PRODUCT DATASHEET

618 Series

174-240MHz Sidemount DAB/TV Dipoles

PRODUCT DESCRIPTION

These vertically polarized antennas for TV and DAB broadcasting applications are intended for use where low wind loadings are required. They are designed to be side-mounted to a tower leg or pole and optional mounting brackets are available for this purpose.
The 618 series are fabricated from stainless steel and will handle up to 4kW input power per bay for standard models. Beam tilt and null fill can be provided on request.
Radomes are available for the 618 series if required.
Multiple element arrays are supplied as a complete package including power dividers and distribution cables. An optional input tuner ensures optimum VSWR performance after installation as it enables the effects of tower steelwork to be eliminated.
The 618 series can be arrayed with up to 6 or more bays as required.
Horizontal radiation patterns can be modified on the RFS antenna test range if required, by adjusting the spacing between the antenna and tower.

FEATURES / BENEFITS

- Rugged construction for maximum corrosion protection
- Broadband operation
- Multi-channel use if required
- Optional pressurization
- Low wind load to minimize tower or mast costs
- Vertical polarization
- Temperature range -40 to +60 degrees C available.

TECHNICAL FEATURES

DETAILS

Product Type		Band III (High VHF) TV/DAB Panel Array 618

ELECTRICAL SPECIFICATIONS

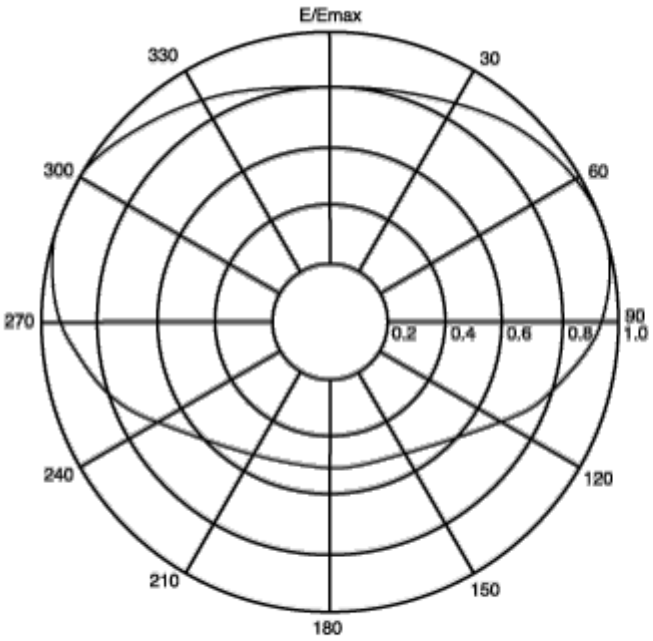
Antenna Type		Broadband VHF Dipole Antenna
Operating Frequency Range	MHz	174-240
Polarization		Vertical
Azimuth Radiation Pattern		Omnioid
Impedance	Ohms	50

MECHANICAL SPECIFICATIONS

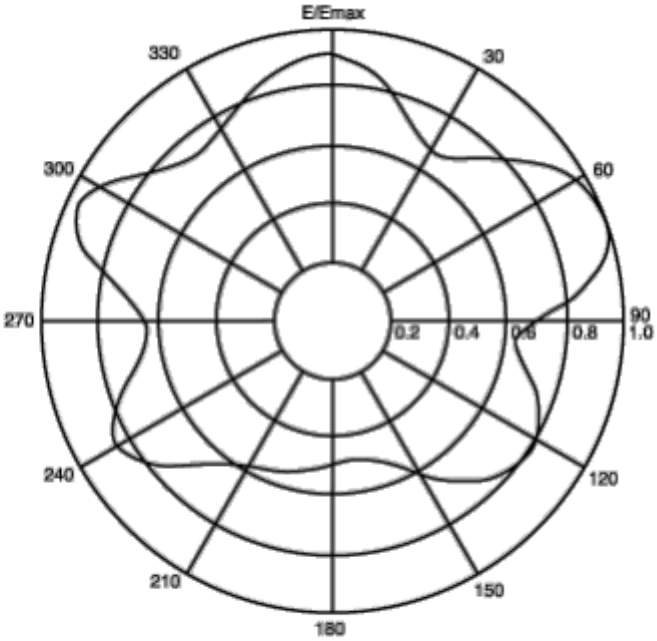
Pressurization Operational	kPa (psi)	10 to 25 (1.4-3.6)
Pressurization Test	kPa (psi)	100 (15)

MODEL NUMBER SPECIFICATIONS

Antenna Model		618-1	618-2	618-3	618-4	618-6
Number of Bays		1	2	3	4	6
Nominal Gain (Mid-band)	dBd	0	3	4.7	6	7.9
Azimuth Radiation Pattern	[note 1]	Omnidirectional +3dB				
Return Loss	dB	Typically 20 over 50MHz 30 single channel, field tunable				
Power Rating	kW [note 2]	4	8	12	16	24
Input Connector		7-16 DIN 7/8" EIA Flange	7/8" EIA Flange 1-5/8" EIA Flange			
Dimensions (Height or Length)	cm (in)	69.5 (27.4) typical	210 (82.6)	320 (126)	460 (181)	769.5 (303) typical
Dimensions (Width)	cm (in)	6 (2.4)				
Dimensions (Depth)	cm (in)	100.8 (39.7)				
Mounting (Standard)	mm (in)	Clamping Dia. 43 - 76 (1.7 - 3)				
Mounting Type		Side				
Effective Area Front (Full Antenna) No Ice	m_2 (ft_2) [note 3]	0.11 (1.18)	0.22 (2.37)	0.33 (3.55)	0.44 (4.74)	0.66 (7.10)
Effective Area Power Divider	m_2 (ft_2)	[note 4]	0.09 (0.97) [note 3]	0.13 (1.4) [note 3]	0.13 (1.4) [note 3]	0.25 (2.7) [note 3]
Effective Area Comment		[notes 3, 4, 5]	Note 3 Connecting cables are not included in calculations - 0.03m_2 per meter length should be allowed.			
Wind Load@ 50 m/s Front	kN (lb)	0.13 (30)	0.26 (60)	0.39 (90)	0.52 (120)	0.78 (180)
Wind Load Comment		[note 5]	Note 4 Power divider included and considered adjacent to antennas. Note 5 Calculated in accordance with AS1170-1989, Part 2:" SAA Loading Code - Wind Forces".			
Weight	kg (lb)	8 (18)	30 (66)	45 (99)	65 (143)	105 (231)



Azimuth Pattern
Support pole spaced 0.25 wavelength from tower.



Azimuth Pattern
Support pole spaced 1.1 wavelength from tower (reduced bandwidth).

External Document Links

Notes

Note 1 When antenna is mounted on a mast/tower with a face width of less than 150mm.
Note 2 Input power is limited to 5 kW maximum if a 7/8" connector is used.
Note 3 Connecting cables are not included in calculations - 0.03 metres squared per metre length should be allowed.
Note 4 Power divider included and considered adjacent to antennas.
Note 5 Calculated in accordance with AS1170-1989, Part 2: "SAA Loading Code - Wind Forces".