

Head to Head - Top-of-the-line compared

CBD Penta versus MALA 450 HDR Antenna

General

In this Head to Head Test we have compared two top-of-the-line antennas, our **Cobra CBD Penta Frequency Antenna** with the **MALA 450 HDR** antenna performance. The test was performed at a testpit with known buried objects: shallow rebar mesh with 20 cm between rebars, deeper buried concrete, metal and plastic pipes. Test was made the same day, in July 2015, with both antennas 3 cm air coupled.

We challenged the **MALA HDR** antenna with RTS technology, by some considered to be the best mid frequency antenna on the market. The raw data was acquired without gain and HP-filters. Data acquired was later processed with the same gain levels applied and the frequency spectrum was calculated in **GPSOFT** processing software.

Result of test — Winner is the Cobra CBD Penta Antenna

The CBD Antenna has a better performance compared with the 450 HDR antenna, both regarding penetration, bandwidth, S/N-ratio and shallow resolution. This is clearly seen in B-scan profiles and spectrum analyzes below. At -10 dB level the bandwidth is 50% higher with the CBD-antenna, almost the same as the 450 HDR antenna at -20 dB. Both antennas have a peak frequency at around 400 MHz but the CBD antenna also got additional peak frequencies at 300, 600 and 700 MHz and thus a wider band due to the CBD design. The wider band for the CBD antenna allows for much higher resolution. Shallow smaller targets and thin layers, are easier discovered with the CBD antenna. The signal amplitude, with same gain levels applied, is also higher with the CBD antenna resulting in a higher possible penetration.

