



# CBRS ANTENNA SOLUTIONS





Alpha Wireless, an Irish company with over 13 years' experience designing and manufacturing CBRS ready, 3.5 GHz-capable antenna solutions.

We have pioneered pseudo-omni, small cell, panel/beamforming, concealment and tri-sector/canisters in both 2.5 and 3.5 GHz to help increase capacity in existing LTE networks and prepare for future 5G networks.

Alpha Wireless' market-leading innovative antenna solutions minimise network interference and have been shown to:

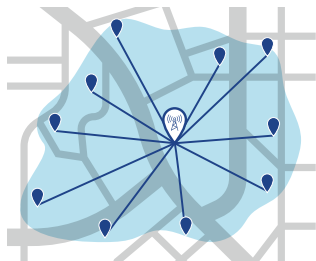
**Improve network throughput by 30%**

**Increase sector capacity by 12%**

## Alpha Wireless Superior Quality Antennas

### Reduce Interference

Suppressing unwanted signals reduces interference. Sector antenna upper sidelobes are examples of unwanted radiation. Most antenna vendors only suppress the first upper sidelobe. Alpha Wireless' antennas suppress ALL upper side lobes by >18 dB improving overall network performance.

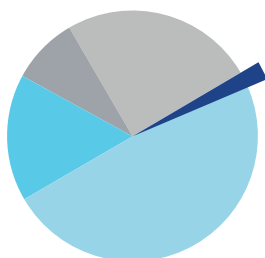
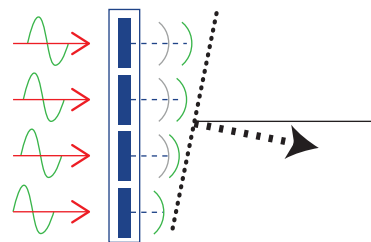


### Improve Coverage

Alpha Wireless' external antennas require 25% less sites to give the same coverage as radio integrated antenna solutions – saving on network infrastructure capital investments, operational and maintenance costs.

### Optimization - Tilt Options

Alpha Wireless' variable tilt antennas can optimize tuning in the overall network. Depending on the network topography each antenna can be given a different tilt setting suited to the area in which it is located. It allows more efficient coding schemes for better user data rates.



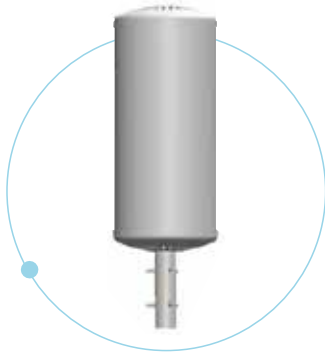
### Cost Effective

The cost associated with deploying a good quality antenna is small in the overall CapEx cost of the site. By choosing a high-quality antenna from Alpha Wireless, it can greatly reduce overall capital investment and save significantly with operation and maintenance costs.

## **Small Cell Pseudo Omni AW3625, AW3672**

These ultra-compact antennas provide 360° coverage and are ideal for urban environments requiring a low visual impact solution.

- Supports 2x2 or 4x4 MIMO
- Wide-band antenna for 3GPP bands 42, 43 and 48
- Optimized with reduced azimuth ripple
- Independent RET control for each array (x3)



## **Concealment CAN AW3698**

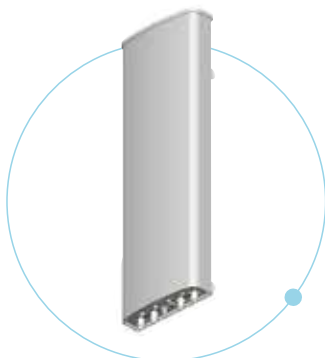
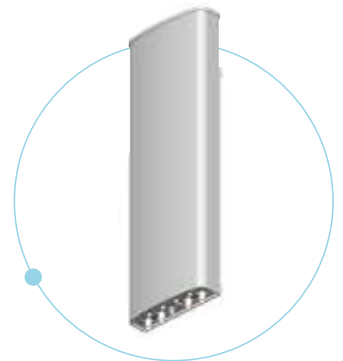
The CAN – (Concealed Antenna Node) with 360-degree Azimuth comprises of radio housing, 10 port omni antenna and electrical distribution box in a single enclosure.

- Mid-band, CBRS & LAA frequency bands covered
- Reduces both deployment costs and time by more than 50%
- Compact design for low visual impact
- Rooftop deployment option available

## **Panels AW3161, AW3375, AW3376**

Alpha Wireless has a wide range of panel antennas in the 3.5 GHz band with both fixed and variable tilt options.

- Wide-band antenna for 3GPP bands 42, 43 and 48
- 2x2 and 4X4 MIMO for maximum throughput
- 8x8 MIMO supporting Beamforming
- Enhanced tilt range of 0 – 10 degrees



## **Panel AW3711**

This is a 4 port antenna with 33° Azimuth beamwidth, it has been designed for 6 sectored sites to increase capacity for fixed wireless access.

- Azimuth sidelobes suppression is <25 dB
  - reducing cochannel interference from adjacent sectors
- Narrow azimuth beam to increase site capacity
- Enhanced tilt range of 0 – 10 degrees (RET)
- Superior SNIR enables higher modulation schemes for maximum throughput

## **Canister AW3089, AW3460**

This product was developed to provide three sector coverage; mounted on pole tops this antenna is being used to deliver discreet, powerful fixed wireless coverage.

- Wide-band antenna for 3GPP bands 42, 43 and 48
- Dual cross polarization antenna +/- 45 degrees
- Mechanical Electrical tilt range of 0 – 10 degrees
- 3300-3800 MHz band array for 2x2 MIMO on each sector



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