

The comparison of cheap routers

AC1200 Standard



We present another test of routers. In the previous article we wrote about cheap AC750 routers. This time we want to focus on wireless ones operating in **802.11ac 1200** standard.

Nowadays, replacement of a router operating in the 802.11n mode is nearly necessary. The expectations of customers are getting greater than in the past. Practically everyone demands high-speed data transmission, which is essential for watching videos in full HD, 4K or VoIP telephony.

The ISP operators offer access to higher bandwidths, but many people don't realize that changing the offer to "faster" one, also requires the change of their equipment to the unit of a stable access point able to transfer large number of data in a very short time.

Thanks to **AC1200** standard we have 867Mbps at 5GHz and 300 Mbps at 2.4GHz at our disposal by using channels width to 80MHz, or even to 160MHz! Routers operating in 802.11ac are far ahead of their predecessors.

AC1200 increases wireless performance and its coverage in the crowded 2.4GHz band and thanks to this fact we can enjoy the access to high-speed Internet via Wi-Fi.

It is worth to mention that 802.11ac standard also introduces a lot of improvements such as, for example, **beam forming technology**, which automatically increases the signal strength directly towards the device connected to the router. The idea of this action is as follows. Antennas in the router operating in "**beam forming**" technology automatically detect the

direction of a receiving signal, and then they focus on a transmission exactly towards this way.

Briefly, this technology increases the signal's strength and stability which is transmitted, for instance, through walls. Tests involve routers with price range between 100-200 PLN, to show that the improvement of network's standard is not related to a big expense for a user.

We chose three most popular routers operating in **AC1200** standard.

- **Totolink 3002RU**
- **Tp-Link Archer C50**
- **Netis WF2780**

We tested them on the basis of several key features:

- Functionality
- Signal strength
- Efficiency and practical application

Therefore, let's get to the tests...




1. Functionality

At the beginning let's check these routers in the terms of their hardware functionality which is extremely important factor when it comes to universality and practical application at home or in an office.

The table below presents the comparison of routers on the basis of key aspects:

- The number of operating modes (Wireless ISP Client Router, Wireless Client, Repeater, Router, Bridge with AP, Client)
- Hardware functionality (speed of LAN and WAN ports)
- Access control functions (MAC, URL, IP, PORT Filtering)
- Functionality on the network (VLAN, IPTV, Multi SSID, QoS, IPV6)
- Multimedia functions (DLNA, FTP, Media Server, Print Server)

On this basis we are able to choose the most universal device which works with practically any network topology - while meeting all of its requirements.

Producent	TOTOLINK	TP-LINK	NETIS
Model	3002RU	Archer C50	WF 2780
Picture			
Warranty	36	24	12
Hardware Features			
Button	1*RST Button 1*WPS Button 1*Power ON/OFF Button	1*WPS/RST Button 1*WiFi ON/OFF Button 1*Power ON/OFF Button	1*WPS Button 1*RST Button
Interface	4*1000Mbps LAN 1*1000Mbps WAN	4*100Mbps LAN 1*100Mbps WAN	4*1000Mbps LAN 1*1000Mbps WAN
Wireless Features			
Capacity	1200Mbps	1200Mbps	1200Mbps
Data Rate	2.4GHZ up to 300Mbps 5GHz up to 867Mbps	2.4GHz up to 300Mbps 5GHz up to 867Mbps	2.4GHz up to 300Mbps 5GHz up to 867Mbps
Wireless Security	64/128-bit WEP, WPA/ WPA2, WPA-PSK/ WPA2-PSK (TKIP/AES)	WEP, WPA/WPA2, WPA- PSK/WPA2-PSK	WEP/WPA-PSK/ WPA2-PSK
Software Features			
Operation Mode	Router/Repeater/Bridge with AP/Wireless ISP Client/ Wireless Client/ Client	Router/Access Point	AP/AP+WDS/WDS/Client
Schedule	Wireless Schedule Reboot Schedule	✓	X
IPV6	✓	✓	X
Access Control	MAC, IP, PORT, URL Filtering	IP, MAC, HOST Filtering	IP, MAC, Domain Filtering
TR-069	✓	X	X
VLAN	✓	✓	✓
IPTV	✓	✓	✓
Multi-SSID	✓	X	✓

QoS	✓	✓	✓
USB Share	FTP, Samba, DLNA, Print Server	FTP, Media Server, Print Server	X

You can immediately notice that the most functional router is **Totolink 3002RU** because it is equipped with many practical functions such as e.g. big number of operating modes, power on/off schedule of wireless network and router's rebooting. Moreover, TR-069 allows you for remote management through ACS servers. Totolink also supports VLAN's, IPTV and USB Share function.

Probably the most important aspect is the **36 months of warranty**.




