

Using the Renaissance Circulator 3A4NCG for the 13cm band

Matthias, DD1US, April 1st 2019

Hello,

I recently acquired a circulator from Renaissance with the part number 3A4NCG. Here is a picture of my unit:



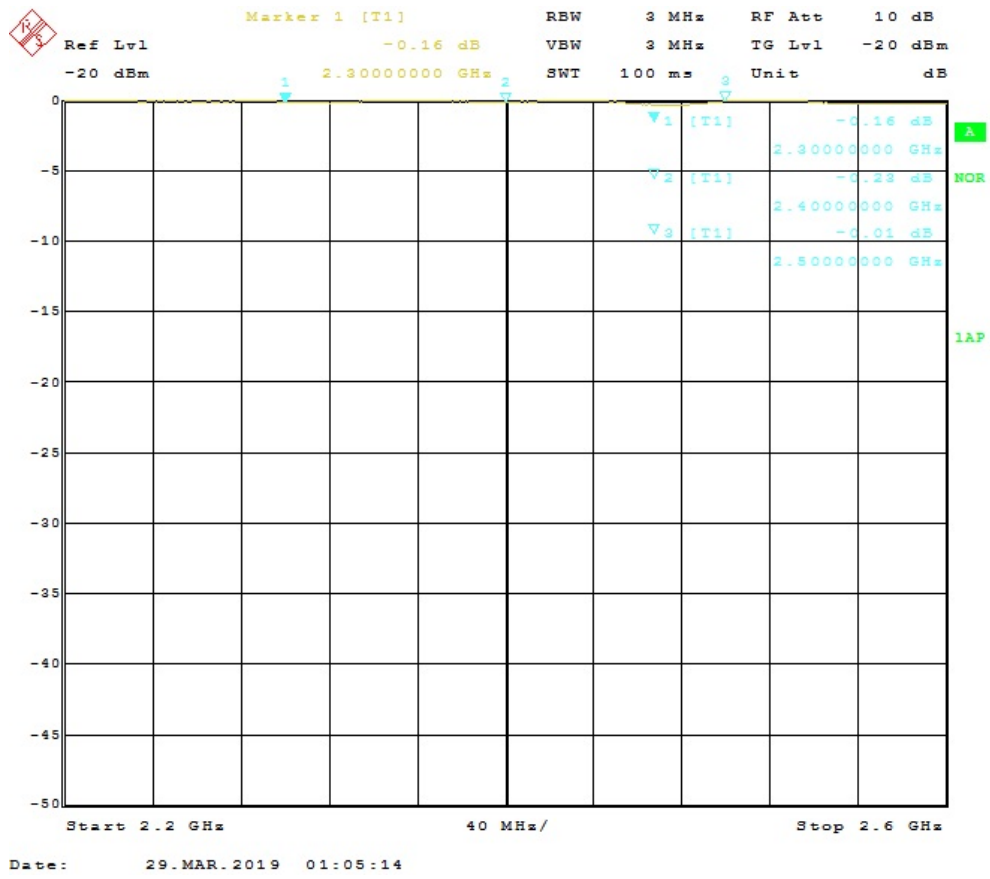
It features N-connectors at all 3 ports.

I found the following data on the internet:

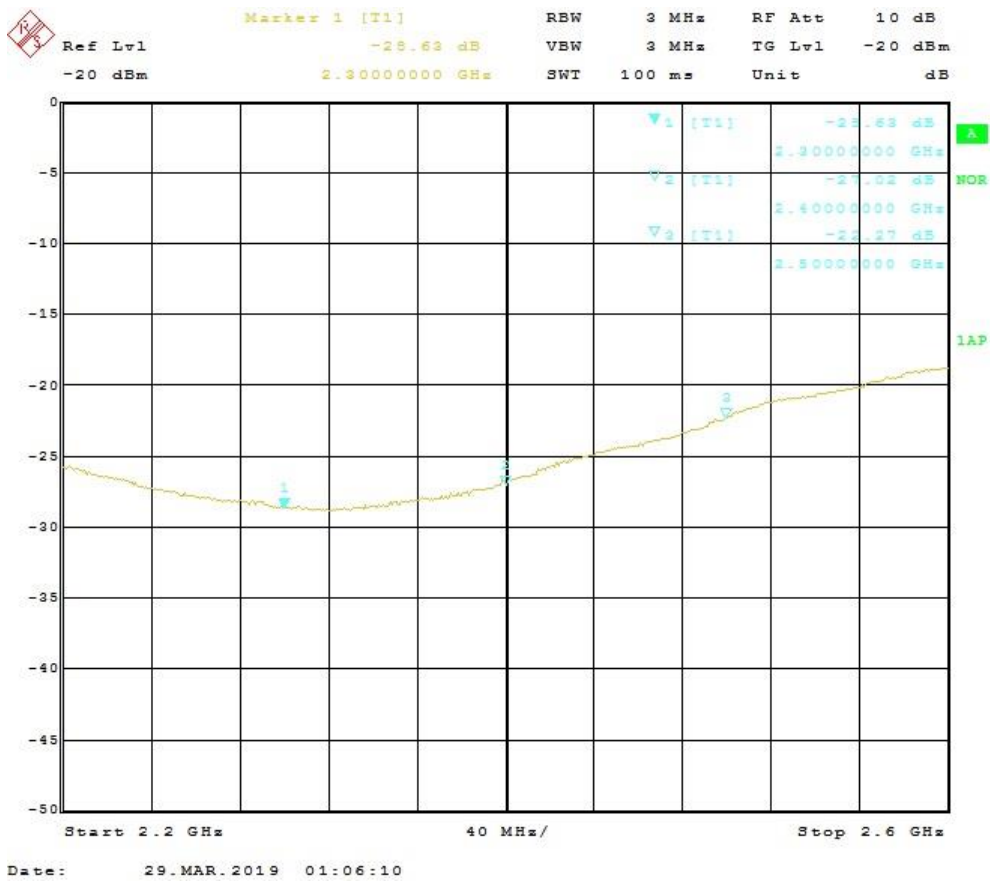
Frequency range:	2305-2360 MHz
Isolation (min.):	22 dB
Insertion Loss (max.):	0.4 dB
VSWR:	1.2
Power CW (max.):	50 W
Power pulsed (peak):	5kW
Operating temperature range:	-10...+50 degree C

