

# 3.5 GHz, CBRS, 5G, 5G NR, LTE ANTENNA SOLUTIONS

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**+** Alpha Wireless, an Irish company with almost 15 years' experience designing and manufacturing 3G, 4G, and 5G CBRS, 3.5 GHz capable antenna solutions.

We have pioneered pseudo-omni, small cell, panel/beamforming, concealment and tri-sector/canisters to enable operators to maximize both coverage and capacity in existing LTE networks and for building out 5G networks.

- Global applications and CBRS more recently in the US
- Popular band for LTE today and 5G tomorrow
- Broad multi-port, aperture, and gain portfolio solutions Fixed,
- Mechanical and remote electrical tilt options

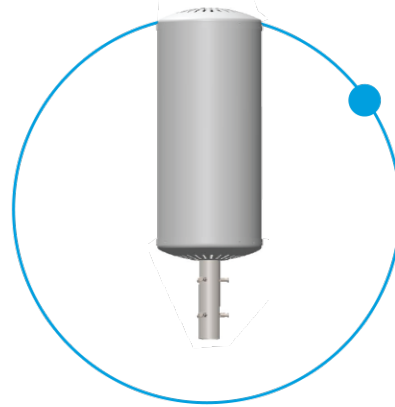
Over 25k 3.5 GHz antennas shipped globally to date



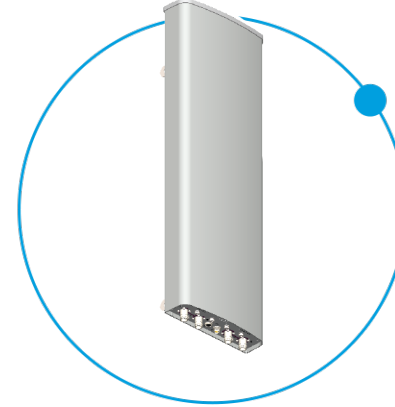
**+**  
**PRODUCT LINE**



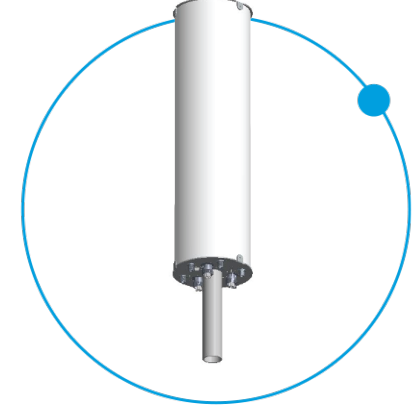
Small Cell  
Pseudo Omni



Concealment - CAN

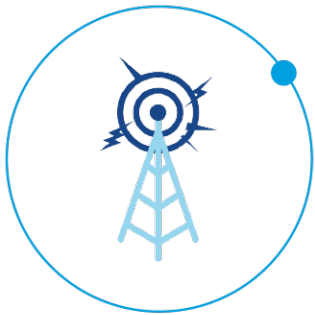


Panel/ Beamforming



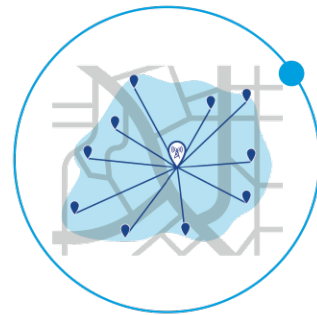
Tri-Sector Canister

## + SUPERIOR QUALITY ANTENNAS



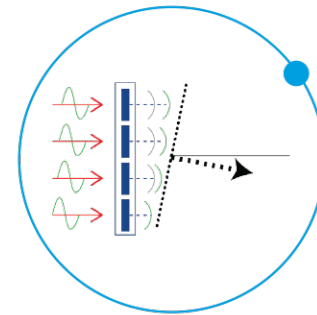
### Reduce Interference

Alpha Wireless' antennas suppress ALL upper side lobes by >18 dB improving overall network performance.



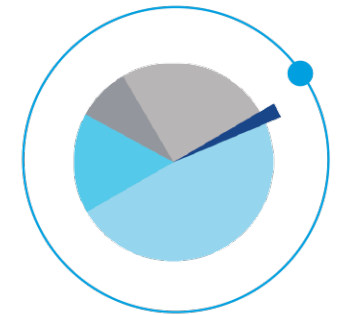
### Improve Coverage

An Alpha Wireless antenna is superior quality and helps improve overall network performance and data rates.



### Optimization - Tilt Options

Alpha Wireless' variable tilt antennas can optimize tuning in the overall network. It allows more efficient coding schemes for better user data rates.



