

GT-TC40, GT-QDC40 and GT-QTC40 of GT-SAT

Excellent LNB's for Twin Tuner HD Receivers



Today's modern receivers often have 2 tuners on board. To take full advantage of such receiver you need to use a twin LNB. If more than one receiver is in the house, you should think of a quad or quattro LNB. Only then will you have a full freedom of what to view and what to record at the same moment. On the other hand, we have more and more HD channels worth watching. They are often coded in DVB-S2 with high FEC values and because of that they require a signal of somewhat better carrier-to-noise ratio than the common SDTV channels we got used to. Such signal we can get either from a bigger dish or a better (low noise) LNB.



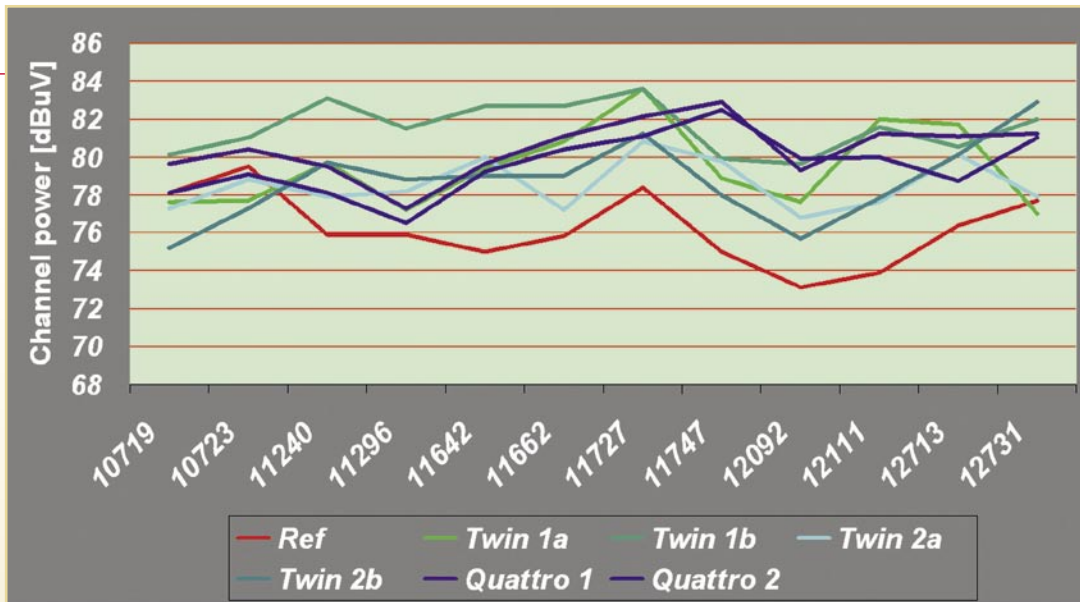
TELE SATELLITE & BROADBAND AWARD
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GT-TC40, GT-QDC40 AND GT-QTC40 OF GT-SAT
Excellent performance with outstanding low noise performance perfectly suited for twin tuner HD receivers

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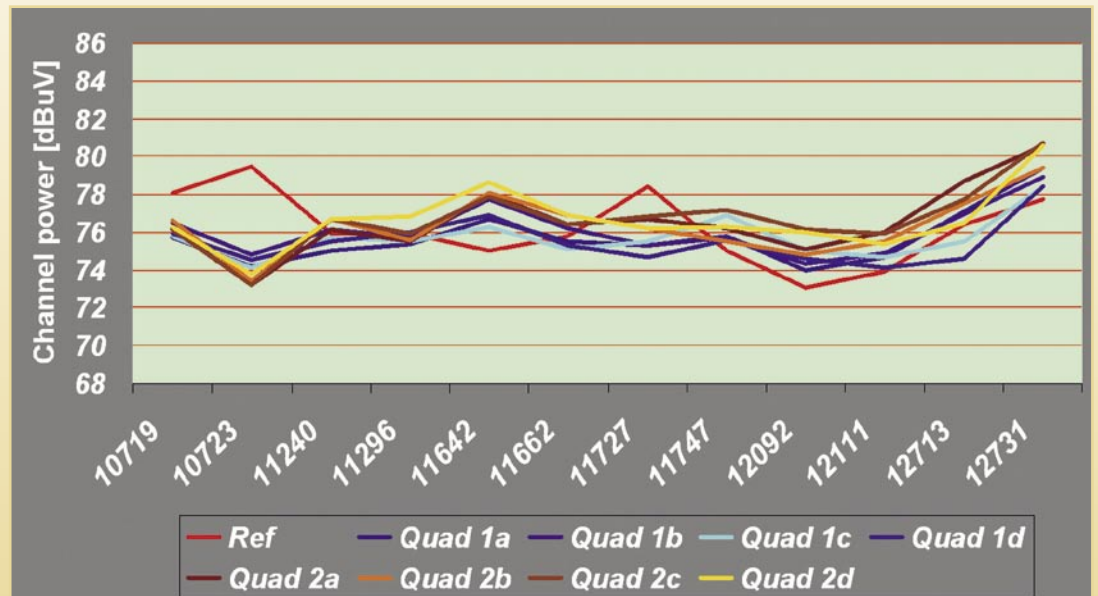
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■ Fig. 1. Output power for the twin and quattro LNB's.

