Product Data Sheet

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PERFORMANCE ANTENNAS
Alive Telecom

KP-TWVP65S-12

470 MHz-698 MHz, 65 Degree Sector Antenna, 12.0 dBi, 2-Port, V Pol

- Stable 12 dBi gain, side lobe suppression and high front-to-back ratio
- Built-in GPS antenna (L1/B1 RHCP 3dBiC)
- Direct mount for RDL3000 XP Ellipse

Electrical Specification

Frequency Band	MHz	470-550	550-698
Gain	dBi	12.2±0.3	12.7±0.3
Polarization		Vertical	
Horizontal HPBW	Degree	72±3	65±5
Horizontal Squint	Degree	±2	±3
Vertical HPBW	Degree	28±3	23±3
Electrical Downtilt	Degree	1	1
Front-to-Back Ratio @ 180°±30°	dB	25 typ | 20 min	25 typ | 20 min
Cross-polarization Ratio	dB	30	30
VSWR		1.3 typ | 1.5 max	1.5 typ | 2 max
Return Loss	dB	17 typ | 14 max	14 typ | 10 max
Port-to-Port Isolation	dB	30	35
Max. Input Power per Port	W	50	
Impedance	Ohms	50	

GPS Electrical Specification

Center Frequency and Bandwidth	MHz	L1: 1575.42±10 | B1: 1561.098±10
Polarization		RHCP
Antenna and LNA Gain		3dBiC | 30dB
Voltage and Current Consumption		2.2V – 5V | 10mA – 20mA

Mechanical Specifications

RF Connector Type and Quantity	1 x N-Type Female
GPS Connector Type and Quantity	1 x TNC Female
RF and GPS Connector Position	Back of Radome
Electrical Grounding	RF connector grounded to reflector and mounting bracket
Radome Material	UV resistant PVC
Ingress Protection	IP55 rain and dust resistant
Max. Wind Speed	160km/h | 100mph
Wind Load, frontal	671N @ 160km/h | 151lbf @ 100mph
Temperature Range	-40° to +60° C | -40° to +140° F

Bracket Specifications

Material Type	Powder Coated Galvanized Steel
Mechanical Tilt (Degree)	-1 – 10
Mounting Type	Pipe Mount
Mounting pole diameter	25 mm – 89 mm | 1.25 in – 3.5 in

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Antenna Dimensions

Length	1240 mm	|	48.8 in
Width	406 mm	|	16.0 in
Height	130 mm	|	5.1 in
Net Weight, with brackets	5.5 kg	|	12.1 lb

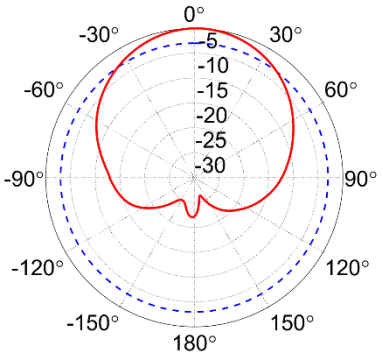
Shipping Dimensions

Length	1270mm	|	50.0 in
Width	540 mm	|	21.3 in
Height	260 mm	|	5.1 in
Net Weight, with brackets	5.6 kg	|	12.3 lb

Graphical Data

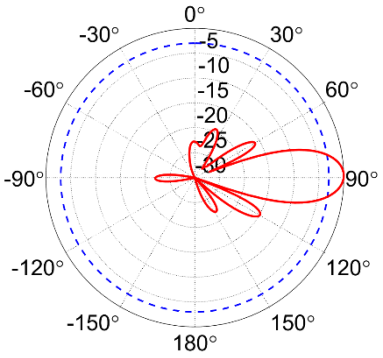
Horizontal

Azimuth Pattern

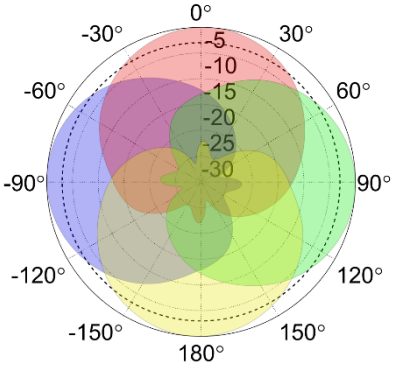


Vertical

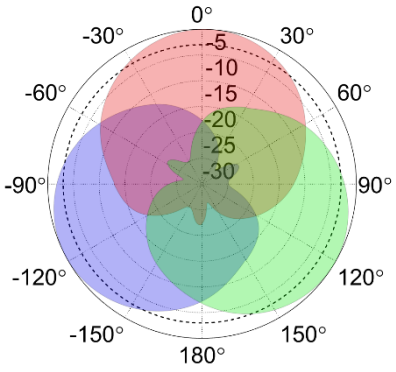
Elevation Pattern



Four Sector Deployment



Three Sector Deployment



Appendix

HPBW: Average and variation of the antenna's 3dB beamwidth (half power beamwidth) in its horizontal (Azimuth) or vertical (Elevation) pattern.
Horizontal Squint: Angle in the antenna's azimuth pattern in which the maximum gain occurs. Reported is the maximum variation in the frequency band.
Electrical Downtilt: Angle in the antenna's elevation pattern in which the maximum gain occurs.
Gain: Antenna's average gain and variation in each frequency band.
Front to Back Ratio @ 180°±30°: Difference between the antenna's maximum gain and the maximum gain in the antenna's back lobe over ±30° angles.
Upper Side Lobe Suppression: The maximum value for the antenna's elevation upper side lobes from the main beam to +20°.
Cross-polarization Ratio over HPBW (dB): Maximum difference between the co-polarization and cross-polarization gain across the sector's HPBW.