As I want to use this isolator at 2400 MHz I measured its characteristics using a spectrum analyzer with tracking generator. Here are the results:

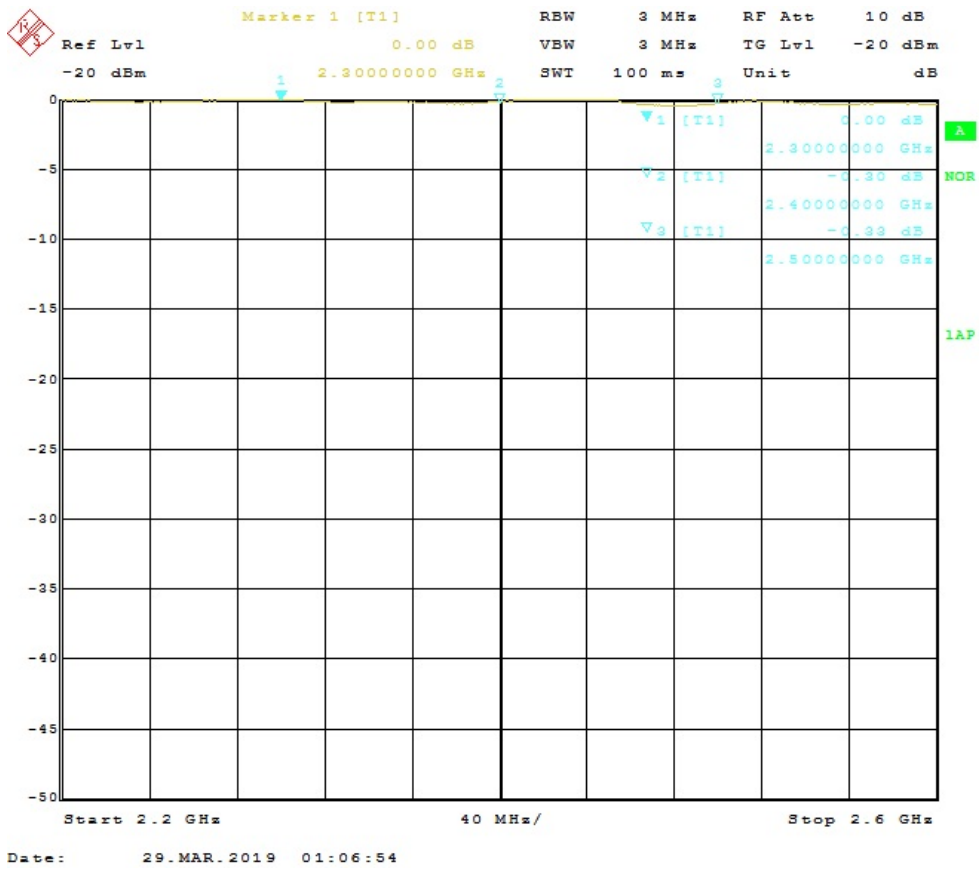
S1 -> S2 (insertion loss 0.16dB @2.3 GHz, 0.23dB @2.4 GHz, 0.01dB @2.6 GHz)



