

Alfa 50mW AWUS036E vs. Alfa 300mW AWUS036EH vs. Alfa 80mW AWUS036S (Ralink)

This test was completed by Rokland LLC, online at <http://www.rokland.com>. *Please note that in each test we test the adapters that are part of the specific test at the same time in the same location. A separate test of other products done on a different date may not have been from the same location, and thus you may notice that the same model adapter detects a different number of APs in a different test. That is the reason why. It is only accurate to compare the results of adapters in a specific test against one another, comparing an adapter's results in one test to another adapter's results in a completely different test will likely result in an inaccurate comparison.*

We completed a head to head (to head) test of the Alfa AWUS036E 50mW (fifty) USB adapter, the Alfa AWUS036EH 300mW adapter and Alfa AWUS036S adapter which has a Ralink chip (the first two models have a Realtek chip) and 80mW of max output power. To keep things simple for the layman, we used the Windows XP utility to show a basic read of how many networks each picked up, and what the rough signal strength was of each. We find this to be better for novice users than Netstumbler readouts where the negative dBm numbers (and duplicate SSIDs) can be confusing. The results below were on par with some testing we did using Netstumbler though.

Our testing was done at the same time, with each adapter in the same location, connected to the same 8 dBi gain dipole antenna. Each test ran about two minutes. We tested the Alfa 50mW adapter first, disconnected it from the computer and disconnected the 8 dBi antenna from it, and then connected the antenna to the Alfa 300mW adapter and connected the adapter to the computer. We repeated these steps with the Alfa 80mw adapter (AWUS036S). The images you see are from the first test. We ran the same test again to make sure there were no anomalies, and there were not, each adapter picked up the same number of signals and the average signal strength per access point detected was within 1/10 of a point.

Because the Windows XP scanning utility cannot be expanded (meaning you have to scroll to see all the available networks), we had to take multiple screen shots of the utility screen in some cases and have combined the screenshots together so that there is just one image for each adapter.

The testing begins on the next page- please proceed to page 2. The Alfa 50mW results are on page 2, the Alfa 300mW results are also on page 2, the Alfa 80mW results on are page 3, and a conclusion is also on page 3.

Please note that to protect the privacy of owners of the access points detected during the tests, we have blacked out the AP names.

Test 1- Alfa 50mW USB adapter (model AWUS036E)



Alfa AWUS036E (50mW)

5 signals

3.4/5 bars per signal average

Test 2- Alfa 300mw Wireless USB adapter (model AWUS036EH)



Alfa AWUS036EH (300mW)

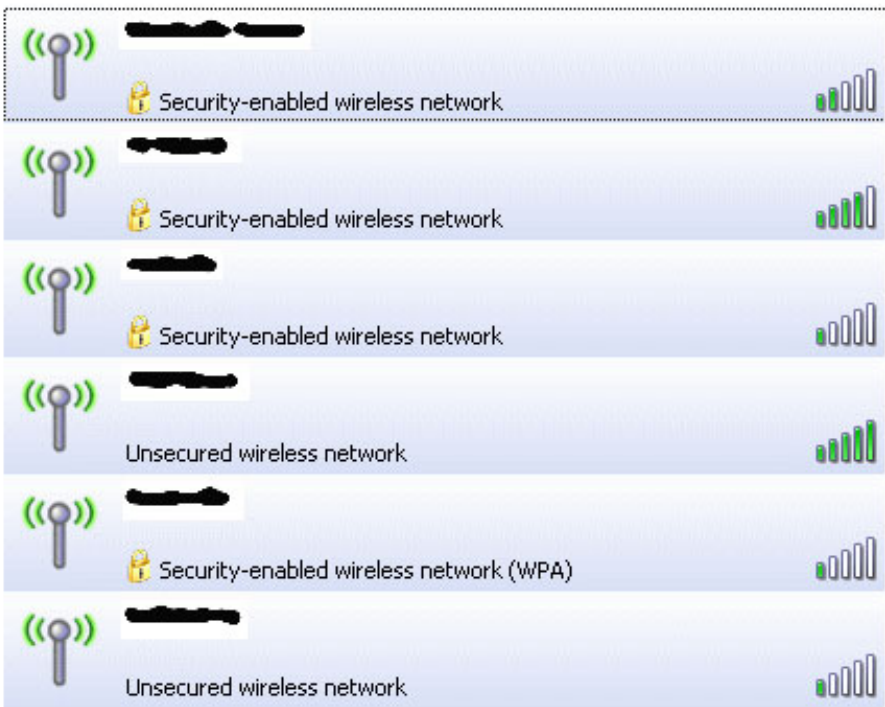
7 signals

3/5 bars per signal average

Please note that to protect the privacy of owners of the access points detected during the tests, we have blacked out the AP names.

Proceed to next page for the Alfa 80mw adapter test results and a conclusion.

Test 3- Alfa 80mw (ralink) Wireless USB adapter (model AWUS036S)



Alfa AWUS036S (80mw Ralink)

6 signals

2.3/5 bars per signal average

Please note that to protect the privacy of owners of the access points detected during the tests, we have blacked out the AP names.

Conclusion: As mentioned in the introduction, all three adapters were used with an 8 dBi dipole antenna. The Alfa AWUS036E (50mW) and AWUS036EH (300mW) adapters both have the same Realtek chip, the only difference is the output power. You can see there the 300mW adapter picks up a couple of more signals, though the signal strength on the additional signals is low. If you take those two added signals out of the equation, the signal strength to common access points on each adapter is about the same, which is to be expected. If you will be using an antenna of 8 dBi gain or higher, going with the 300mW model is probably worth it. If you plan to use the 2 dBi gain antenna that is included with each adapter, the 50mW version may be the best value since it is a lower priced option.

The Alfa AWUS036S model is a similar looking adapter from Alfa, but uses a Ralink chip instead of a Realtek. The max output power comes in at 80mW. It does a good job picking up signals, but the receive sensitivity is not as good as the E and EH models from Alfa. The AWUS036S model is about the same price as the 300mW EH model in most places, so the 300mW model is probably your best bet between the two unless you have a specific need for a Ralink chipset.