ascSignal™

Product Specifications

6.5 Meter Dual-Reflector Earth Station Antennas

Communications system integrators and designers can now bring their systems on line faster, more economically, and with superior performance with ASC Signal 6.5-meter Earth Station Antennas.

Excellent for high-density data, voice, communications networks, and broadcast applications, the ASC Signal 6.5m ESA features a formed dual reflector Gregorian system coupled with close-tolerance manufacturing techniques. This combination provides extremely accurate surface contour, exceptionally high gain, superior efficiency and closely controlled pattern characteristics.

Features:

- High Gain, Excellent Pattern Characteristics
- Advanced Gregorian Optics
- C, X and Ku band Operation
- Rugged Aluminum and Steel – 125 mph (200 kph) Wind Survival
- 3-year Warranty on All Structural Components.

The 6.5 meter antenna is fully compliant with the FCC 25.209 specifications from 1° to 180° at C-band.

ASC Signal's ESAs provide maximum durability with minimal maintenance. The hot-dipped galvanized steel ground mount assembly ensures extended product life. Galvanized and stainless steel hardware maximize corrosion resistance.

For cost effective system expansion, available modular equipment options include anti-icing equipment as well as complete motorization and StepTrack control systems are available

Compliances:

- FCC regulation 25.209
- ITU-R, S.580-5 and S.465-5

Digisat International Inc.
4195 W. New Haven Ave., Suite 15
Melbourne, FL 32904
USA
+1-321-676-5250
Email: sales@digisat.org
http://www.digisat.org

Electrical

Operating Frequency Band	
C-Band Receive	3.400-4.2 GHz
C-Band Transmit	5.850-6.725 GHz

Gain, with 2 port linear combiner (dBi, ±0.2dB)

Rx Frequency	Rx Gain	Tx Frequency	Tx Gain
3.625 GHz	46.5	6.175 GHz	50.9
4.000 GHz	47.4	6.425 GHz	51.1
4.200 GHz	47.8	6.725 GHz	51.4

Polarization C-Band Linearly- or Circularly-Polarized

Polarization Discrimination, (Linearly-Polarized):

>35 dB across 1 dB beamwidth19 - 25 log θ from 1.8° to 9.2°

Voltage Axial Ratio, C-Band, circularly-polarized with 4-port combiner <1.06:1 across the 1 dB beamwidth <1.09 and 1.2 with 2-port

Beamwidth, Mid-band, Degrees	***C-Band***
3 dB Receive (Transmit)	.74 (.45)
15 dB Receive (Transmit)	1.46 (.87)

Antenna Noise Temperature - under clear sky conditions, at 68°F (20°C), with 2-port linear combiner.

Elevation	***Kelvin (C-Band)***
10°	39
30°	29
50°	26

Antenna VSWR, Transmit and Receive <1.3:1

Operating Frequency Band	
Ku-band Receive	Call
Ku-band Transmit	Call
Operating Frequency Band	
X-band Receive	Call
X-band Transmit	Call

Typical Shipping Information

Net Weight	6400 lb
Gross Shipping Weight (typical)	8101 lb
Shipping Volume (typical)	780 ft^3
Shipping Container	Standard 20 ft land/sea container

G/T Performance (C-Band)

LNA/LNB Noise Temperature	65K	45K	30K
ES65 G/T at 10° EL (dB/K)	27.2	28.1	29.0

Based on a 2-port, linearly-polarized antenna configuration at 4 GHz and at 10° elevation under clear sky conditions.

Uplink ERP Capability (C-Band)

HPA Output (Watts)	125	500	3000
Uplink EIRP (dBW)	72.0	78.0	85.8

Based on a 2-port antenna configuration at 6.175 GHz and 0 dB allowance for waveguide (IFL) loss between the HPA and the antenna.

Mechanical

Feed Type	Dual-Reflector, Gregorian
Reflector Material	Precision-Formed Aluminum
Reflector Segments	16
Mount Type	El over AZ Tripod
Antenna Pointing Range,	Coarse/(Continuous)
Elevation	0-90° (90°)
Azimuth	180° (120°)
Polarization	180° (180°)
Hub/Enclosure Dimensions	
Diameter	52 in (1.22 m)
Depth	48.5 in (1.17 m)

Wind Loading, Survival
125 mph (200 km/h) in any position of operation

Wind Loading, Operational
45 mph (72 km/h), gusting to 65 mph (105 km/h) (motor drives)

Temperature, Operational	-40° to 125°F (-40° to 52°C)
Rain	4 in (102 mm) per hour
Solar Radiation	360 BTU/hr/ft^2 (1135 Watts/m^2)
Relative Humidity	100%
Shock and Vibration	As encountered by commercial air, rail and truck shipment
Atmospheric Conditions	Moderate coastal/industrial areas. Severe conditions require additional protection.

Typical Slab Foundation Information

Soil Bearing Capacity	2000 lb/ft^2
Reinforcing Steel	1780 lb
Concrete Compressive Strength	3000 lb/in^2
Foundation Size:	
Length	15.5 ft
Width	15.5 ft
Depth	2.0 ft
Concrete Volume	17.8 yd^3