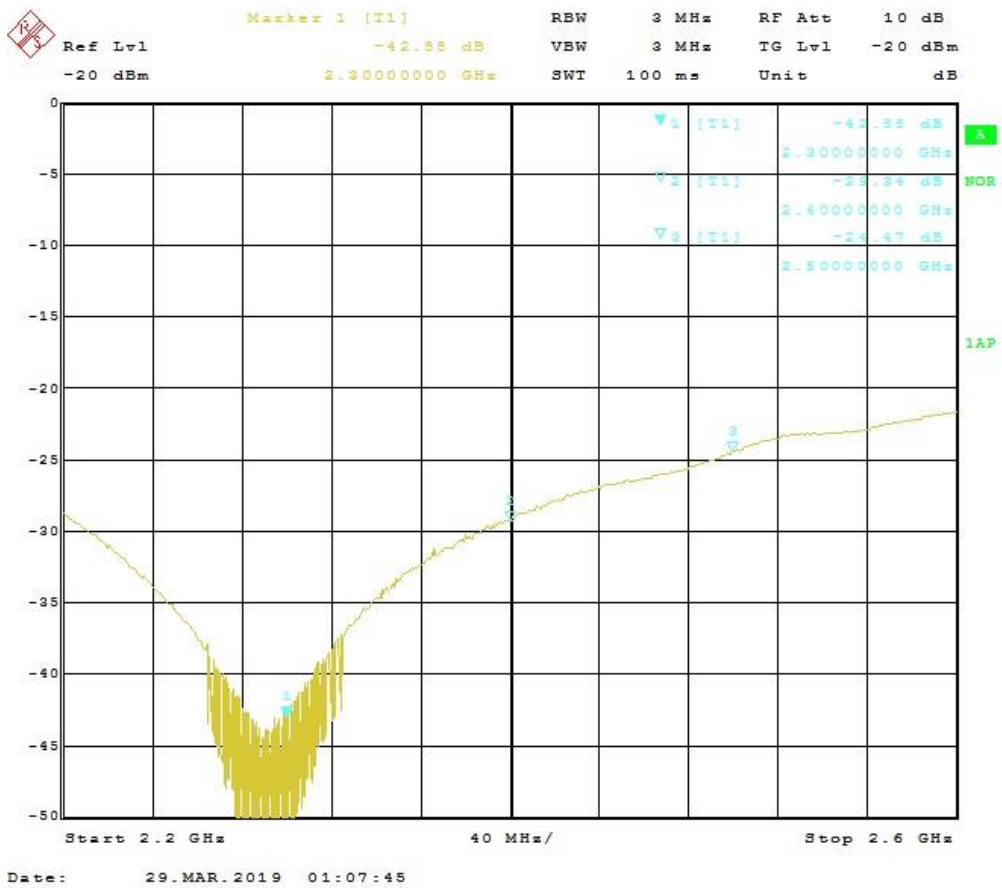
S2 -> S1 (isolation 28.6dB @2.3 GHz, 27.0dB @2.4 GHz, 22.3dB @2.6 GHz)



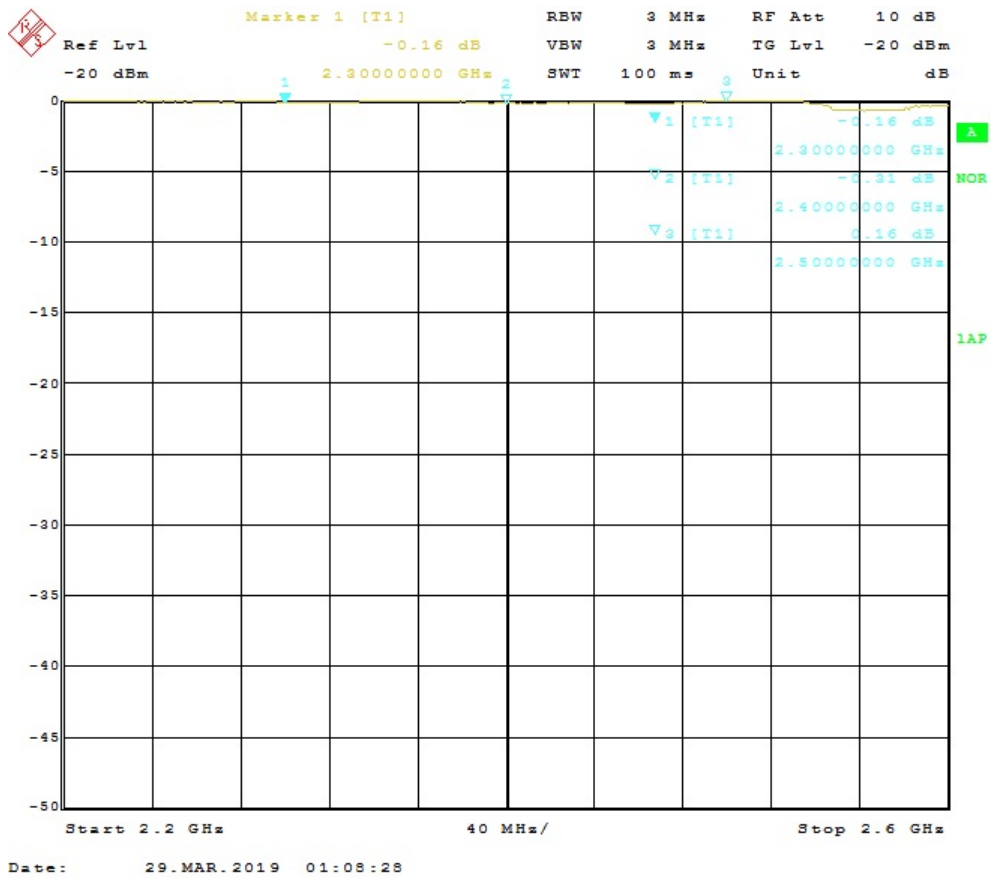
S2 -> S3 (insertion loss 0.00dB @2.3 GHz, 0.30dB @2.4 GHz, 0.33dB @2.6 GHz)