GT-Sat company is already familiar to our readers. We presented their high output power LNB's in the TELE-satellite issue 09/2008. The products were surprisingly good having increased output power without compromising the noise performance. No wonder that we were anxious to test their new line of LNB's. This time we received: GT-TC40, GT-QDC40 and GT-QTC40 devices. Twin, quad and quattro LNB's respectively.

Our first impression: very good workmanship and small size. The small size is especially true for the quad and quattro version. We even made a photo to show you the difference between the quad LNB described in the previous issue and the current one (GT-QD40D vs. GT-QDC40). Of course the bigger one has the increased output power but even if com-



■ Fig. 2. Output power for the quad LNB's.

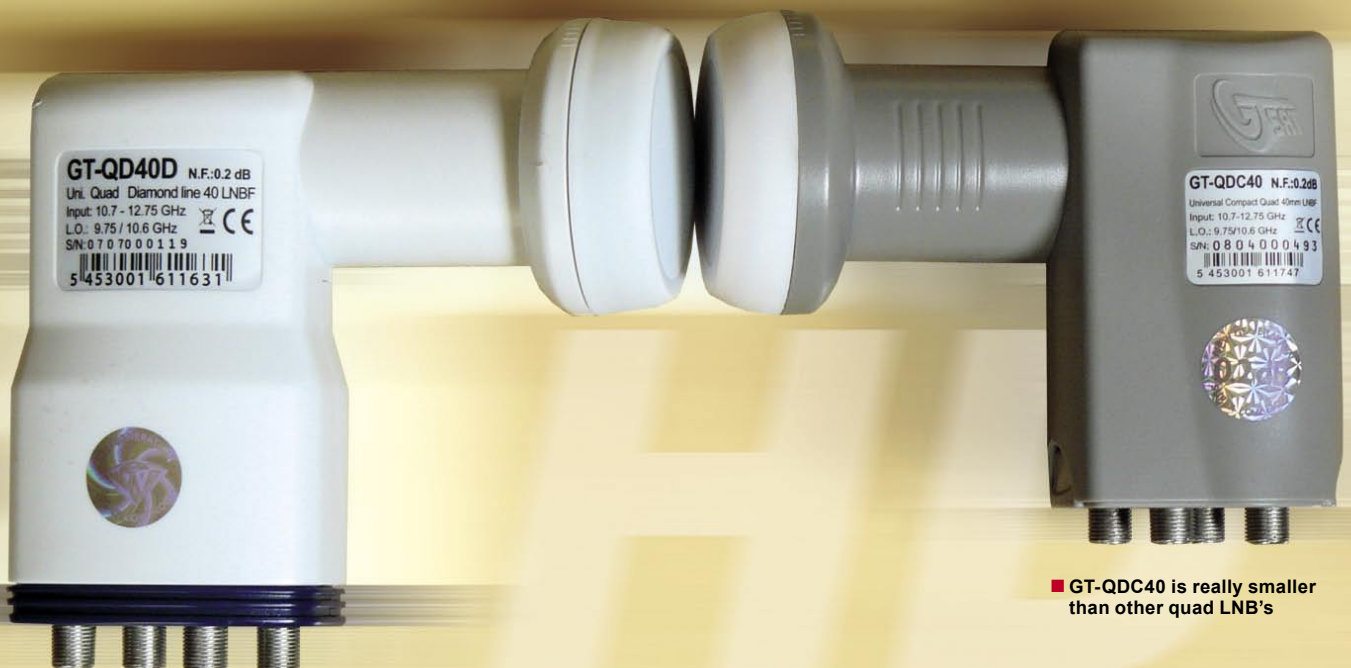
pared with the quads of other manufacturers, GT-QDC40 is smaller and also somewhat lighter.

We received two LNB's of every type and we measured all of them. It meant more work for us but thanks to that

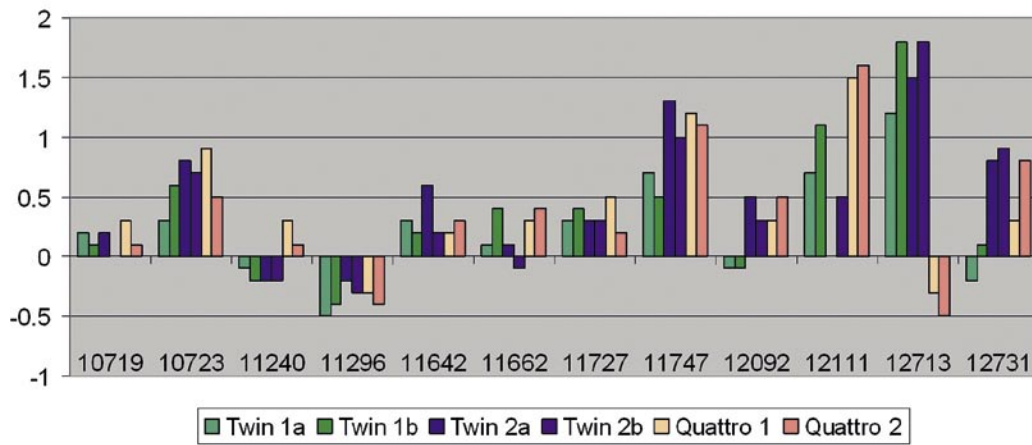
the final results are more credible for our respected readers. Due to large number of measurements, you can see a lot of graphs. Let's try to analyze them one by one.