### Cost Effective

Choosing a high-quality antenna from Alpha Wireless can greatly reduce overall capital investment and save significantly with operation and maintenance costs.

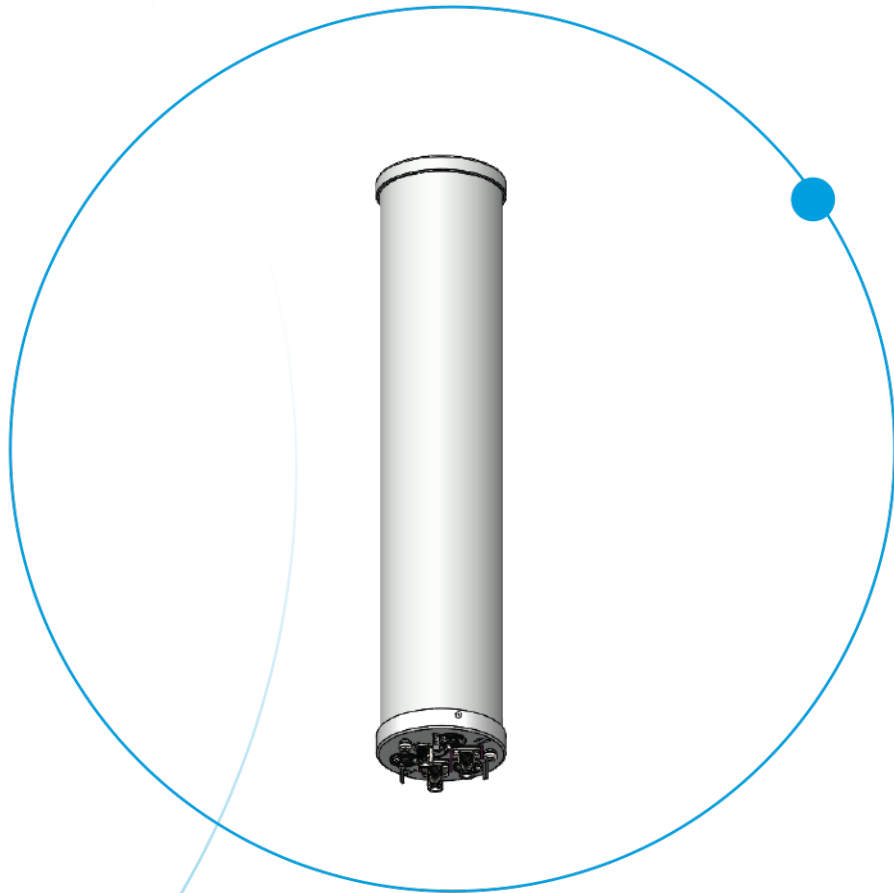


## CONCEALMENT CAN AW3698

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





## 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
- Adjustable tilt for each array





## PANELS AW3161, AW3375, AW3376

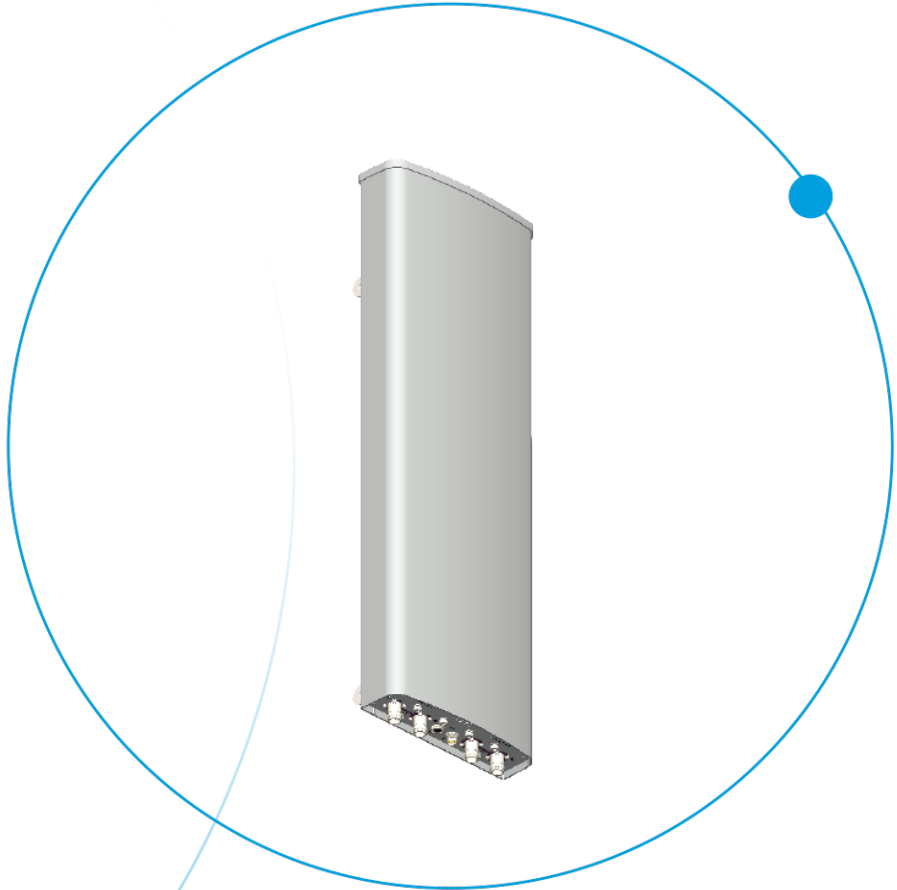
Alpha Wireless has a wide range of panel antennas in the 3.5 GHz band with both fixed and variable tilt options.