2. Signal strength

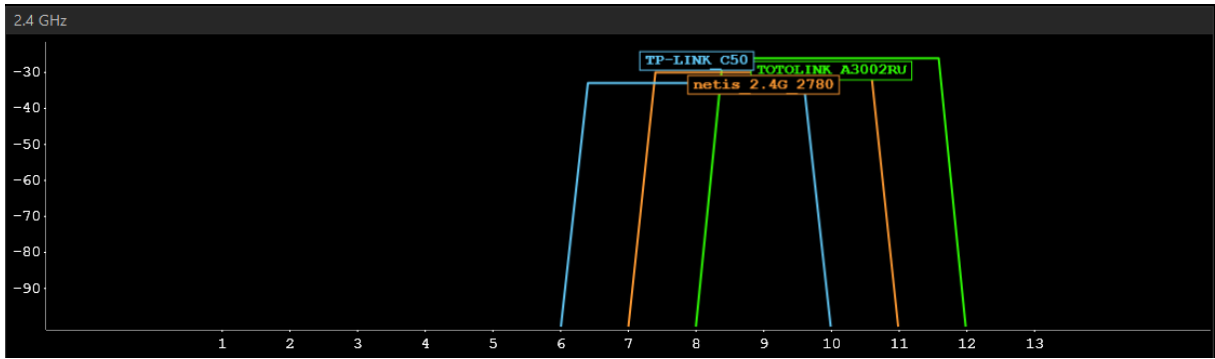
Further tests concern checking the signal strength. Program inSSIDer 4 and HP ProBook laptop equipped with the Totolink A2000UA USB card. Our measuring station is AC1200. The signal's strength was measured under the following conditions:

- 5m + wall (2.4 and 5GHz)
- 10m + wall (2.4 and 5GHz)
- 30m + wall (2.4 and 5GHz)

Here are the results obtained by inSSIDer application:

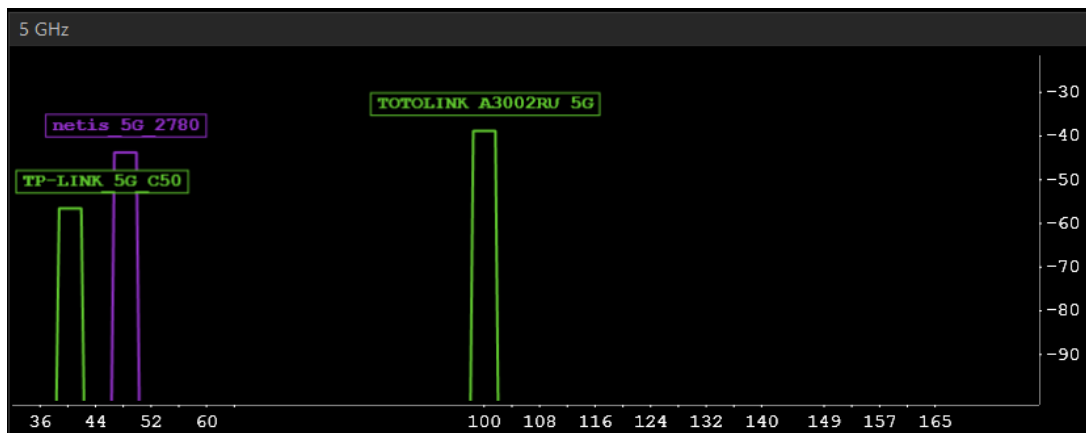
2.4GHz 5 meters + wall

SSID	CHANNELS	SIGNAL (dBm)	RADIO COUNT	PHY TYPE	SECURITY	MIN DATA RATE	MAX DATA RATE
TOTOLINK_A3002RU	10	-24	1	b, g, n		1.0	144.4
netis_2.4G_2780	9	-28	1	b, g, n		1.0	144.4
TP-LINK_C50	8	-31	1	b, g, n		1.0	144.4



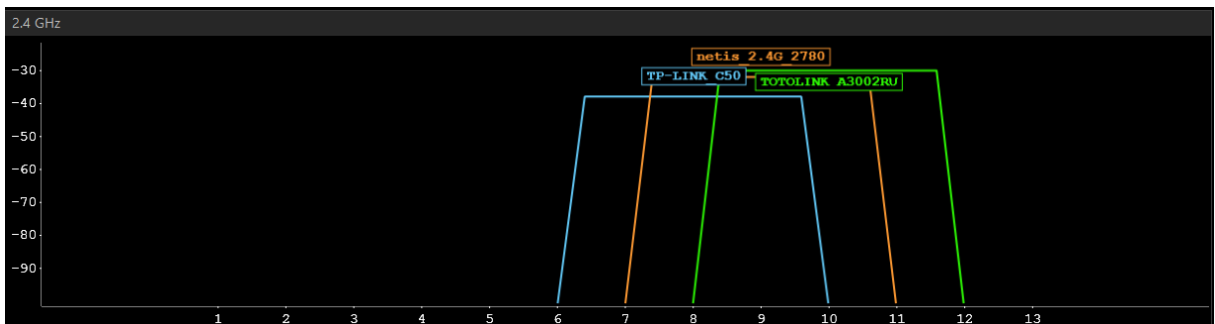
5GHz 5 meters + wall

SSID	CHANNELS	SIGNAL (dBm)	RADIO COUNT	PHY TYPE	SECURITY	MIN DATA RATE	MAX DATA RATE
netis_5G_2780	48	-42	1	n, ac	🔒	6.0	360.0
TOTOLINK A3002RU 5G	100	-37	1	n, ac	🔒	6.0	360.0
TP-LINK_5G_C50	40	-55	1	n, ac	🔒	6.0	400.0



