

2-6 GHz Isolator Quest SM2060T02

Matthias, DD1US, June 2nd 2022

Hello,

Last week I bought some surplus isolators from Quest Microwave Inc., the part is SM2060T02. These isolators are specified as:

Frequency range: 2.0 ...6.0GHz

Isolation: 12dB min

Insertion Loss: 1.0dB max

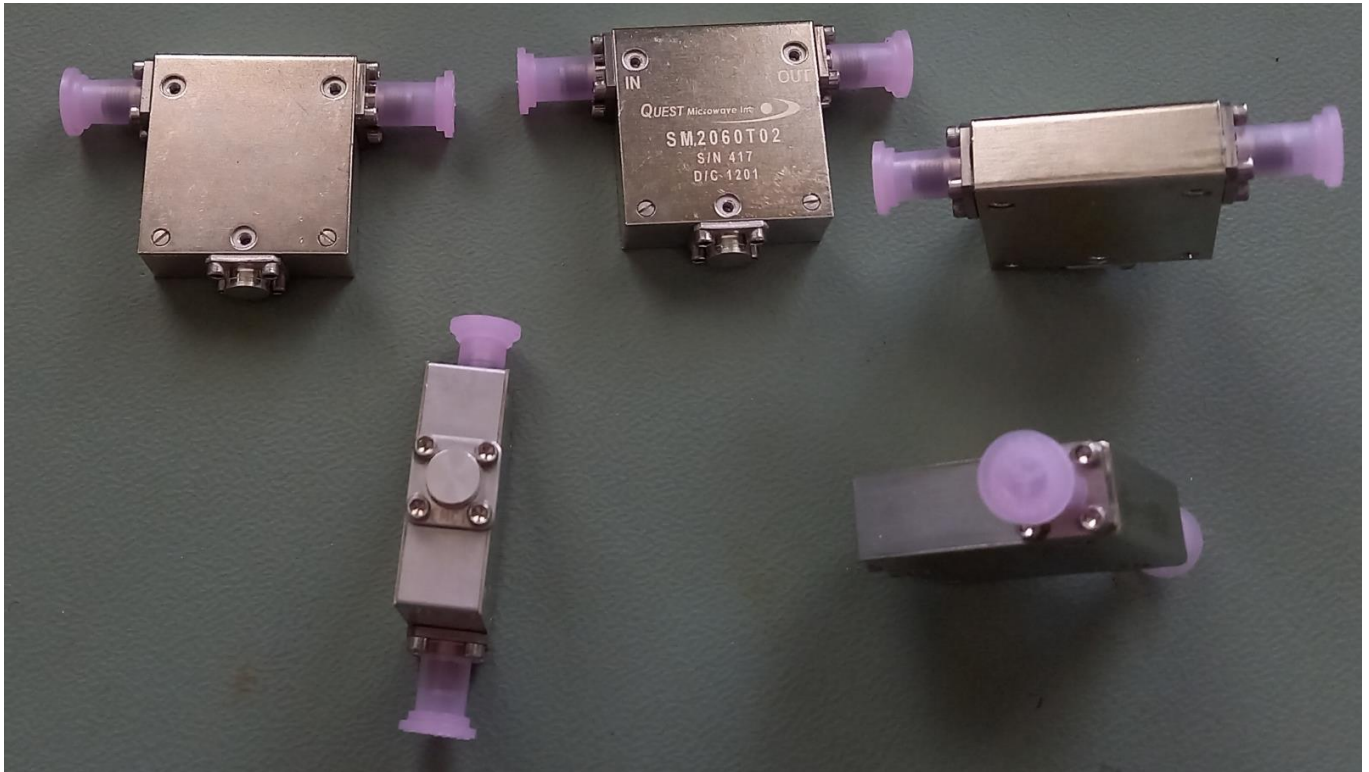
VSWR: 1.65:1 max

Load: 10W

Operating temperature: 0 ... 55 degree C

Connectors: SMA(f)

Here is a picture of such devices:



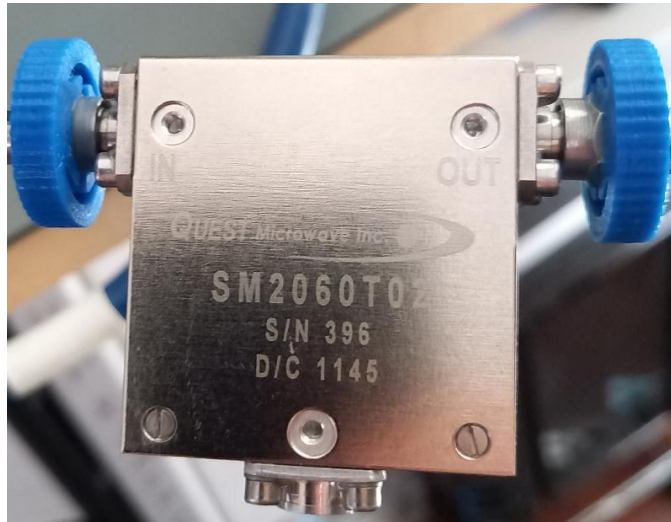
The isolator is housed in a solid metal case and has female SMA connectors at the input and output port. Input and output ports are clearly marked on the encasing.

