



PEP Panel Array Series

470-700MHz TV Panel Arrays

PEP Panel and Antenna Application Guide

The PEP broadband panel is designed as a building block for integration into complex master antenna arrays. It is a dual feed horizontally, vertically, circularly or elliptically polarised UHF panel antenna.

With a dual feed arrangement, different broadcasters sharing the same antenna can have different polarisation ratios (patented RFS VPT technology). The polarisation ratio can be changed post-installation by varying the phase shift of the combiner.

FEATURES / BENEFITS

- Fully engineered for Digital TV, Mobile TV, Analogue TV, MIMO and MISO applications
- Corrosion resistant construction with cylindrical fibreglass radome
- Independent inputs allowing utmost polarisation and pattern flexibility
- Horizontal / Vertical, Circular or Elliptical polarization
- Extremely low wind loading
- Hurricane rated
- High power rating
- Array design process allows for custom design of horizontal and vertical radiation patterns
- Additional technical details including gain information and patterns appear in the External Document link below



PEP Antenna Section

Technical features

STRUCTURE

Product Line		Antenna TV
Product Type		Band IV/V (UHF) TV Panel Arrays

ELECTRICAL SPECIFICATIONS

Frequency Range	MHz	470 - 700
Polarization		Horizontal Vertical Circular Elliptical
Nominal Gain (Mid-band)	dBd	13
Half Power Beamwidth Azimuth	degrees	50
Azimuth Radiation Pattern		Note 5
Return Loss	dB	26
VSWR		< 1.1:1
Power Rating	kW	2.5 per input
Impedance (unbalanced)	Ω	50

MECHANICAL SPECIFICATIONS

Number of Channels		Multi-channel
Input Connector		Dual 7/8" EIA flange
Dimensions (Height or Length)	cm (in)	Refer external document
Dimensions (Width)	cm (in)	Refer external document
Mounting (Standard)	mm (in)	4 x10 mm (3/8") bolts
Design Wind Speed	km/h (mph)	240 (150)
Pressurization Operational	kPa (psi)	10-25 (1.4-3.6)
Pressurization Test	kPa (psi)	100 (15)
Weight	kg (lb)	20 (44)



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PACKAGING INFORMATION

Shipping Weight, Kg (lb)	kg (lb)	20 ()
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MATERIAL

Material - Insulators		PTFE
Material - Radiators		Corrosion resistant aluminium
Material - Reflecting Screen		Corrosion resistant aluminium
Colour		White radome standard, other upon request

External Document Links

[PEP Application Guide](#)

Notes

Note 1: CaAc is calculated based on supercritical flow to ANSI/TIA-222-G. Contact a qualified structural consultant to confirm this applies to your installation.

Note 2: An effective area of 0.5 m² (5.4 ft²) to account for lightning rod, lifting jib, etc. at top of the antenna is included. Estimated CaAc of climbing rung is 0.1 m²/m height (1.0 ft²/ft height) and is not included in the calculation. Interface steelwork to tower and power divider network is not included in effective area calculations.

Note 3: Gain at 666 MHz, omni-directional configuration, first null filled to 20%.

Note 4: HPol and VPol gains shown.

Note 5: Antenna System Omni Riple: +/- 1.5 dB typical, +/- 2.0 dB max