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





NEW



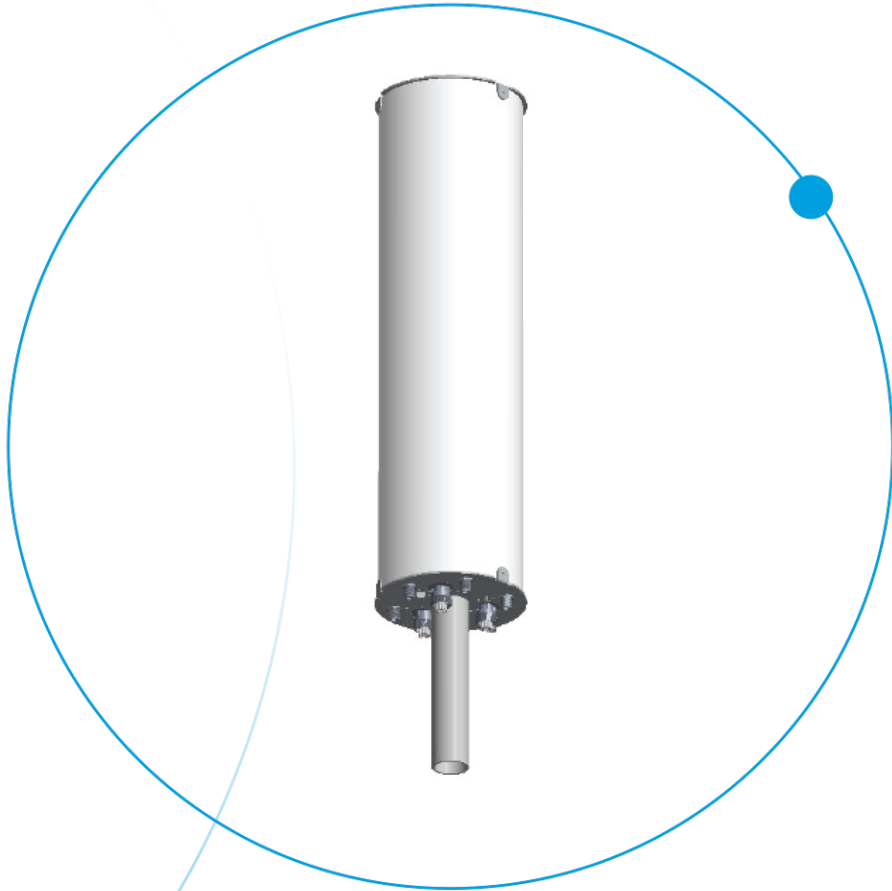
## PANEL AW3711

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
- Electrical 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





# Full Product Portfolio

Antenna	Fixed Tilt	MET	eRET	Ports	3dB HBW	Gain dBi		Fixed Tilt	Variable Tilt
						Fixed Tilt	Variable Tilt	Options	Range
Macro	AW3170	-	-	2	33	20.5	-	T0 or T4	-
			AW3711	4	33	-	20.1	-	T0 - T10
	AW3056	-	-	2	45	19.5	-	T0	-
	-	-	AW3523	4	45	-	18.6	-	T0 - T10
	AW3014	AW3159-M	AW3159-E	2	65	18	17	T0 or T4	T0 - T10
	AW3015	AW3160-M	AW3160-E	2	90	17	16	T0 or T4	T0 - T10
	AW3023	AW3161-M	AW3161-E	4	65	18	17	T0 or T4	T0 - T10
	AW3035	AW3162-M	AW3162-E	4	90	17	16	T0 or T4	T0 - T10
	AW3089	-	-	2	360	11	-	T0 or T4	-
	-	-	AW3376	8	90	-	15.5	-	T0 - T10
	AW3375		AW3375	8	65		16.5		T0-T10
-	AW3460	-	6	65	-	17	-	T0 - T10	
Small Cell	AW3372	-	-	2	65	12.5	-	T0	-
	AW3373	-	-	2	90	11	-	T0	-
	AW3374	-	-	4	360	7	-	T0	-
	AW3499	AW3672	-	4	360	6.5	8.5	T0	T0 - T10
	-	AW3625	-	2	360	-	8.5	-	T0 - T10





