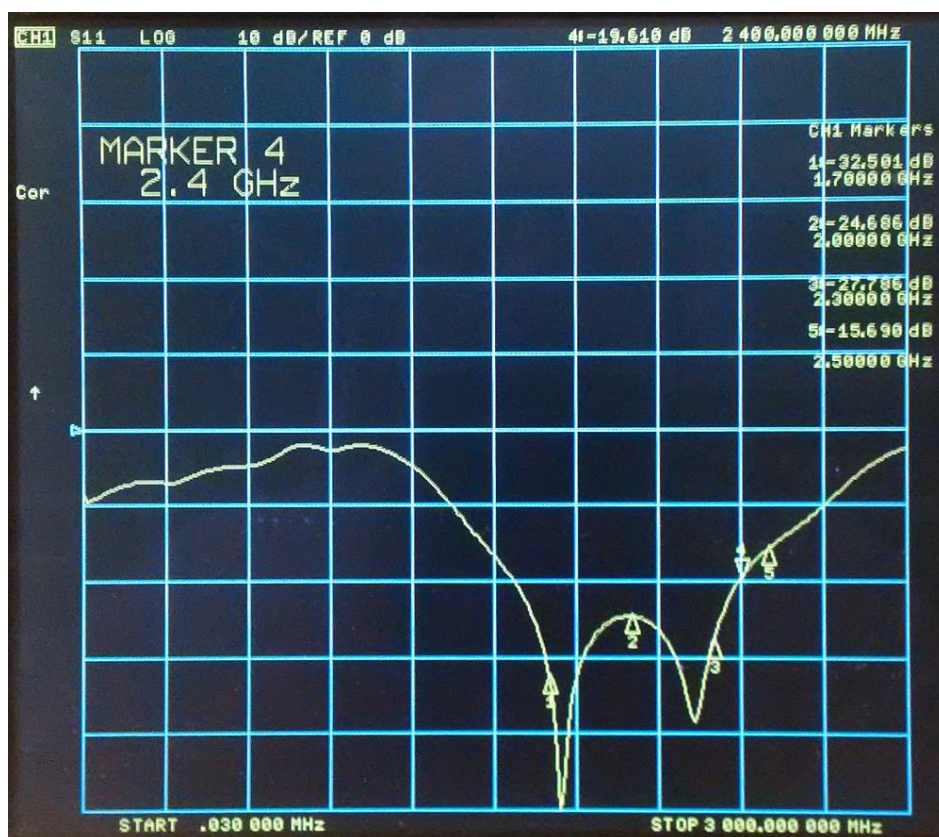
cleaning out my drawers with surplus material I found an S-band circulator 20B1-31 from ALCATEL FERROCOM. Recently I decided to characterize it as I could not find any data in the Internet.

Here are pictures of the device:



