9 dBd HD omni antenna 380-430MHz, low PIM

DESCRIPTION

The 4220 Series omni antenna is designed for demanding applications where a durable and high performance colinear is required. The centre fed dipole design and feed network gives a stable radiation pattern across a wide bandwidth, and allows tilted beam designs to be effectively employed without large pattern distortions. High quality materials and manufacturing techniques are employed to ensure that the antenna has excellent intermodulation performance & wide bandwidth characteristics for multi-channel trunked radio communication systems. The antenna has been designed to withstand lightning strike.
• Former Skymasts brand product.

SPECIFICATIONS

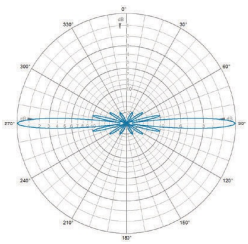
Electrical	
Frequency	380 - 430 MHz
Max. Input Power	300 W
Omni Deviation	< ± 1 dB
Polarisation	Vertical
Peak Instantaneous Power (PIP)	25 kW
3 dB Beamwidth, E-Plane	8° ±1°
3 dB Beamwidth, H-Plane	Omnidirectional
Impedance	50 Ω
Gain	8.7 dBd (10.9 dBi)
VSWR	< 1.5:1
Passive Intermodulation	-153dBc (3rd Order, 2 x Tx @ 43dBm)
Lightning Protection	Lightning current handling capability: 200 kA According to EN 62305-1 (Test pulse 10/350 µs)
Antistatic Protection	All metal parts DC-grounded (Connector shows a DC-short)

Mechanical		
Connection(s)	7/16 DIN(f)	
Materials	Antenna Base: Aluminium Shroud: GRP tube 53mm dia.	
Mounting Section	Al. tube 63.5 mm dia. x 350 mm long	
Dimensions	5360 (l) x 53 (dia.) mm	
Wind Load	417 N (160km/h)	
Weight	13 kg / 28.66 lb	
Mounting Bracket	2141.01.00.00 (up to ø120mm) (Ordered Separately)	ETC-250 (ø50 to ø76mm) (Ordered Separately)

Environmental	
Survival Wind Speed	300 km/h
Ingress Protection	IP56

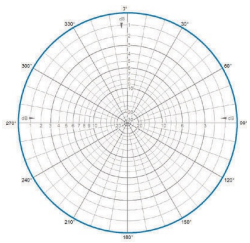
DIAGRAM

RADIATION PATTERNS



E-Plane | 405 MHz

RADIATION PATTERNS



H-Plane | 405 MHz

ORDERING

Model	Product No.	Description	Frequency
9 dBd HD omni antenna 380-430MHz, low PIM	4220.09-405-T0	0° Electrical Tilt	380 - 430 MHz
9 dBd HD omni antenna 380-430MHz, low PIM	4220.09-405-T2	2° Electrical Tilt	380 - 430 MHz
9 dBd HD omni antenna 380-430MHz, low PIM	4220.09-405-T4	4° Electrical Tilt	380 - 430 MHz
9 dBd HD omni antenna 380-430MHz, low PIM	4220.09-405-T5	5° Electrical Tilt	380 - 430 MHz
9 dBd HD omni antenna 380-430MHz, low PIM	4220.09-405-T6	6° Electrical Tilt	380 - 430 MHz
9 dBd HD omni antenna 380-430MHz, low PIM	4220.09-405-T8	8° Electrical Tilt	380 - 430 MHz
Galvanised steel parallel bracket 38-120mm (PAIR)	2141.01.00.00		
Extruded Parallel Tube Clamp, 50 - 76mm	ETC-250		

INSTALLATION NOTE

Please note that the survival wind speed which is quoted for this product is based on a static load test simulating a single gust of wind, according to EN 1991-1-4. Continuous flexure of the antenna, over long periods of time in extreme conditions, can cause a gradual deterioration in the structural integrity of the materials; this may result in a reduction of specifications or other failure of the antenna structure.

If the antenna is to be installed in conditions where it will be regularly exposed to winds over 160km/h, we recommend that the antenna is stabilised with a second bracket at the top of the shroud.

Non-conductive bracket **FB-HB** can be used in conjunction with one of our **SMC** brackets to achieve this.