

## Microwave Radio (MW)

### CableFree Microwave Antennas

#### Overview



#### About Wireless Excellence

Founded in 1996 and with headquarters in Oxford UK, Wireless Excellence Limited is a leading designer and supplier of outdoor and indoor Broadband Wireless communication products.

With a complete range of solutions including Radio, Microwave, Millimeter-Wave, Free Space Optics, WiFi and 4G/5G/LTE, customers in over 80 countries have chosen Wireless Excellence as the "one stop shop" solution of choice for dependable wireless networking.

#### About Microwave

Using the latest RF technology, our microwave links operate in all the popular bands from 4-42GHz, distances over 40km and net throughput up to 470Mbps and 3.5Gbps. Our advanced Indoor units provide a common platform with flexible IP/Ethernet, Gigabit Ethernet, PDH (63xE1/T1) and optional SDH interfaces, to which traffic can be allocated under software control.

Flexibility, performance and low cost of ownership are ensured.

## Microwave Antennas for 4-42GHz

Wireless Excellence offers the CableFree range of high performance microwave radios using licensed frequencies in the common 4-42GHz bands.

CableFree microwave communication antennas are high efficiency, low VSWR and high cross polarization discrimination XPD parabolic antennas; comes with standard or high performance versions. Incorporating feed-forward flex wave-guide, the series are designed to be versatile and reliable in all climate conditions. They are your ideal choice for long or short haul microwave links.

## Technical Specifications

The following pages show the specifications for the following ranges of microwave antennas:

30cm

60cm

90cm

120cm

Note: Larger diameter antennas are also available, 180cm, 240cm, 300cm, 370cm.

Dual Polarity Antennas with integrated low-loss OMT are available for 2+0 and 1+1 Applications

Please contact Wireless Excellence for details

CableFree Microwave Antennas are available in multiple frequency bands including:

5.725-5.850GHz

7.125-7.725GHz

8.200-8.75GHz

10.7–11.7GHz

12.75-13.25GHz

14.40-15.35GHz

17.70-19.70GHz

21.20-23.60GHz

24.25-26.5GHz

37.00-40.00GHz

Note: Other frequency bands are also available, from 4 to 42GHz.

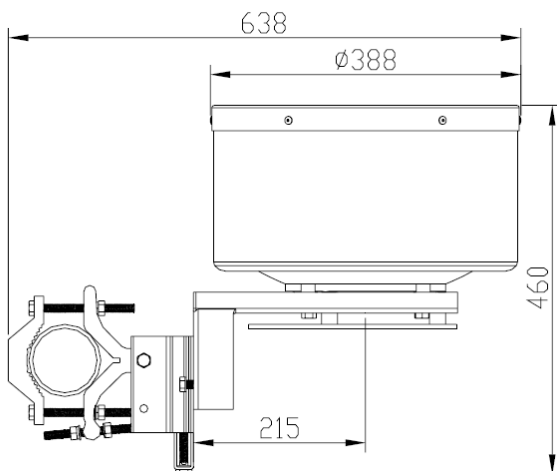
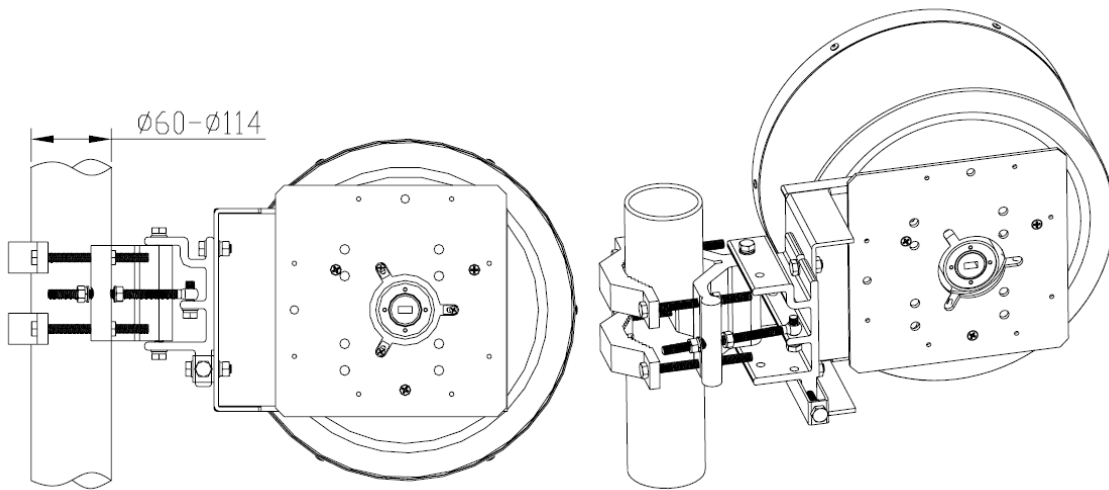
Please contact Wireless Excellence for details

