

Band IV/V (UHF) TV Panel Arrays

Product Description

The PEP broadband panel is designed as a building block for integration into complex antenna arrays used by single broadcasters and multiple broadcasters in a shared antenna. Panels are dual feed horizontally, vertically, circularly or elliptically polarised. PEP antenna arrays use RFS patented VPT technology. With a dual feed arrangement different broadcasters sharing the same antenna can have different polarisation ratios. The polarisation ratio can be changed post-installation by varying the phase shift of the combiner.

Features

- Fully engineered for Digital TV, Mobile TV, Analogue TV and MIMO applications
- Corrosion resistant aluminium construction with fibreglass radome
- Independent inputs allowing polarisation and pattern flexibility
- Horizontal, Vertical, Circular or Elliptical polarisation
- Extremely low wind loading
- Hurricane rated
- High power rating
- Array design allows for custom design of horizontal and vertical radiation patterns
- Temperature range -40 to +60° C available



PEP antenna section

Technical Features

MODEL	PEP
Product Type	Band IV/V (UHF) TV Panel Arrays
Frequency Range, MHz	470-700
Polarization	Horizontal / Vertical / Circular / Elliptical
Number of Channels	Multi-channel
Nominal Gain (Mid-band, per plane), dBd	13
Nominal Half Power Beamwidth Azimuth, degrees	50
Antenna System Omni ripple, dB	± 1.5 typical, ± 2.0 max
Return Loss, dB	26 min
Input Connector	2 x 7/8" EIA Flange
Power Rating, kW	2.5 per input
Impedance, ohms	50 unbalanced
Weight, kg (lb)	20 (44)
Mounting (Standard), mm (in)	4 x 10 mm (3/8) bolts
Design Wind Speed (max), km/h (mph)	240 (150)
Colour	White radome standard, other upon request
Pressurization - Operational, kPa (psi)	10 - 21 (1 - 3)
Pressurization - Test, kPa (psi)	100 (15)
Material - Insulators	PTFE
Material - Radiators	Corrosion resistant aluminium
Material - Reflecting Screen	Corrosion resistant aluminium



Band IV/V (UHF) TV Panel Arrays

Antenna Array Specifications

Number of bays (levels)	12	14	16
Panels per bay	5	5	5
Vertical spacing between bays (m)	1.15	1.15	1.15
HRP directivity Hpol (dB)	1.1	1.1	1.1
VRP directivity (dBd)	15.1	15.7	16.3
Peak gain Hpol (dBd)	16.0	16.6	17.2
Peak numerical gain Hpol (times)	39.4	45.2	51.9
RMS gain Hpol (dBd)	14.9	15.5	16.1
RMS Numerical gain Hpol (times)	30.5	35.1	40.3
Weight (kg)	6688	7283	8273
Weight (lbs)	14744	16056	18239
Antenna aperture L (m)	13.8	16.1	18.4
Antenna aperture L (ft)	45.3	52.8	60.4
Antenna height (m)	14.9	17.2	19.5
Antenna height (ft)	48' 11"	56' 5"	64'
Antenna outer diameter (mm)	1200	1200	1200
Antenna outer diameter (in)	47 1/4"	47 1/4"	47 1/4"
Effective area with infill panels (m ²)	14.6	17.2	19.9
Effective area with infill panels (ft ²)	157	185	215

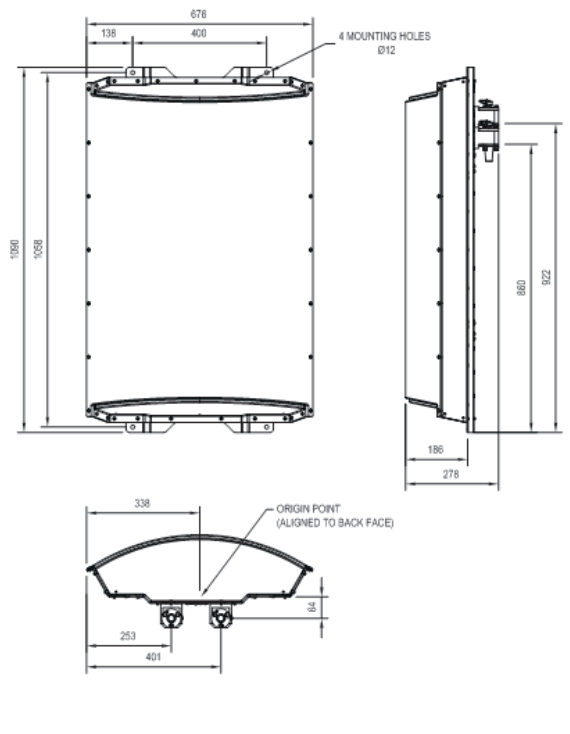
Note 1: CaAc is calculated with electrical pattern directives included, based on a drag coefficient assessed from a wind tunnel test report for a similar antenna to AS 1170.2:2011. Contact a qualified structural consultant to confirm this applies to your installation.