Figure 1 shows the output power (signal strength) at the output of the twin GT-TC40 and quattro GT-QTC40 device compared to the reference LNB (single, 0.2 dB). It is significantly greater what means that we can use longer cables between an LNB and a receiver without spoiling the signal.

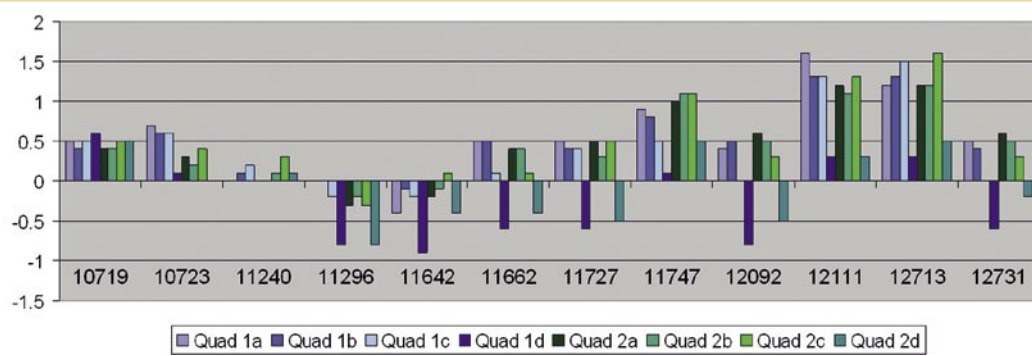
The performance of quad devices is presented in figure 2. Although the output is not greater than our reference



■ GT-QDC40 is really smaller than other quad LNB's



■ Fig. 3. MER as compared to the reference LNB for twin and quattro models.



■ Fig. 4. MER as compared to the reference LNB for quad models.

model it is not smaller either. We can say the quad models produce as strong signal as our very good reference LNB.

As usually, we were even more interested in noise performance. Why? Only some of us

need very strong signal (those who need to use long cables) but practically all of us need signal with low noise content. Low noise means possibility to receive weak transponders and bigger margin for bad weather conditions.

Now, in figure 3 can you see what our measurements revealed for twin and quattro LNB's. The positive bars mean that the modulation error ratio (MER) was better than that for a reference LNB, negative

– that it was worse. All tested LNB's were better than our reference device almost for every transponder we chose for testing! And the difference of 1 dB or greater really counts. As you can see the performance was especially magnificent for the higher portion of Ku-Band. We expected worse performance for the quad models. But to our big surprise, also they proved to be excellent. You can see that in figure 4. Again very good results near the higher end of Ku-Band.

DC power consumption was typical for such devices. Twin models consumed 150~170 mA, quad: 200~230 mA and quattro: 260~280 mA. Typically, the receivers are prepared to deliver at least 500 mA. Not a single receiver shall have a problem to power any of the LNB's.

Finally, we checked the performance for a weak transponder reception. We tuned to 11670 on 5° East and got C/N = 9 dB for a reference LNB. After installing twin LNB's (one by one) we got the same result: 9 dB. No matter what we measured: MER or C/N, strong or weak transponders, the noise performance of the tested LNB's was excellent!

Expert Opinion

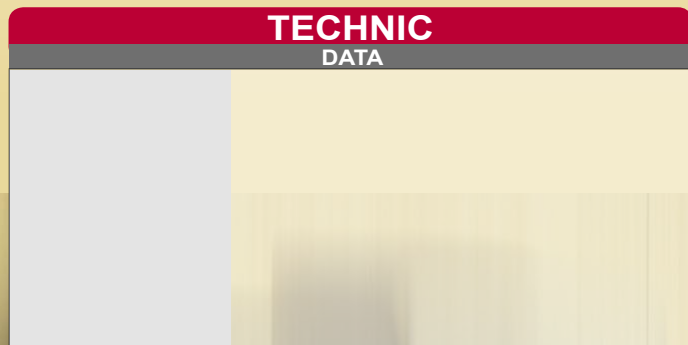
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Excellent LNB's with outstanding noise performance for all models and additionally increased output power for twin and quattro types. Products especially suited for new twin tuner HD receivers.



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TELE-satellite
Test Center
Poland

-
none



Quattro outputs are described at the bottom ■

■ Sliding connector cover