T: +44 (0870) 495 9169  
E: [sales@cablefree.net](mailto:sales@cablefree.net)  
W: [www.cablefree.net](http://www.cablefree.net)

Wireless Excellence Limited  
The Oxford Science Park,  
G6, Magdalen Centre  
Robert Robinson Avenue,  
Oxford OX4 4GA

### 30cm Microwave Antennas

Type no.	Performance	Gain Dbi			Beam Width	VSWR		F/B ratio dB	Flange	Cross Pol. Disc dB
		Low	Mid	High		Standard	Low			
5.725-5.850GHz	Standard	22.4	22.6	22.7	11.6	1.3	1.2	30 PBR70	28	
	High	22.7	22.8	23	11.6	1.3	1.2	40		
7.125-7.725GHz	Standard	24.3	24.5	24.7	9.4	1.25	1.2	32 PBR84	28	
	High	24.6	24.8	24.9	9.4	1.25	1.2	42		
8.200-8.75GHz	Standard	25.2	25.5	25.8	8.4	1.25	1.2	34 PBR84	28	
	High	25.6	25.9	26.2	8.4	1.25	1.2	44		
10.7—11.7GHz	Standard	27.5	27.9	28.3	5.77	1.2	1.15	39 PBR100	30	
	High	27.9	28.3	28.7	5.77	1.2	1.15	49		
12.75-13.25GHz	Standard	29.1	29.2	29.4	5.4	1.2	1.15	40 PBR120	30	
	High	29.2	29.4	29.6	5.4	1.2	1.15	50		
14.40-15.35GHz	Standard	30.1	30.4	30.7	4.7	1.2	1.15	41 PBR140	30	
	High	30.6	30.8	31	4.7	1.2	1.15	51		
17.70-19.70GHz	Standard	31.9	32.4	32.8	3.74	1.2	1.15	43 PBR220	32	
	High	32.6	32.8	33	3.74	1.2	1.15	53		
21.20-23.60GHz	Standard	34	34.1	34.2	3.12	1.2	1.15	43 PBR220	32	
	High	34.1	34.3	34.5	3.12	1.2	1.15	53		
24.25-26.5GHz	Standard	34.6	35	35.4	2.5	1.2	1.15	51 PBR260	32	
	High	35	35.4	35.8	2.5	1.2	1.15	61		
37.00-40.00GHz	Standard	37.8	38	38.2	1.7	1.2	1.15	51 PBR320	32	
	High	38	38.3	38.6	1.7	1.2	1.15	61		