Note 2: An effective area of 1.0 m² (10.8 ft²) to account for lightning rod, lifting jib etc. at the top of the antenna is included. Interface steelwork to tower, and power divider network is not included in calculations.

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

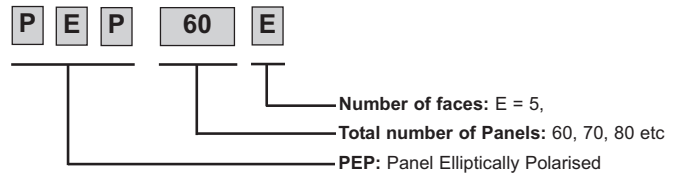
Note 4: HPol gains shown only.

Antenna Panel Dimensions

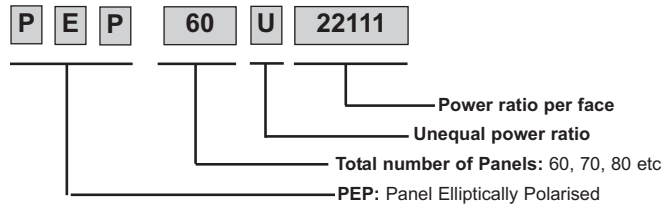


Nomenclature

Equal Split



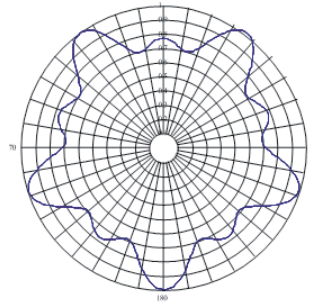
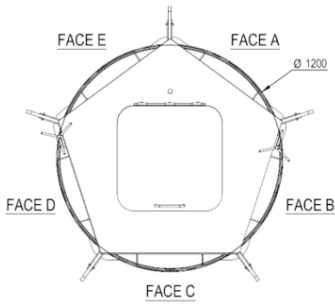
Unequal Split



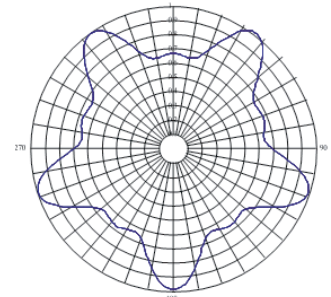
All information contained in the present brochure is subject to confirmation at time of ordering