My intention was to use the isolator to protect the outputs of 2.4GHz Upconverters and medium power amplifiers. Therefore, I characterized it in the frequency range 2.1 to 2.7GHz.

The following data is printed on the device, which I characterized:

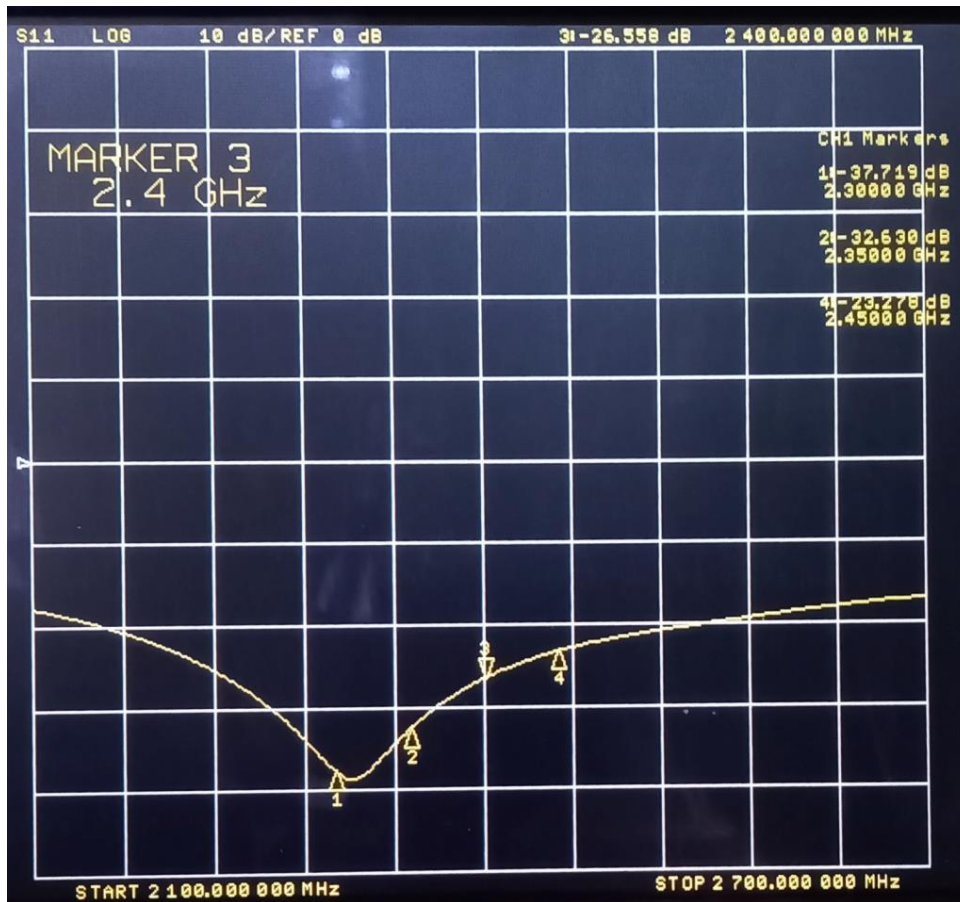
QUEST Microwave Inc., SM2060T02, S/N 396, D/C 1145