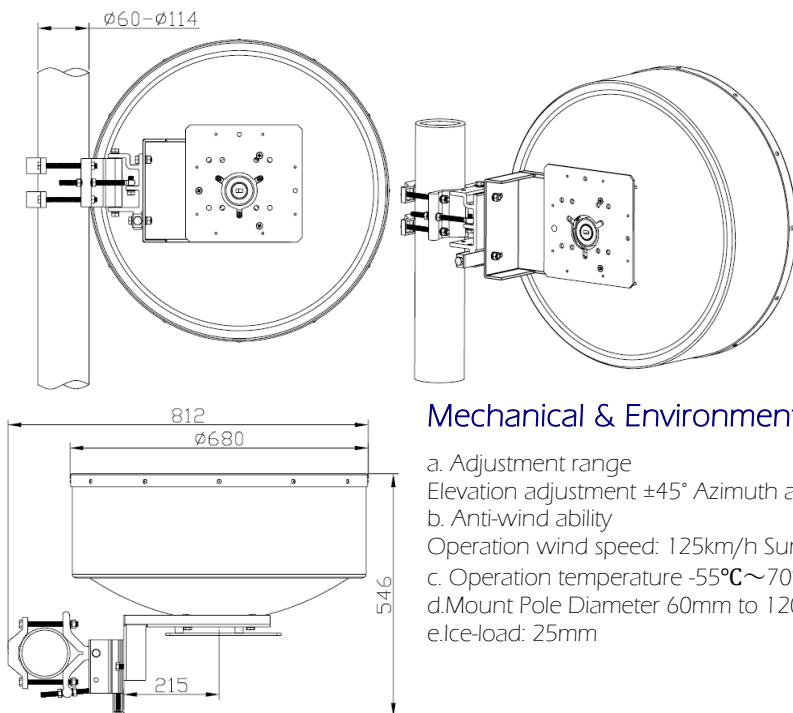


### Mechanical & Environmental Specifications

- a. Adjustment range  
Elevation adjustment  $\pm 45^\circ$  Azimuth angle:  $\pm 90^\circ$
- b. Anti-wind ability  
Operation wind speed: 125km/h Survival wind speed: 200km/h
- c. Operation temperature  $-55^\circ\text{C} \sim 70^\circ\text{C}$
- d. Mount Pole Diameter 60mm to 120mm
- e. Ice-load: 25mm

## 60cm Microwave Antennas

Type no.	Performance	Gain Dbi			Beam Width	VSWR		F/B ratio dB	Flange	Cross Pol. Disc dB
		Low	Mid	High		Standard	Low			
5.725-5.850GHz	Standard	28.4	28.6	28.7	6	1.3	1.2	35 PBR70	30	
	High	28.7	28.8	29	6	1.3	1.2	45		
5.925-6.425GHz	Standard	29.3	29.6	30	5	1.2	1.15	45 PDR70	30	
	High	29.5	29.8	30.2	5	1.2	1.15	55		
6.425-7.125GHz	Standard	29.5	29.8	30.2	5	1.2	1.15	45 PDR70	30	
	High	29.7	30.1	30.5	5	1.2	1.15	55		
7.125-7.725GHz	Standard	30.3	30.5	30.7	4.72	1.1	1.08	46 PDR84	30	
	High	30.6	30.8	30.9	4.72	1.1	1.08	56		
8.200-8.75GHz	Standard	31.2	31.5	31.8	4.2	1.2	1.15	46 PDR84	30	
	High	31.6	31.9	32.2	4.2	1.2	1.15	56		
10.7—11.7GHz	Standard	33.5	33.9	34.3	3.13	1.2	1.15	46 PBR100	30	
	High	33.9	34.3	34.7	3.13	1.2	1.15	56		
12.75-13.25GHz	Standard	35.1	35.2	35.4	2.7	1.2	1.15	47 PBR120	30	
	High	35.2	35.4	35.6	2.7	1.2	1.15	57		
14.40-15.35GHz	Standard	36.1	36.4	36.7	2.4	1.2	1.15	48 PBR140	30	
	High	36.6	36.8	37	2.4	1.2	1.15	58		
17.70-19.70GHz	Standard	37.9	38.4	38.8	1.87	1.2	1.15	49 PBR220	32	
	High	38.6	38.8	39	1.87	1.2	1.15	59		
21.20-23.60GHz	Standard	40	40.1	40.2	1.6	1.2	1.15	50 PBR220	32	
	High	40.1	40.3	40.5	1.6	1.2	1.15	60		
24.25-26.5GHz	Standard	40.6	41	41.4	1.41	1.2	1.15	51 PBR260	32	
	High	41	41.4	41.8	1.41	1.2	1.15	61		
37.00-40.00GHz	Standard	43.8	44	44.2	1	1.2	1.15	53 PBR320	32	
	High	44	44.3	44.6	1	1.2	1.15	63		