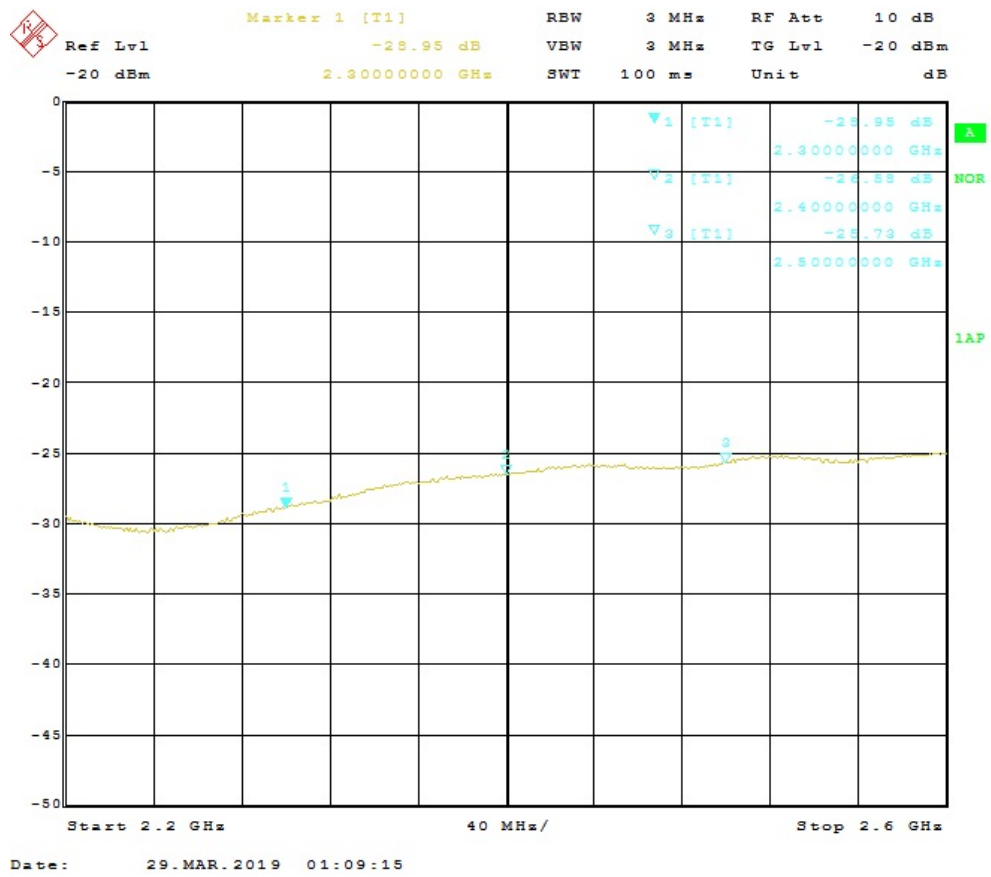
S3 -> S2 (isolation 42.3dB @2.3 GHz, 29.3dB @2.4 GHz, 24.5dB @2.6 GHz)



S3 -> S1 (insertion loss 0.16dB @2.3 GHz, 0.31dB @2.4 GHz, 0.16dB @2.6 GHz)



S1 -> S3 (isolation 29.0dB @2.3 GHz, 26.6dB @2.4 GHz, 25.7dB @2.6 GHz)



As can be seen even at 2.4 GHz the specification parameters with respect to Insertion Loss and Isolation are exceeded.

I always appreciate feedback. Many thanks in advance.

Best regards

Matthias DD1US

Email: DD1US@AMSAT.ORG

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