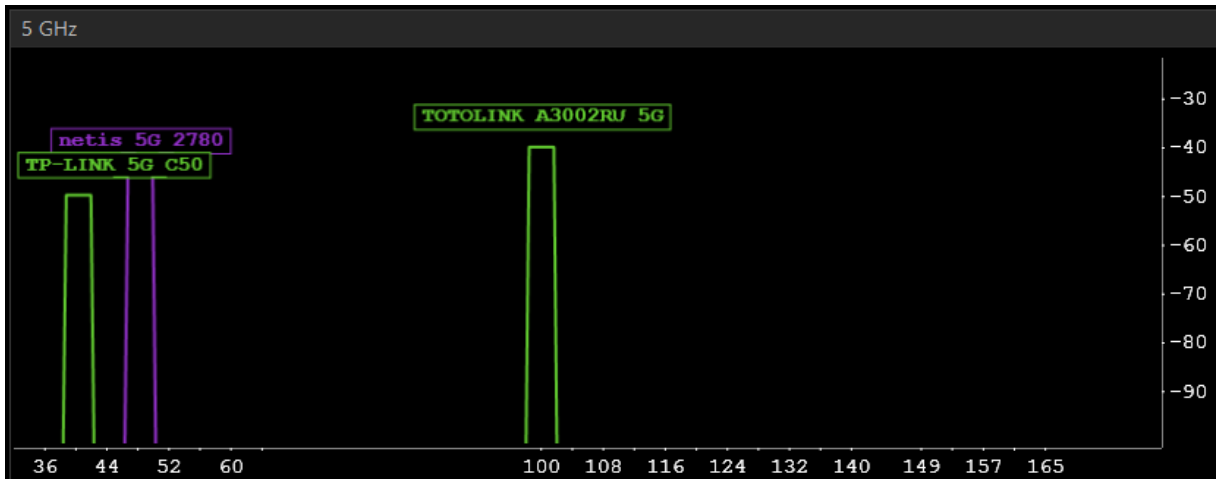
2.4GHz 10 meters + wall

SSID	CHANNELS	SIGNAL (dBm)	RADIO COUNT	PHY TYPE	SECURITY	MIN DATA RATE	MAX DATA RATE
TP-LINK_C50	8	-36	1	b, g, n	🔒	1.0	144.4
netis_2.4G_2780	9	-30	1	b, g, n	🔒	1.0	144.4
TOTOLINK A3002RU	10	-28	1	b, g, n	🔒	1.0	144.4



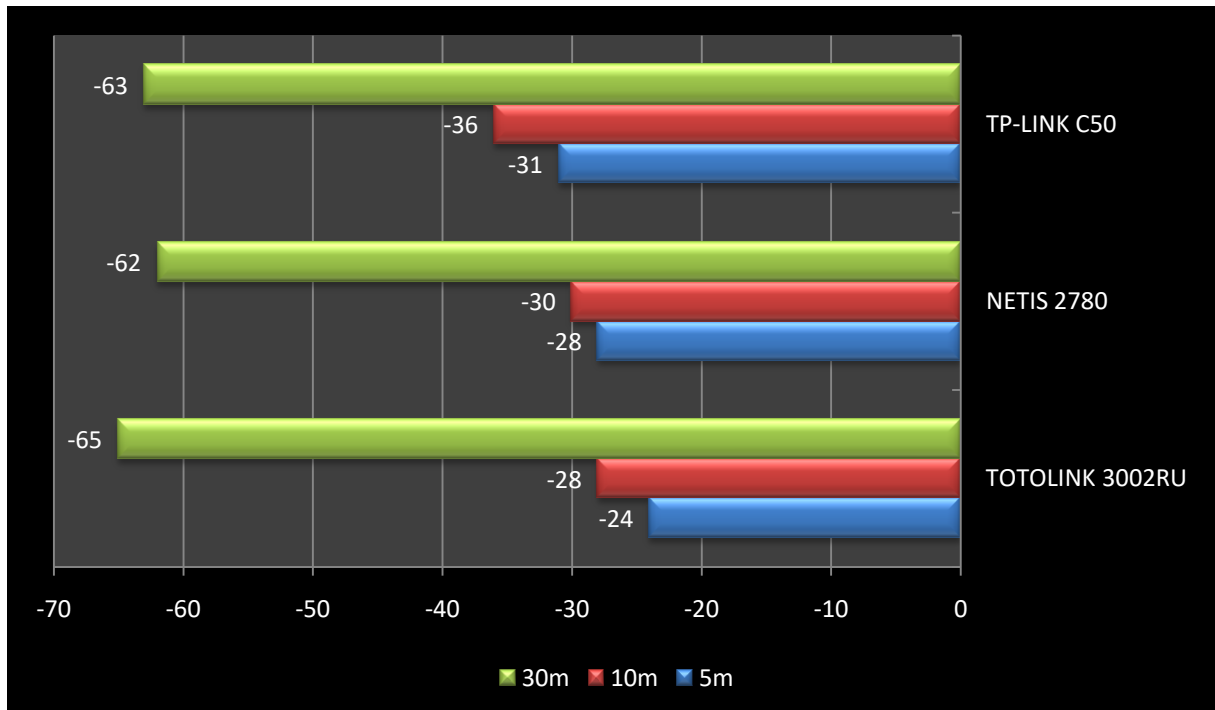
5GHz 10 meters + wall

SSID	CHANNELS	SIGNAL (dBm)	RADIO COUNT	PHY TYPE	SECURITY	MIN DATA RATE	MAX DATA RATE
netis_5G_2780	48	-43	1	n, ac	🔒	6.0	360.0
TOTOLINK A3002RU 5G	100	-38	1	n, ac	🔒	6.0	360.0
TP-LINK_5G_C50	40	-48	1	n, ac	🔒	6.0	400.0