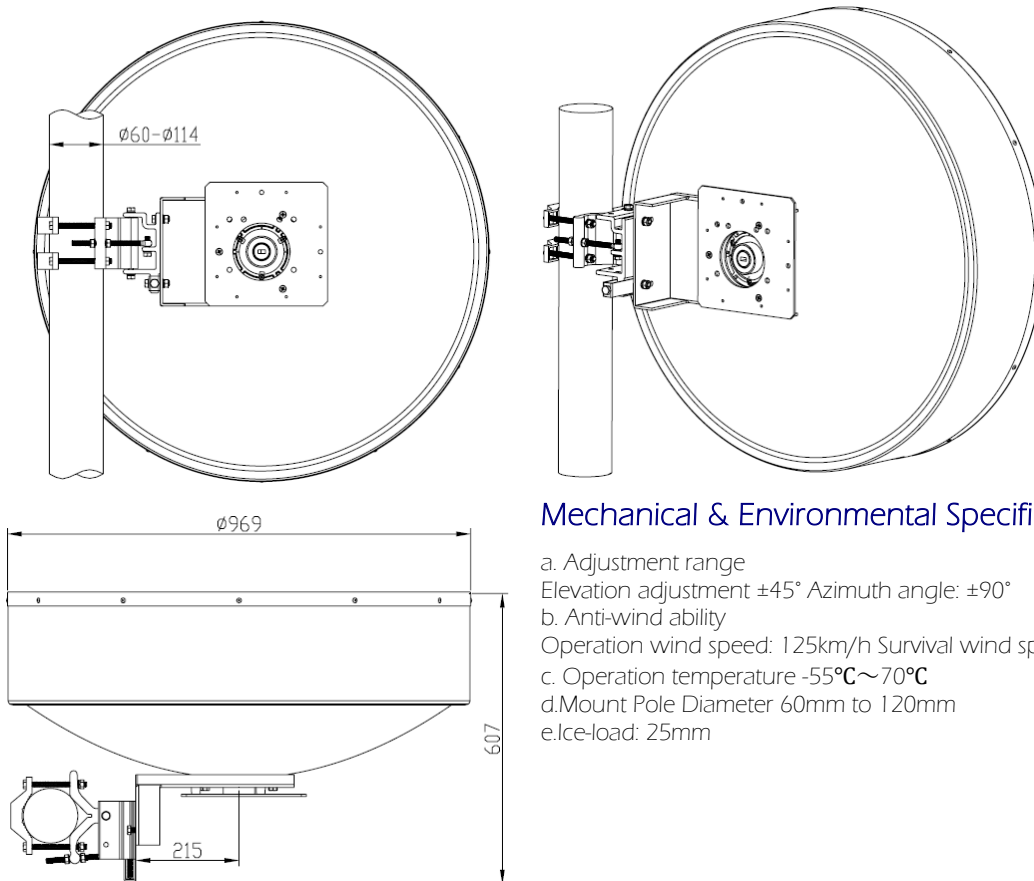


### Mechanical & Environmental Specifications

- Adjustment range  
Elevation adjustment  $\pm 45^\circ$  Azimuth angle:  $\pm 90^\circ$
- Anti-wind ability  
Operation wind speed: 125km/h Survival wind speed: 200km/h
- Operation temperature  $-55^\circ\text{C} \sim 70^\circ\text{C}$
- Mount Pole Diameter 60mm to 120mm
- Ice-load: 25mm