## Tilt Options

### Fixed Electrical Tilt **FET**

Tilt is adjusted by Mount Bracket.

### Mechanical Electrical Tilt **MET**

Tilt is adjusted electrically by Phase Shifter.

Phase Shifter is adjusted by hand movement of Tilt Screw.

### Enclosed Remote Electrical Tilt **eRET**

Tilt is adjusted electrically by Phase Shifter via Motor.

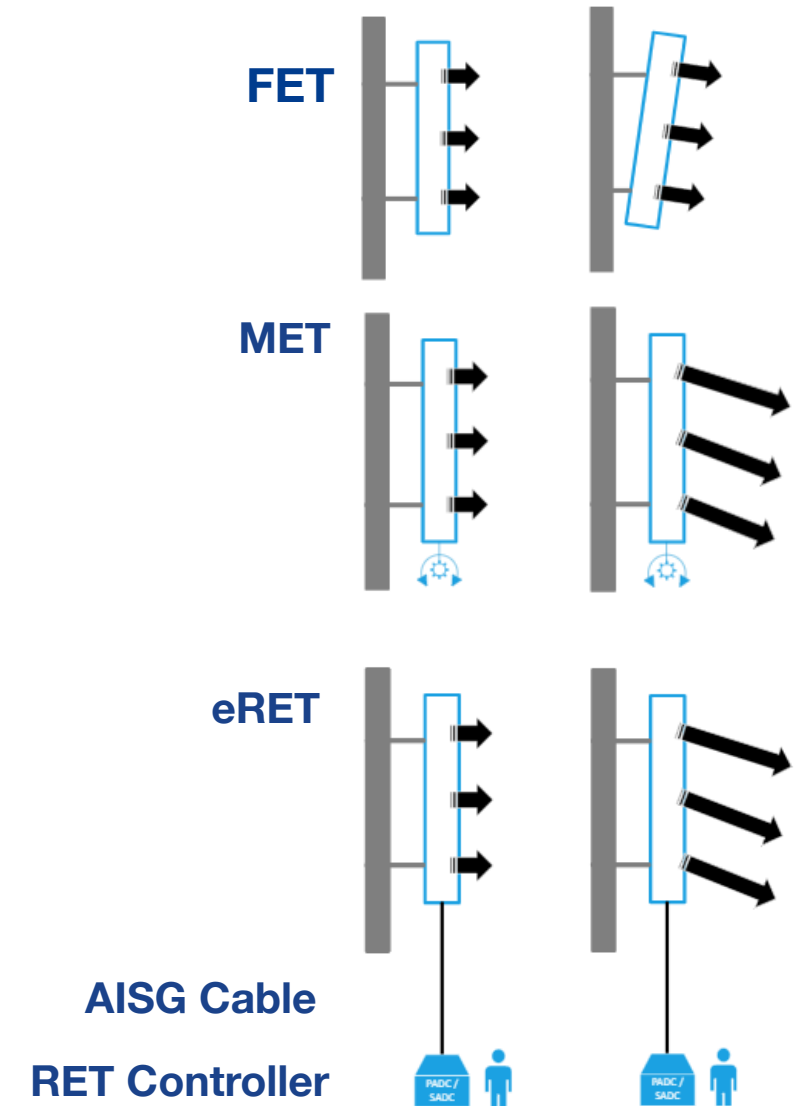
Motor controlled via AISG Cable from bottom of Tower using Handheld RET Controller or through RRU if AISG enabled.

### Antenna Interface Standards Group **AISG**

AISG is the protocol for communicating with antenna motors.

A RET controller is used to send AISG commands to the antenna motor for tilt adjustments.

AISG cable connects antenna to bottom of tower where RET Controller is attached for tilt adjustment process.





## GLOBAL LEADER

5G/CBRS ANTENNAS | 3.5 GHZ 5G NR, LTE, SPECTRUM SHARING

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