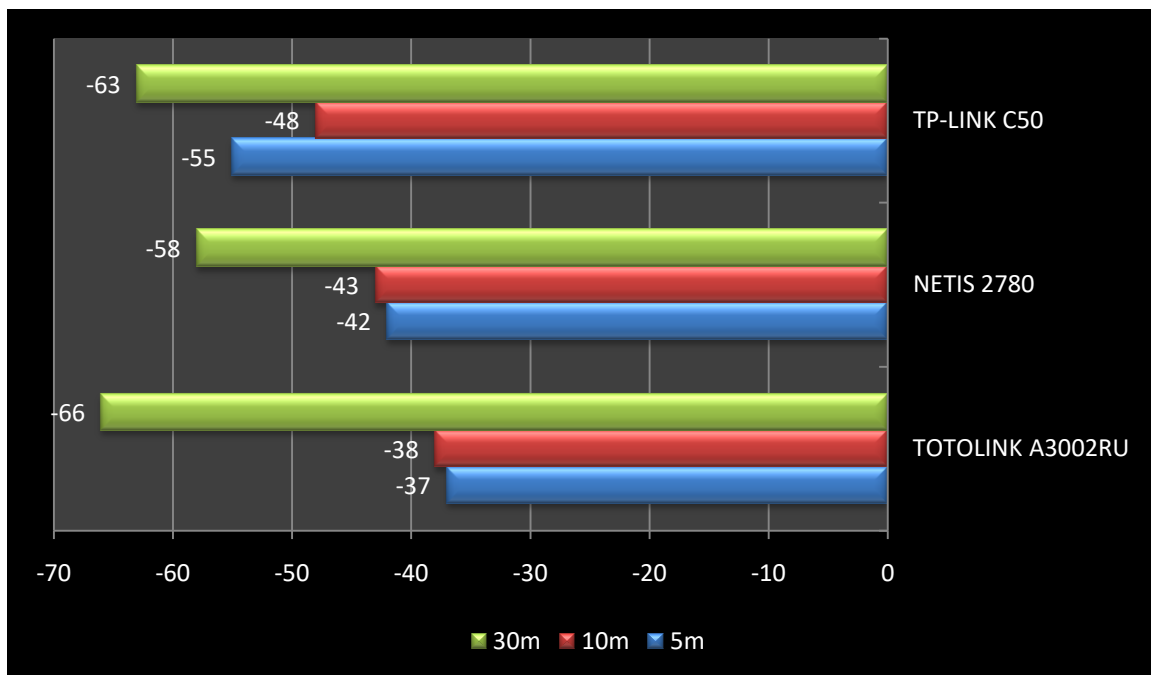


The strength of each router's signal is clearly presented by below provided graphs.

2.4GHz



5GHz



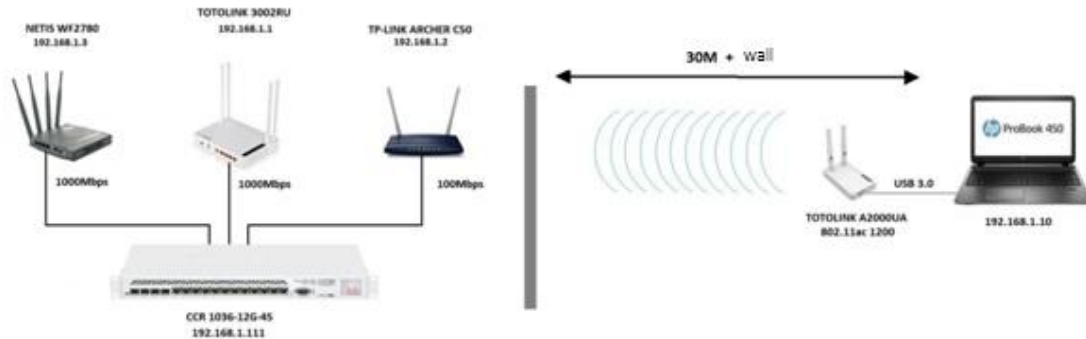
Obviously, the rule of “**the closer to zero, the better ...**” is in force. Therefore, we can immediately notice that when we performed measurements within 5, 10 and 30 meters from the routers, the results were very similar. In contrast, the only router that allows you to use other channels than 40, 44 and 48 at the 5 GHz band is Totolink 3002RU because, as we choose the option “Global” we have a much wider range of channels, namely: 36, 40, 44, 52, 56, 60, 64, 100, 104, 108, 112, 149, 153, 157, 161.

This speaks greatly in favor of **Totolink A3002RU**, because it helps us to set the least busy channel at the 5GHz band, which nowadays is becoming an increasingly common problem.

3. Capability

The most important part of testing is to check the maximum bandwidth (upload/download) that can be obtained on routers, because it is one of the guiding themes in the selection of equipment for home/office.

In order to reliably perform such a test and simulate the most appropriate terms, we built a small wireless network:



This time, besides TOTOLINK A2000UA USB card, AC1200 and HP ProBook laptop, we used Mikrotik CCR1036-12G and Mikrotik Bandwidth Test v0.1 program.