## 90cm Microwave Antennas

Type no.	Performance	Gain Dbi			Beam Width	VSWR		F/B ratio dB	Flange	Cross Pol. Disc dB
		Low	Mid	High		Standard	Low			
5.725-5.850GHz	Standard	31.3	31.4	31.6	4	1.3	1.1	43 N	30	
	High	31.8	31.9	32.1	6	1.3	1.2	52		
5.925-6.425GHz	Standard	31.9	32.3	32.6	3.8	1.3	1.15	46 PDR70	30	
	High	32.4	32.7	33.1	3.8	1.3	1.15	54		
7.125-7.725GHz	Standard	33.5	33.9	34.2	3.2	1.1	1.08	46 PDR84	30	
	High	34	34.3	34.7	3.2	1.1	1.08	57		
7.725-8.275GHz	Standard	34.2	34.6	34.8	3	1.1	1.08	47 PDR84	30	
	High	34.7	35	35.3	3	1.1	1.08	58		
8.200-8.75GHz	Standard	34.8	34.9	35.1	2.8	1.1	1.08	46 PDR84	30	
	High	35.2	35.3	35.5	2.8	1.1	1.08	58		
10.7—11.7GHz	Standard	37.1	37.5	37.8	2.1	1.1	1.08	50 PBR100	30	
	High	37.5	37.9	38.2	2.1	1.1	1.08	61		
12.75-13.25GHz	Standard	38.6	38.7	38.9	1.8	1.15	1.1	50 PBR120	30	
	High	39	39.2	39.3	1.8	1.15	1.1	60		
14.40-15.35GHz	Standard	39.6	39.9	40.2	1.6	1.15	1.1	51 PBR140	30	
	High	40.1	40.3	40.6	1.6	1.15	1.1	62		
17.70-19.70GHz	Standard	41.4	41.9	42.3	1.2	1.15	1.1	53 PBR220	30	
	High	41.8	42.3	42.8	1.2	1.15	1.1	64		
21.20-23.60GHz	Standard	43	43.5	43.9	1.04	1.15	1.1	56 PBR220	30	
	High	43.4	43.9	44.3	1.04	1.15	1.1	64		

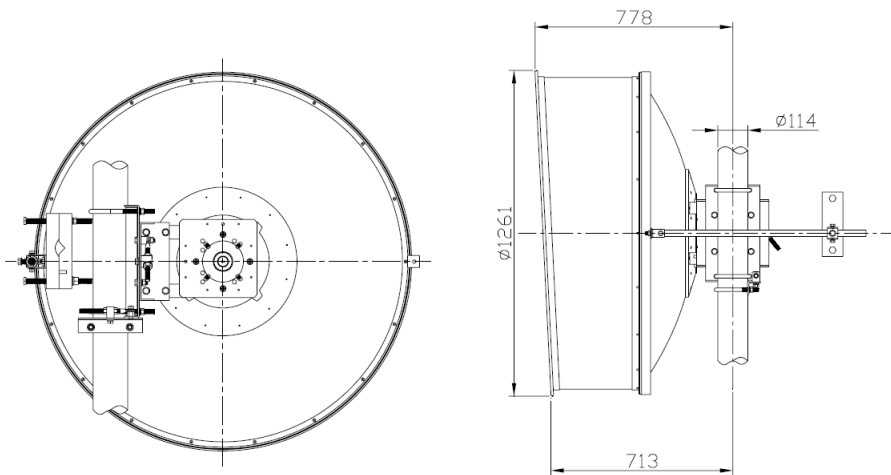


### Mechanical & Environmental Specifications

- a. Adjustment range  
Elevation adjustment  $\pm 45^\circ$  Azimuth angle:  $\pm 90^\circ$
- b. Anti-wind ability  
Operation wind speed: 125km/h Survival wind speed: 200km/h
- c. Operation temperature  $-55^\circ\text{C} \sim 70^\circ\text{C}$
- d. Mount Pole Diameter 60mm to 120mm
- e. Ice-load: 25mm