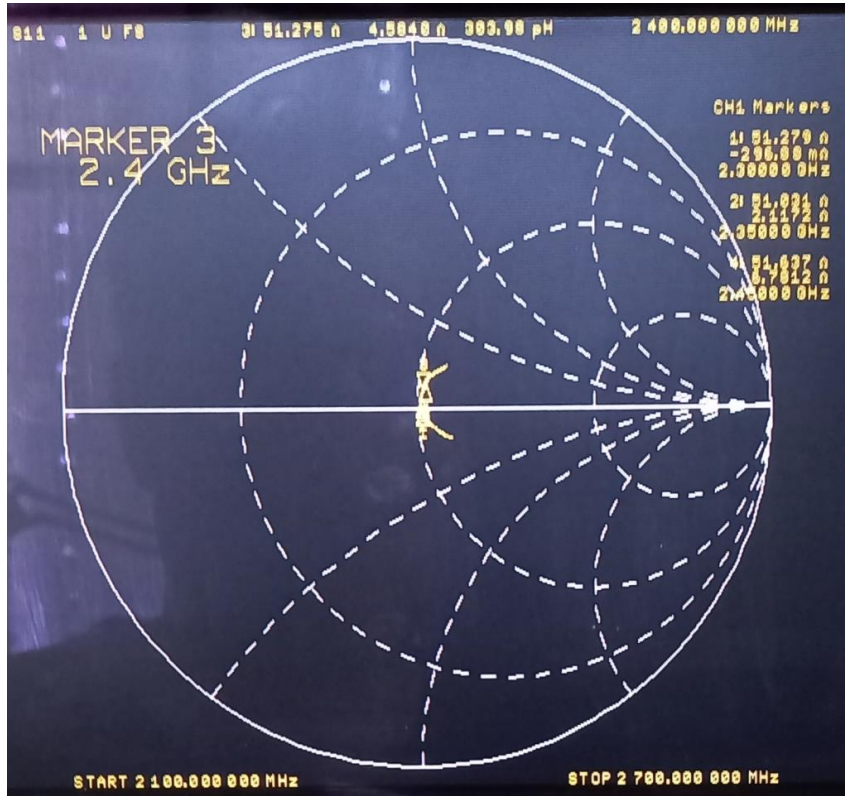
The datecode most likely means that the isolator was produced in ww45 2011.



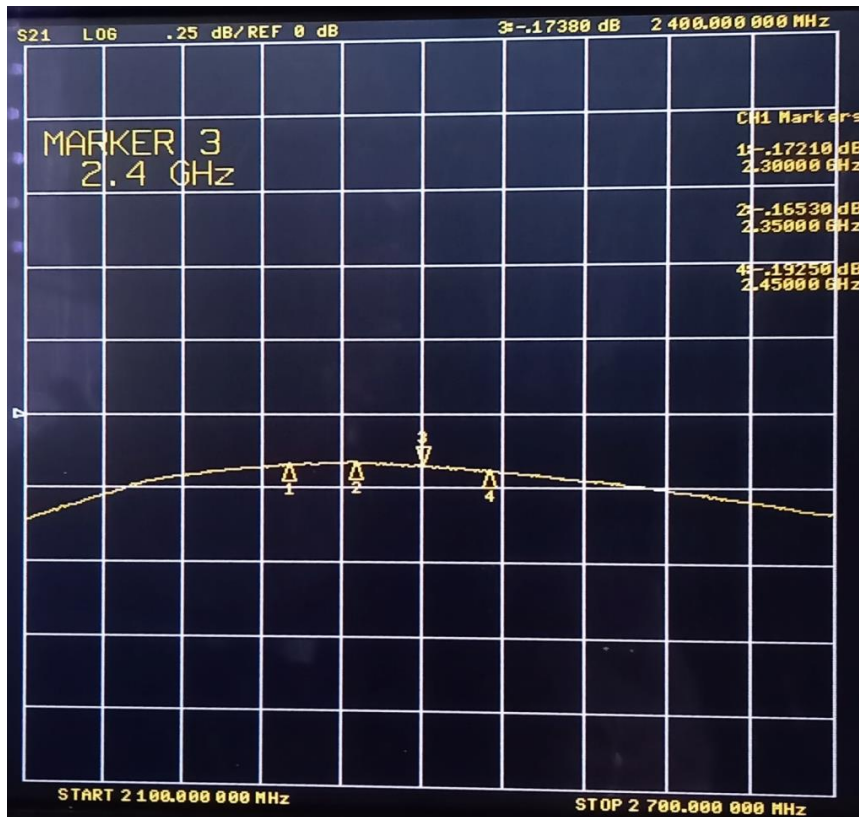
Below you will find some measurement results of this S-band isolator. All measurements were done in the frequency range 2.1GHz to 2.7GHz.