Band IV/V (UHF) TV Panel Arrays

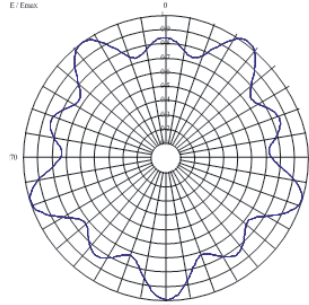
Horizontal patterns



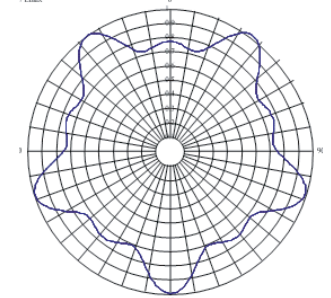
HRP HPOL PEP 500MHz



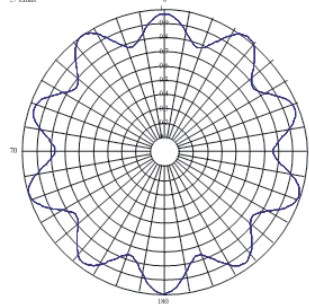
HRP VPOL PEP 500MHz



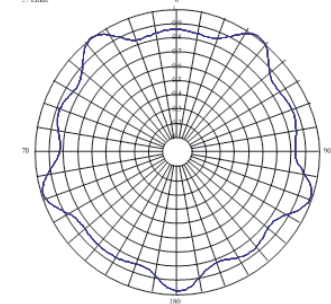
HRP HPOL PEP 500MHz



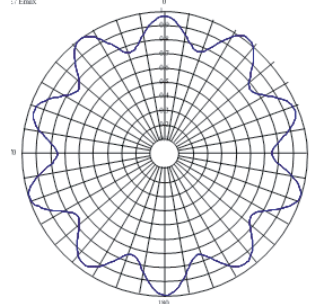
HRP VPOL PEP 500MHz



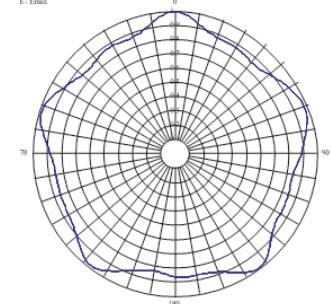
HRP HPOL PEP 600MHz



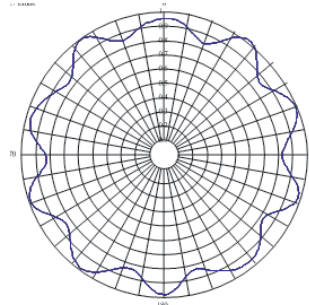
HRP VPOL PEP 600MHz



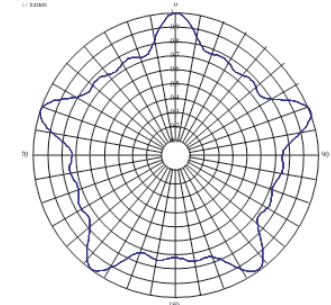
HRP HPOL PEP 650MHz



HRP VPOL PEP 650MHz



HRP HPOL PEP 700MHz

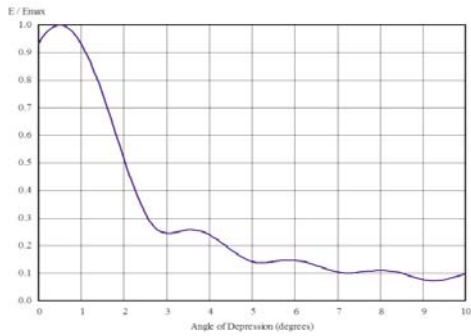


HRP VPOL PEP 700MHz

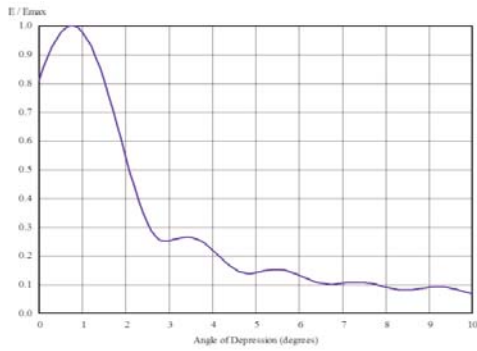
All information contained in the present brochure is subject to confirmation at time of ordering

Band IV/V (UHF) TV Panel Arrays

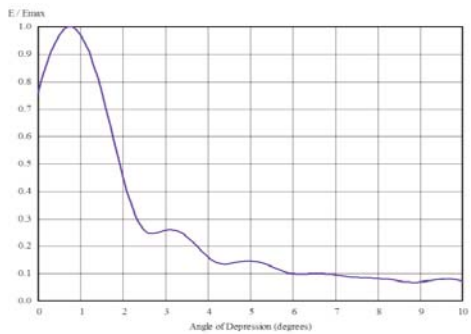
Vertical patterns



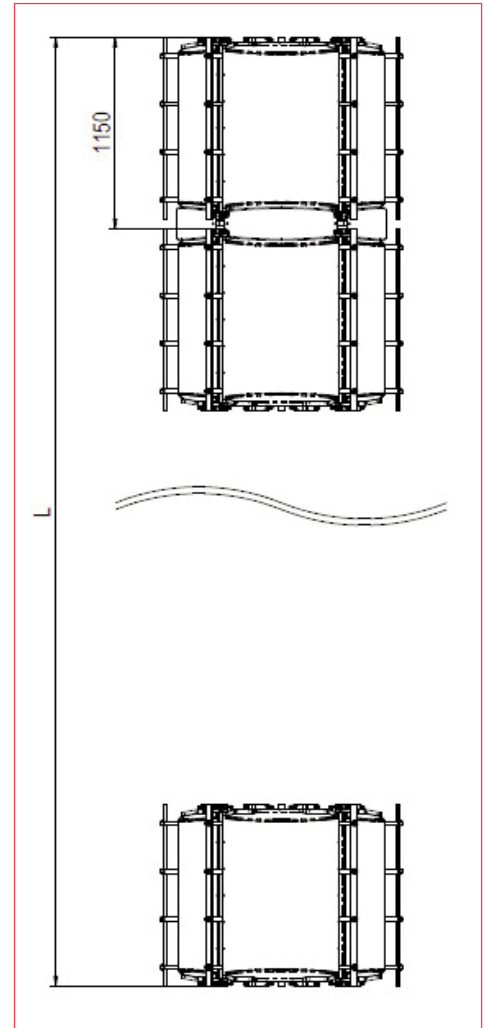
VRP 12-level



VRP 14-level



VRP 16-level



All information contained in the present brochure is subject to confirmation at time of ordering