

*Solid Signal's*

# HANDS ON REVIEW



*zBoost ZB545 and  
ZB545M "Max"  
Cellular  
Boosters*



# ZB545 and ZB545 BOOSTERS



Last year marked the real beginning of the “legitimate” cell booster industry. While cellular boosters have always been regulated by the FCC, it was only last year that the FCC unveiled rules that meant that major carriers would support the use of booster. Prior to that it’s been a “don’t ask/don’t tell” situation, with cell company representatives occasionally speaking out against cell boosters and warning of tower damage.

The new rules mean that the FCC will certify certain boosters for residential use, and that if you have one of the boosters on that list your carrier must allow you to use it unless they can prove that it is actively causing feedback. Because these boosters

all must have anti-feedback circuitry, it’s not likely that any of them will ever cause damage to a tower.

These rules also mean that every carrier must create new part numbers and kits for their boosters, even if that only means a change in model number. The old items must be discontinued. This may sound like a lot of bureaucracy but it’s meant that the major booster makers have taken the time to improve their products and package them in a more customer-friendly way.

When Wi-Ex changed its name to zBoost last year, all of a sudden its model numbers made no sense. The company has taken the opportunity to change that with the new ZB545 SOHO series boosters (formerly YX545.) They also made some common-sense upgrades that improve booster efficiency. Let’s take a look at the new ZB545 and compare it to the previous generation.

# ZB545 BASE UNIT



All ZB545 models share the same base unit, a 45dB booster that uses the same friendly design as the YX-series models. The side plastic cladding has changed from orange to white, and one of our pre-production units bore a blue zBoost sticker. It's always struck us odd that the zBoost logo is upside down if you mount the booster with the antenna up, but such is life; it's not a big deal. The base unit is attractive, looking a bit like a router. It lacks the adjustment screws of the Wilson booster series, preferring instead to use auto gain control circuitry to get the best possible boost.

Most people are not aware that the base unit can be easily wall mounted. Carefully pulling the sides away from the top lets you remove a plastic plate at the bottom, and this in turn can be screwed into a wall and the base unit reattached with a simple push. All zBoost boosters have this feature.

# ZB545 and ZB545M “MAX”

Outdoor Antenna Designs

## ZB545 Exterior Antenna



The [ZB545](#) is the base model in the ZB545 SOHO series and is almost identical to the older YX545. zBoost has moved away from the very thin coaxial cable used in previous boosters and now packages each booster with satellite-grade RG6 cable.

zBoost claims the higher quality cable is good for another 3dB of gain and we believe it.

The antenna packaged with the zB545 is visually identical to the old YX545 antenna. It's a two-piece affair with a cylindrical coil antenna screwed onto a monopole. When combined with the indoor “rubber duck” antenna it should provide about 60dB of gain at the broadcast point. That should be enough for small offices and home offices.

## ZB545M Exterior Antenna



For an even more powerful boost at a very fair price, zBoost offers the [ZB545M](#), also called the “Max.” This modification to the base ZB545 adds a large cylindrical coil antenna for about 9dB gain increase over the base ZB545. This delivers a claimed 69dB boost at

the broadcast point when combined with the improvements in cable. The ZB545 also includes as part of the kit a [slim window cable](#) which will let you avoid drilling through the wall. It's both thin enough and flexible enough to run the cable through the crack in a window without losing any safety or security. A barrel connector is also included if you would rather not use the slim cable.

By using a more powerful antenna with the same base unit, zBoost gives you the power you need without the costs associated with a different base unit. It also means that you can upgrade the antenna for even more boost if you want. zBoost uses industry-standard 75-ohm cable so any cellular antenna designed for a 75-ohm system should work.

All testing took place at our West Coast Operations Center outside of Los Angeles. This has proven to be a great place for booster testing because, at 1.25 miles from the nearest tower, cell performance isn't that good and within the stucco confines of our building, cell signals are extremely weak.