## 120cm Microwave Antennas

Type no.	Performance	Gain Dbi			Beam Width	VSWR		F/B ratio dB	Flange	Cross Pol. Disc dB
		Low	Mid	High		Standard	Low			
5.725-5.850GHz	Standard	34.4	34.6	34.7	3	1.3	1.2	40 PBR70	30	
	High	34.7	34.8	35	3	1.3	1.2	50		
5.925-6.425GHz	Standard	35.3	35.6	36	2.83	1.2	1.1	47 PDR70	30	
	High	35.5	35.8	36.2	2.83	1.2	1.1	58		
6.425-7.125GHz	Standard	35.5	35.8	36.2	2.53	1.2	1.15	47 PDR70	30	
	High	35.7	36.1	36.5	2.53	1.2	1.15	59		
7.125-7.725GHz	Standard	36.3	36.5	36.7	2.36	1.1	1.08	48 PBR84	30	
	High	36.6	36.8	36.9	2.36	1.1	1.08	59		
7.725-8.275GHz	Standard	37	37.2	37.4	2.2	1.1	1.08	49 PBR84	30	
	High	37.2	37.4	37.6	2.2	1.1	1.08	60		
8.200-8.75GHz	Standard	37.2	37.5	37.8	2	1.1	1.08	60 PBR84	30	
	High	37.6	37.9	38.2	2	1.1	1.08	60		
12.75-13.25GHz	Standard	41.1	41.2	41.4	1.34	1.15	1.1	49 PBR120	32	
	High	41.2	41.4	41.6	1.35	1.15	1.1	63		
14.40-15.35GHz	Standard	42.3	42.4	42.6	1.18	1.15	1.1	54 PBR140	32	
	High	42.4	42.6	42.8	1.18	1.15	1.1	64		
17.70-19.70GHz	Standard	46	46.1	46.2	0.78	1.15	1.1	56 PBR220	32	
	High	46.1	46.3	46.5	0.78	1.15	1.1	66		
21.20-23.60GHz	Standard	45.5	46	46.4	0.78	1.15	1.1	56 PBR220	30	
	High	45.9	46.4	46.8	0.78	1.15	1.1	67		
24.50-26.50GHz	Standard	46.6	47	47.4	0.7	1.15	1.1	63 PBR260	32	
	High	47	47.4	47.8	0.7	1.15	1.1	73		



## Mechanical & Environmental Specifications

- Adjustment range  
Elevation adjustment  $\pm 45^\circ$  Azimuth angle:  $\pm 90^\circ$
- Anti-wind ability  
Operation wind speed: 125km/h Survival wind speed: 200km/h
- Operation temperature  $-55^\circ\text{C} \sim 70^\circ\text{C}$
- Mount Pole Diameter 114mm
- Ice-load: 25mm

## For More Information

Please contact Wireless Excellence technical department for more information on CableFree Microwave Antennas

## Alternative Specification Antennas

Wireless Excellence has a wide range of Microwave Antenna technology & capability and can supply antennas to specifications other than those listed here.

If you have a specific antenna requirement please contact Wireless Excellence.

## Design Services

Wireless Excellence offers a design service for microwave and radio networks including link budgets, availability calculation and overall network design to meet a wide variety of customer needs.

Please contact Wireless Excellence for more information on our design services.

T: +44 (0)870 495 9169  
E: [sales@cablefree.net](mailto:sales@cablefree.net)  
W: [www.cablefree.net](http://www.cablefree.net)

Wireless Excellence Limited  
The Oxford Science Park,  
G6, Magdalen Centre  
Robert Robinson Avenue,  
Oxford OX4 4GA