10 sessions, which at the same time generates traffic through TCP and UDP at 5GHz band would be a sufficient source of reliable information.

Ok, let's see how particular devices performed in our network.



The first tested device is **TOTOLINK A3002RU**.

MikroTik BTest TCP receive

The screenshot displays the MikroTik WinBox interface with the BTest TCP receive configuration and results. The configuration window shows the following settings:

- Address: 192.168.1.111
- Protocol: tcp
- Local Tx Size: 1500 bytes
- Remote Tx Size: 1500 bytes
- Direction: receive
- User: admin
- Password: (empty)

The results window shows the following statistics for interface eth10 Totolink 3002:

Overall Stats	Rx Stats	Tx Stats	Status	Traffic
Tx/Rx Rate: 254.6 Mbps / 829.4 kbps				
Tx/Rx Packet Rate: 21 035 p/s / 1 726 p/s				
FP Tx/Rx Rate: 254.6 Mbps / 829.4 kbps				
FP Tx/Rx Packet Rate: 21 035 p/s / 1 726 p/s				
Tx/Rx Bytes: 3934.6 MB / 11.9 GiB				
Tx/Rx Packets: 2 728 357 / 8 585 825				
Tx/Rx Drops: 0 / 0				
Tx/Rx Errors: 0 / 0				

The traffic graph shows a steady flow of data, with the Rx rate reaching approximately 255.5 Mbps.

MikroTik BTest TCP send

The screenshot displays the MikroTik WinBox interface with the BTest TCP send configuration and results. The configuration window shows the following settings:

- Address: 192.168.1.111
- Protocol: tcp
- Local Tx Size: 1500 bytes
- Remote Tx Size: 1500 bytes
- Direction: send
- User: admin
- Password: (empty)

The results window shows the following statistics for interface eth10 Totolink 3002:

Overall Stats	Rx Stats	Tx Stats	Status	Traffic
Tx/Rx Rate: 6.9 Mbps / 287.9 Mbps				
Tx/Rx Packet Rate: 15 788 p/s / 31 552 p/s				
FP Tx/Rx Rate: 6.9 Mbps / 287.9 Mbps				
FP Tx/Rx Packet Rate: 15 788 p/s / 31 552 p/s				
Tx/Rx Bytes: 4.9 GiB / 16.1 GiB				
Tx/Rx Packets: 5 187 577 / 12 154 373				
Tx/Rx Drops: 0 / 0				
Tx/Rx Errors: 0 / 0				

The traffic graph shows a steady flow of data, with the Tx rate reaching approximately 279.2 Mbps.

MikroTik BTest TCP both

The screenshot displays the MikroTik WinBox interface. On the left, the 'Interface List' table shows the following data:

Interface	Type	L2 MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)
R bridge1	Bridge	1580	144.4 Mbps	212.0 Mbps	19 720	17 729
RS eth 10 Totolink 3002	Ethernet	1580	134.4 Mbps	185.1 Mbps	17 916	15 541
RS eth 11 Netis 2780	Ethernet	1580	5.1 kbps	1488 bps	8	2
RS eth 12 Tp-link C50	Ethernet	1580	2.5 kbps	0 bps	3	0

The 'Interface <eth 10 Totolink 3002>' window shows the following statistics:

- Tx/Rx Rate: 134.4 Mbps / 185.1 Mbps
- Tx/Rx Packet Rate: 17 916 p/s / 15 541 p/s
- FP Tx/Rx Rate: 134.4 Mbps / 185.1 Mbps
- FP Tx/Rx Packet Rate: 17 916 p/s / 15 541 p/s
- Tx/Rx Bytes: 9.6 GiB / 26.3 GiB
- Tx/Rx Packets: 11 944 150 / 19 831 136
- Tx/Rx Drops: 0 / 0
- Tx/Rx Errors: 0 / 0

The BTest TCP both window shows the following configuration and results:

- Address: 192.168.1.111
- Protocol: tcp
- Local Tx Size: 1500 bytes
- Remote Tx Size: 1500 bytes
- Direction: both
- Local Tx Speed: [] bps
- Remote Tx Speed: [] bps
- User: admin
- Password: []
- Random Data: []

The test results window shows a graph with the following data:

- Rx: 204.2 Mbps
- Tx: 132.9 Mbps

MikroTik BTest UDP send

The screenshot displays the MikroTik WinBox interface. On the left, the 'Interface List' table shows the following data:

Interface	Type	L2 MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)
R bridge1	Bridge	1580	178.0 kbps	361.4 Mbps	17	29 852
RS eth 10 Totolink 3002	Ethernet	1580	179.7 kbps	361.3 Mbps	20	29 841
RS eth 11 Netis 2780	Ethernet	1580	2.0 kbps	1232 bps	4	2
RS eth 12 Tp-link C50	Ethernet	1580	424 bps	0 bps	1	0

The 'Interface <eth 10 Totolink 3002>' window shows the following statistics:

- Tx/Rx Rate: 179.7 kbps / 361.3 Mbps
- Tx/Rx Packet Rate: 20 p/s / 29 841 p/s
- FP Tx/Rx Rate: 179.7 kbps / 361.3 Mbps
- FP Tx/Rx Packet Rate: 20 p/s / 29 841 p/s
- Tx/Rx Bytes: 7.4 MB / 6.5 GiB
- Tx/Rx Packets: 6 610 / 4 609 149
- Tx/Rx Drops: 0 / 0
- Tx/Rx Errors: 0 / 0

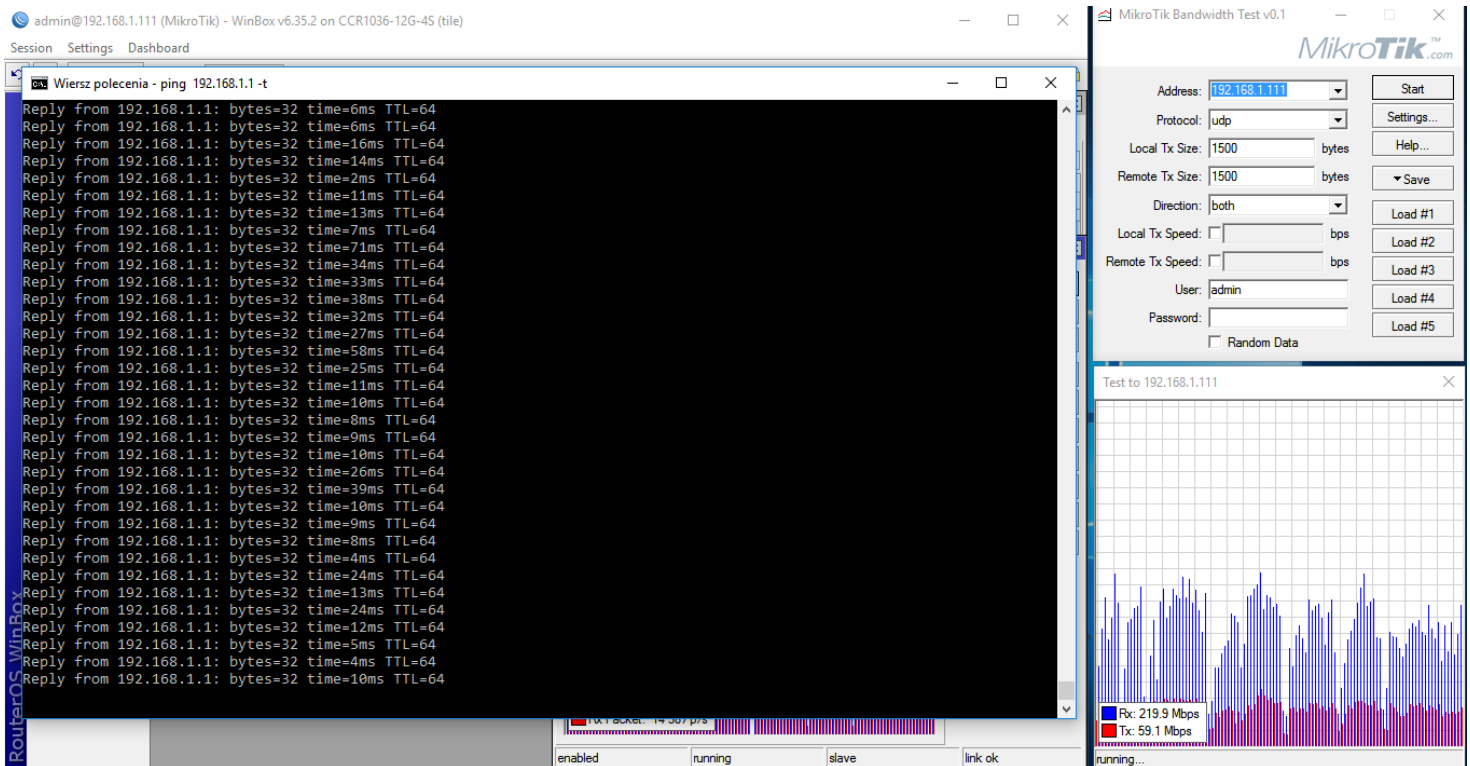
The BTest UDP send window shows the following configuration and results:

- Address: 192.168.1.111
- Protocol: udp
- Local Tx Size: 1500 bytes
- Remote Tx Size: 1500 bytes
- Direction: send
- Local Tx Speed: [] bps
- Remote Tx Speed: [] bps
- User: admin
- Password: []
- Random Data: []

The test results window shows a graph with the following data:

- Tx: 362.3 Mbps

MikroTik BTest UDP both



Taking into account the obtained results we performed the same test on the router **Netis 2780**. This time we started with changing UDP protocol and to our amazement, it was very hard to maintain a stable connection between devices (laptop, router, MikroTik). We had to restart the router several times to keep (force) the test's continuity, and as we have managed to stabilize the link, then the ICMP left a lot to be desired to the router.

MikroTik BTest UDP receive

The screenshot shows a WinBox v3.4 terminal window on the left with the command `Wiersz polecenia - ping 192.168.1.3 -t`. The output shows a series of ping requests and replies, with some requests timing out and others showing significant response times (e.g., 159ms, 311ms, 711ms, 401ms, 655ms). On the right, the MikroTik Bandwidth Test v0.1 interface is shown with the following settings:

- Address: 192.168.1.111
- Protocol: udp
- Local Tx Size: 1500 bytes
- Remote Tx Size: 1500 bytes
- Direction: receive
- User: admin
- Password: [empty]
- Random Data:

The test results window shows a graph of received data over time, with a legend indicating **Rx: 173.1 Mbps**.