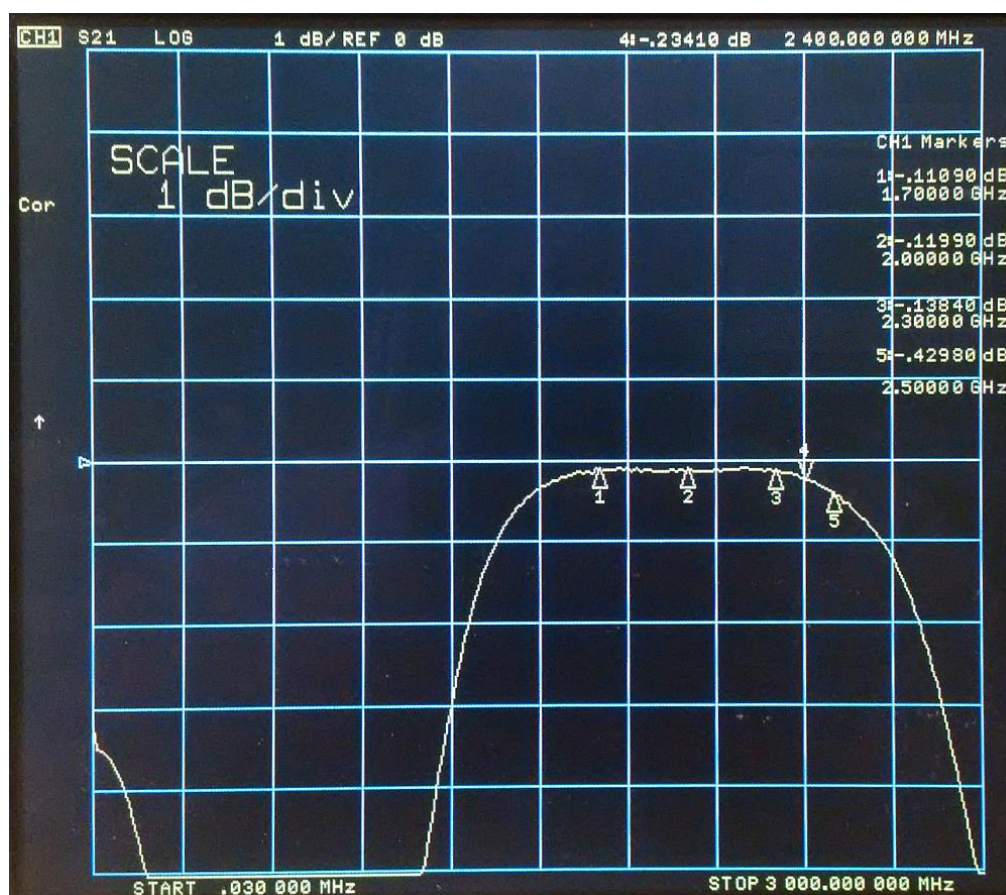
The circulator is in a solid metal case and has 3 female SMA connectors. It has a frequency range 1.7-2.3GHz printed on the label. Below you will find some measurement results of this S-band isolator. All measurements were done in the frequency range 30kHz to 3GHz.

S11 input matching (return loss is 32.5dB @1700MHz, 32.5dB @2300MHz, 19.6dB @2400MHz)

