

West Virginia University certification of commencement of operation.

- i. Licensee: WEST VIRGINIA UNIVERSITY
- ii. File Number of Application: SES-LIC-2011221-01476
- iii. Call Sign of Antenna: E110183.
- iv. License Grant Date: 02/01/2012 Expiration Date: 02/01/2027.
- v. We certify that the antenna has been built as per the manufacturer (General Dynamics) instructions. The antenna pattern as specified in the attached spec, meet the guidelines mentioned in: Title 47/part 25-satellite communications/subpart C-technical standards/article 25.209.
- vi. The Earth Station became operational on 6/1/2012.
- vii. This station was installed for the purpose of unlinking sporting events and University press conferences and will be in operation for the length of our license.

2.4M C & Ku-Band Rx/Tx

Series 1250

Technical Specifications

Electrical		C-Band Linear	C-Band Circular	Ku-Band
Antenna Size		2.4 M (96 in.)	2.4 M (96 in.)	2.4 M (96 in.)
Operating Frequency (GHz)	Receive	3.625 - 4.20 GHz	3.625 - 4.20 GHz	10.95 - 12.75 GHz
	Transmit	5.85 - 6.425 GHz	5.85 - 6.425 GHz	13.75 - 14.50 GHz
Midband Gain (+/- .2dB)	Receive	38.00 dBi	38.00 dBi	47.60 dBi
	Transmit	42.00 dBi	42.00 dBi	49.20 dBi
Antenna Noise Temperature				
10° Elevation		52 K	30 K	44 K
20° Elevation		46 K	23 K	32 K
30° Elevation		45 K	20 K	28 K
40° Elevation		44 K	19 K	27 K
Sidelobe Envelope, Co-Pol (dBi)				
100λ / D < θ ≤ 20°		29 - 25 Logθ dBi	29 - 25 Logθ dBi	29 - 25 Logθ dBi
20° < θ ≤ 26.3°		-3.5 dBi	-3.5 dBi	-3.5 dBi
26.3° < θ ≤ 48°		32 - 25 Logθ dBi	32 - 25 Logθ dBi	32 - 25 Logθ dBi
θ > 48°		-10 dBi (averaged)	-10 dBi (averaged)	-10 dBi (averaged)
Cross-Polarization (Linear)		>30 dB on axis	N/A	>30 dB on axis
Axial Ratio (Circular)	Receive	N/A	2.28	N/A
	Transmit	N/A	1.94	N/A
VSWR		1.3:1 Max.	1.3:1 Max.	1.3:1 Max.
Feed Interface	Receive	CPR 229 F	CPR 229 F	WR 75 or Direct Radio Mounting
	Transmit	CPR 137 or Type N	CPR 137 or Type N	

Mechanical

Reflector Material	Glass Fiber Reinforced Polyester SMC
Antenna Optics	Prime Focus, Offset Feed, Two-Piece Divided Along Major Axis
Mount Type	Elevation over Azimuth
Mast Pipe Size	6" SCH 40 Pipe (6.63" OD) 16.83 cm.
Elevation Adjustment Range	5° to 90°, Continuous Fine Adjustment
Azimuth Adjustment Range	360° Continuous, +/- 5° Fine
Shipping Specifications	385 lbs. (174 kg.)

Environmental Performance

Wind Loading	Operational	50 mph (80 km/h)
	Survival	125 mph (201 km/h)
Temperature	Operational	-40° to 140° F (-40° to 60° C)
	Survival	-50° to 160° F (-46° to 71° C)
Rain	Operational	1/2"/hr
	Survival	2"/hr
Ice	Operational	-----
	Survival	1/2" radial
Atmospheric Conditions	Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas	
Solar Radiation	360 BTU/h/ft ²	

GENERAL DYNAMICS

SATCOM Technologies

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1000-016 Rev. 05/11