Not discouraged by packets without any responses and very long response waiting time we continued the tests.

MikroTik BTest TCP receive

The screenshot shows WinBox v6.35.2 on a MikroTik device. The 'Interface List' window displays the following data:

Interface	Type	L2 MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)	FP Tx
R	bridge1	Bridge	1580	149.6 Mbps	794.4 kbps	12 353	1 634
S	eth 10 Totolink 3002	Ethernet	1580	0 bps	0 bps	0	0
RS	eth 11 Netis 2780	Ethernet	1580	149.8 Mbps	794.4 kbps	12 373	1 634
RS	eth 12 Tp-link C50	Ethernet	1580	424 bps	0 bps	1	0

The MikroTik Bandwidth Test v0.1 interface is shown with the following settings:

- Address: 192.168.1.111
- Protocol: tcp
- Local Tx Size: 1500 bytes
- Remote Tx Size: 1500 bytes
- Direction: receive
- User: admin
- Password: [empty]
- Random Data:

The test results window shows a graph of received data over time, with a legend indicating **Rx: 145.3 Mbps**. The interface also displays various statistics such as Tx/Rx Rate (149.8 Mbps / 794.4 kbps), Tx/Rx Packet Rate (12 373 p/s / 1 634 p/s), and Tx/Rx Bytes (3628.8 MB / 9.9 MB).

MikroTik BTest TCP send

The screenshot displays the MikroTik WinBox interface with the BTest TCP send configuration and results. The configuration window shows the following settings:

- Address: 192.168.1.111
- Protocol: tcp
- Local Tx Size: 1500 bytes
- Remote Tx Size: 1500 bytes
- Direction: send
- User: admin
- Random Data: unchecked

The results window shows the following performance metrics:

- Tx/Rx Rate: 3.8 mbps / 191.2 mbps
- Tx/Rx Packet Rate: 8 467 p/s / 16 905 p/s
- FP Tx/Rx Rate: 3.8 Mbps / 191.2 Mbps
- FP Tx/Rx Packet Rate: 8 467 p/s / 16 905 p/s
- Tx/Rx Bytes: 4346.0 MB / 2172.5 MB
- Tx/Rx Packets: 3 823 336 / 1 895 326
- Tx/Rx Drops: 0 / 0
- Tx/Rx Errors: 0 / 0

The status bar indicates the test is running, with a Tx rate of 184.0 Mbps.

MikroTik BTest TCP both

The screenshot displays the MikroTik WinBox interface with the BTest TCP both configuration and results. The configuration window shows the following settings:

- Address: 192.168.1.111
- Protocol: tcp
- Local Tx Size: 1500 bytes
- Remote Tx Size: 1500 bytes
- Direction: both
- User: admin
- Random Data: unchecked

The results window shows the following performance metrics:

- Tx/Rx Rate: 51.4 mbps / 142.9 mbps
- Tx/Rx Packet Rate: 9 534 p/s / 11 899 p/s
- FP Tx/Rx Rate: 51.4 Mbps / 142.9 Mbps
- FP Tx/Rx Packet Rate: 9 534 p/s / 11 899 p/s
- Tx/Rx Bytes: 4697.6 MB / 3744.6 MB
- Tx/Rx Packets: 4 590 891 / 3 035 566
- Tx/Rx Drops: 0 / 0
- Tx/Rx Errors: 0 / 0

The status bar indicates the test is running, with a Tx rate of 46.5 Mbps and an Rx rate of 139.0 Mbps.

Unfortunately Netis 2780 came out much worse. Despite the same test distance we failed to get the bandwidth above 200Mb/s, not to mention about continuous ICMP packets losses.



The last of tested routers is **TP-LINK** product called **Archer C50**.

Of course we performed analogous bandwidth tests.

Unfortunately, at the very beginning we noticed that Archer C50 has both FastEthernet 100Mbps LAN and WAN ports. Thus, it is not possible to reach the speed faster than 100Mbps.

MikroTik BTest TCP receive

The screenshot displays the MikroTik WinBox interface with several windows open:

- Interface List:** A table showing network interfaces. The selected interface is 'eth 12 Tp-link C50'.

Name	Type	L2 MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)	FP Tx
R bridge1	Bridge	1580	90.1 Mbps	313.6 kbps	7 446	651	
S eth 10 Totolink 3002	Ethernet	1580	0 bps	0 bps	0	0	
S eth 11 Netis 2780	Ethernet	1580	0 bps	0 bps	0	0	
RS eth 12 Tp-link C50	Ethernet	1580	90.1 Mbps	313.7 kbps	7 447	651	

- Wi-Fi:** Shows 'Wi-Fi 3' with a speed of 96,7 Mb/s.
- Bandwidth Test Configuration:** Shows 'MikroTik Bandwidth Test v0.1' with settings: Address: 192.168.1.111, Protocol: tcp, Local Tx Size: 1500 bytes, Remote Tx Size: 1500 bytes, Direction: receive, User: admin.
- Test Results:** Shows 'Test to 192.168.1.111' with a graph and summary: Tx: 90.1 Mbps, Rx: 313.7 kbps, Tx Packet: 7 447 p/s, Rx Packet: 651 p/s.