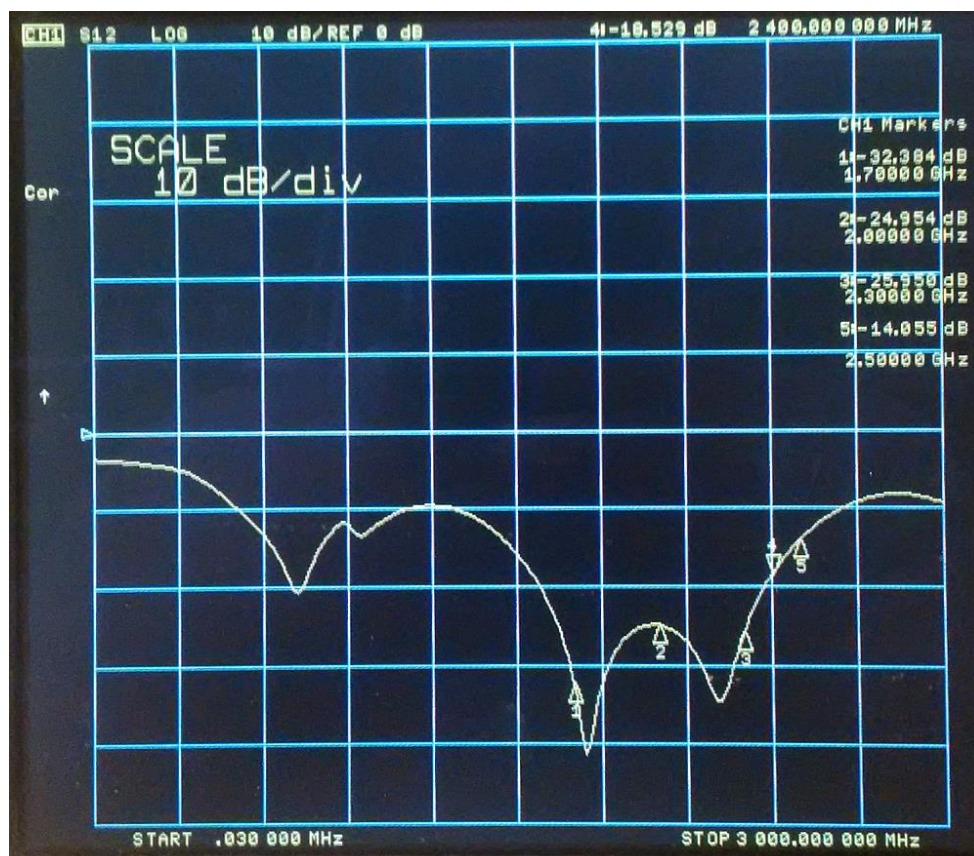




S21 forward transmission (insertion loss 0.11dB@1700MHz, 0.13dB@2300MHz, 0.23dB@2400MHz)