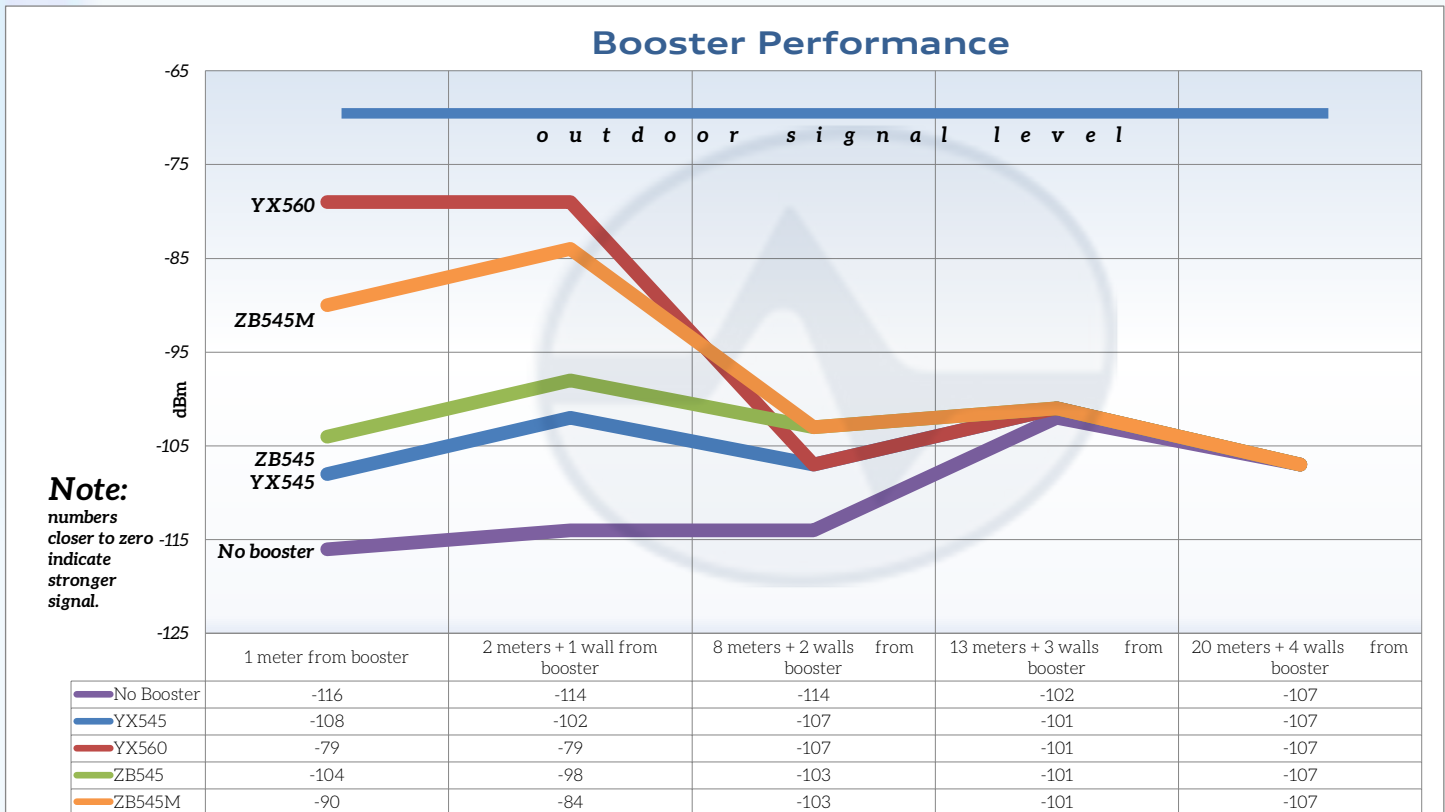
All antennas were mounted in exactly the same place. The YX545 and YX560 test data is from July, 2013 and originally appeared here. The outdoor antenna is exactly 15' vertically distant from the indoor antenna, and the view to the tower is partially obstructed by a house next door.

The booster is placed in a less-than-ideal location that puts it about one meter away from the desk where this review is being written. Ideally it should be up a little higher but it was the only place it could go.

An iPhone 5 in [test mode](#) was used for signal measurement. Because these are all 3G-only boosters, LTE was turned off. Results are given signal strength in dBm at the site of the phone. The numbers are negative, and closer to zero means more signal. If I were right at the tower I would have expected about -60. Outside our test lab in the open area the measurement was -70.

I measured the same five locations, first with no booster, then with the YX545, the YX560SL, the ZB545, and ZB545M.

- *Location 1* is the workstation where I sit all the time.
- *Location 2* is the other side of the door to the blog editor's office, about a meter further away and through 1 wall.
- *Location 3* is the other side of the office area, about six meters and another wall away.
- *Location 4* is the lunchroom, another five meters and another wall away.
- *Location 5* is the other side of our Operations center, a total of 20 meters and four walls away from the booster.



The test data is very revealing. It's most obvious that the ZB545 and ZB545M outperform the YX545. The ZB545M comes close to the performance of the YX560, a booster with 15dB more power. Not only that, the ZB545 boosters provide better boost for a longer distance, outperforming the YX560 at 8 meters. Beyond that, we see the same bump we saw in previous testing, due to the presence of a large window that lets in more signal. All of the boosters perform similarly at 13 meters and beyond.

## CONCLUSION

The new ZB545 boosters are a definite improvement from the previous generation, and yet they are still very reasonably priced. Setup was easy with all the parts included. There's a helpful instruction sheet explaining all the different possible indicator light options, and the booster now tells you if it's not providing maximum boost by blinking green at bootup once for every 2dB less than optimal boost. It continues to be an excellent value for the money and is the simplest possible booster for a home environment.

zBoost ZB series boosters are [now available at Solid Signal](#).



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