MikroTik BTest TCP both

The screenshot displays the MikroTik WinBox interface. On the left, the 'Interface List' window shows the configuration for the 'RS' interface (eth12 Tp-link C50), which is an Ethernet interface with an MTU of 1580. The main window shows the 'Bandwidth Test' configuration for a TCP test to 192.168.1.111. The test is running, and the results are shown in a graph and summary statistics.

Interface	Type	L2 MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)	FP Tx
R bridge1	Bridge	1580	69.2 Mbps	69.1 Mbps	8 686	6 901	
S eth10 Totolink 3002	Ethernet	1580	0 bps	0 bps	0	0	
S eth11 Netis 2780	Ethernet	1580	0 bps	0 bps	0	0	
RS eth12 Tp-link C50	Ethernet	1580	68.2 Mbps	68.1 Mbps	8 678	6 900	6

Bandwidth Test Results (TCP both):

- Local Tx Rate: 69.2 Mbps
- Local Rx Rate: 69.1 Mbps
- FP Tx/Rx Rate: 69.2 Mbps / 69.1 Mbps
- FP Tx/Rx Packet Rate: 8 678 p/s / 6 900 p/s
- Tx/Rx Bytes: 4.7 GiB / 6.3 GiB
- Tx/Rx Packets: 3 786 092 / 4 680 312
- Tx/Rx Drops: 0 / 0
- Tx/Rx Errors: 0 / 0
- Tx Packet: 8 678 p/s
- Rx Packet: 6 900 p/s

The graph shows a steady flow of data with Tx (blue) and Rx (red) rates fluctuating around the configured values.

MikroTik BTest UDP both

The screenshot displays the MikroTik WinBox interface. On the left, the 'Terminal' window shows the output of a ping command to 192.168.1.111. The main window shows the 'Bandwidth Test' configuration for a UDP test to 192.168.1.111. The test is running, and the results are shown in a graph and summary statistics.

```

admin@192.168.1.111 (MikroTik) - WinBox v6.35.2 on CCR1036-12G-4S (tile)
Wiersz poleceń - ping 192.168.1.111 -t
Pinging 192.168.1.111 with 32 bytes of data:
Request timed out.
Reply from 192.168.1.111: bytes=32 time=5ms TTL=64
Reply from 192.168.1.111: bytes=32 time=23ms TTL=64
Reply from 192.168.1.111: bytes=32 time=23ms TTL=64
Reply from 192.168.1.111: bytes=32 time=22ms TTL=64
Reply from 192.168.1.111: bytes=32 time=22ms TTL=64
Reply from 192.168.1.111: bytes=32 time=86ms TTL=64
Reply from 192.168.1.111: bytes=32 time=23ms TTL=64
Reply from 192.168.1.111: bytes=32 time=579ms TTL=64
Request timed out.
Reply from 192.168.1.111: bytes=32 time=304ms TTL=64
Reply from 192.168.1.111: bytes=32 time=38ms TTL=64
Reply from 192.168.1.111: bytes=32 time=32ms TTL=64
Reply from 192.168.1.111: bytes=32 time=32ms TTL=64
Reply from 192.168.1.111: bytes=32 time=35ms TTL=64
Request timed out.
Reply from 192.168.1.111: bytes=32 time=193ms TTL=64
Reply from 192.168.1.111: bytes=32 time=41ms TTL=64
Reply from 192.168.1.111: bytes=32 time=28ms TTL=64
Reply from 192.168.1.111: bytes=32 time=24ms TTL=64
Reply from 192.168.1.111: bytes=32 time=16ms TTL=64
Request timed out.
Request timed out.
Reply from 192.168.1.111: bytes=32 time=190ms TTL=64
Reply from 192.168.1.111: bytes=32 time=229ms TTL=64
Reply from 192.168.1.111: bytes=32 time=213ms TTL=64
Reply from 192.168.1.111: bytes=32 time=595ms TTL=64
Reply from 192.168.1.111: bytes=32 time=476ms TTL=64
Request timed out.
Reply from 192.168.1.111: bytes=32 time=391ms TTL=64
Reply from 192.168.1.111: bytes=32 time=269ms TTL=64
Request timed out.
    
```

Bandwidth Test Results (UDP both):

- Local Tx Size: 1500 bytes
- Remote Tx Size: 1500 bytes
- Direction: both
- Local Tx Speed: 60.8 Mbps
- Remote Tx Speed: 69.1 Mbps
- User: admin
- Password: [redacted]

The graph shows a steady flow of data with Rx (blue) and Tx (red) rates fluctuating around the configured values.

At this point, further tests are completely useless. Not only the fact, that on the basis of UDP protocol you can push 60Mbps at the maximum in both directions, but also response time for MikroTik in low intensity and packets losses, once again leave a lot to be desired.

Summary:

All of the tested routers have high functionality and similar signal strength. With regard to the performance the best solution is **TOTOLINK A3002RU**. Router obtained result of more than 350Mb/s at the distance of 30 meters and one division wall. In addition, the router showed very high stability and short time responses despite such bandwidths. All the more that **TOTOLINK A3002RU** has **36 months of warranty** and considering the price it is a great choice. TOTOLINK A3002RU could be recommended to each customer.

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