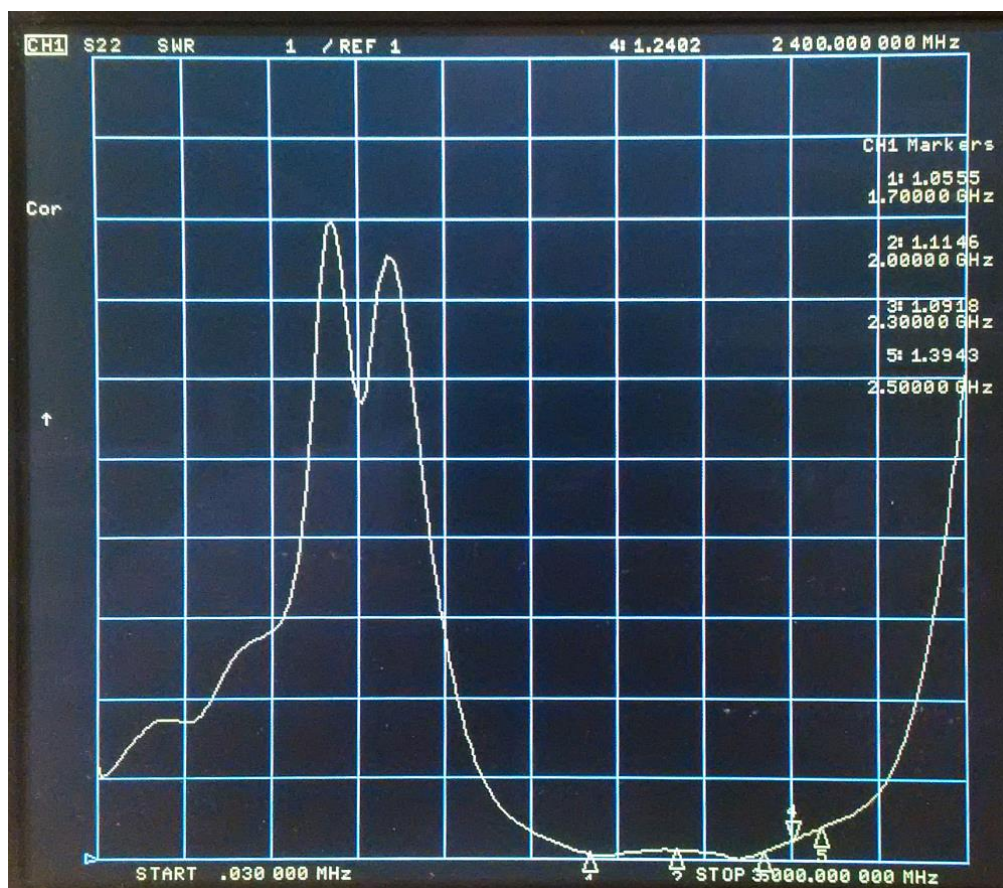
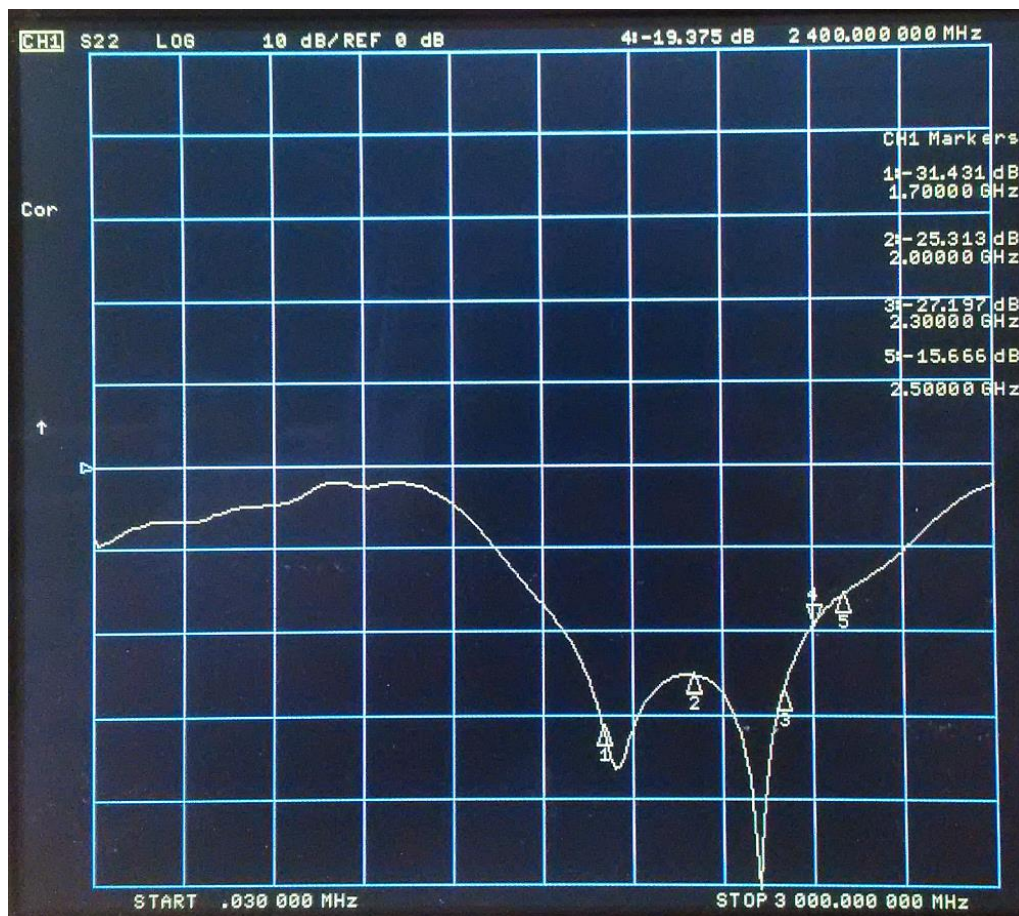


S12 reverse transmission (isolation at 32.4@1700MHz, 26.0@2300MHz, 18.5dB@2400MHz)





S22 output matching (return loss at 31.4@1700MHz, 27.2dB@2300MHz, 19.4@2400MHz)



The measurements show that this isolator is very well suited to cover the frequency range 1.7 – 2.3GHz.

With some degraded parameters it can also be used at 2.4GHz.

A friend sent me a link to an Ebay auction and this indicated that the maximum power handling capability is 100W peak and 25W CW.

If anyone has more data or even a full datasheet then please let me know.

I will be happy to answer questions and always appreciate feedback. Many thanks in advance.

Best regards

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