S11 input matching (return loss at 2400MHz is 26.5dB)





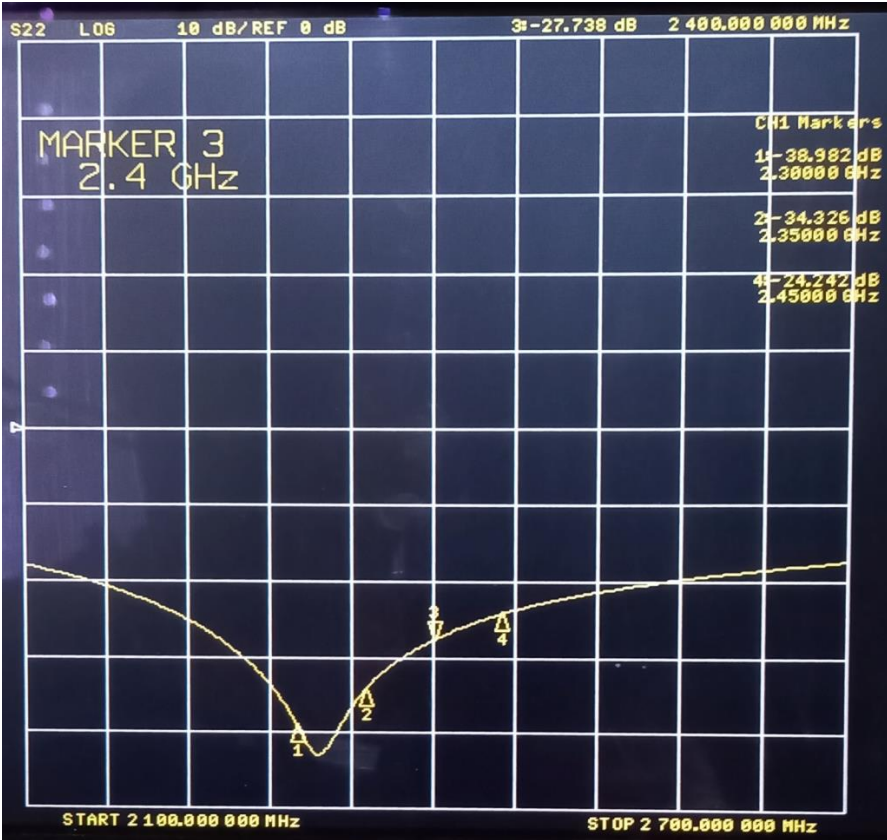
S21 forward transmission (insertion loss at 2400MHz is 0.17dB)

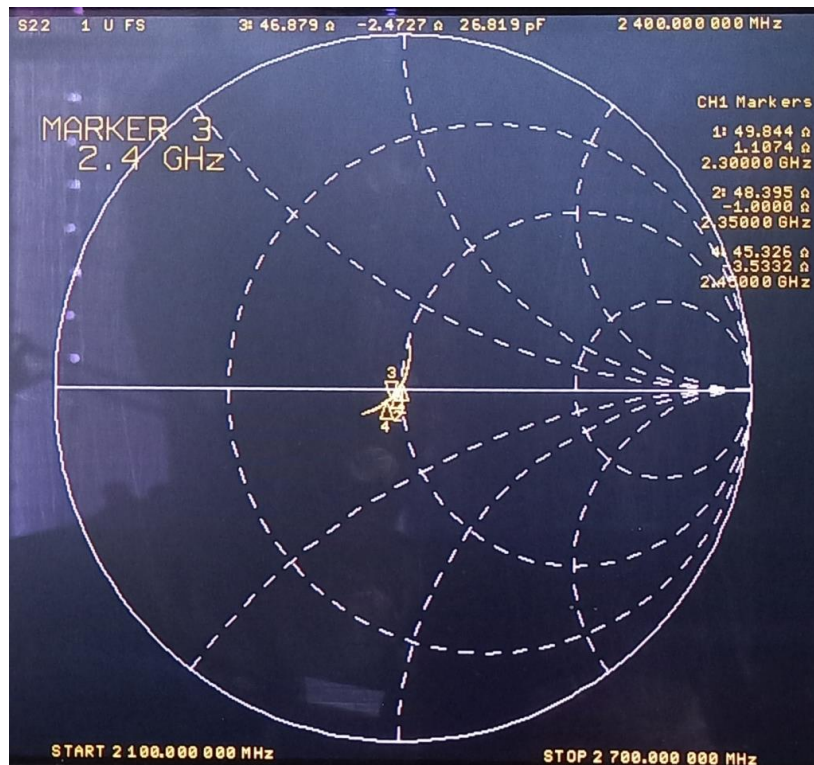


S12 reverse transmission (isolation at 2400MHz is 20.6dB)



S22 output matching (return loss at 2400MHz is 27.7dB)





The measurements of this isolator in a narrow frequency band at 2.4 GHz are showing significant better values in all parameters compared with the specifications which have cover the full range from 2.0 to 6.0GHz.

If anyone has more data then please let me know.

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

Best regards

Matthias DD1US

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