

Non-Compliant Antenna Statement

Re: 2.4 Meter Fixed Earth Station
Fixed Satellite Service
C-Band: 3700 – 4200 MHz and 5925.0 – 6425.0 MHz

Harris Corporation ("Harris" or "Applicant") proposes to use a Prodelin 2244, 2.4 meter antenna for its proposed earth station located in Hanna City, IL at the coordinates of 40-41-58.4 N, 089-49-30.8 W. This antenna is, in terms of performance and technical characteristics, identical to the Prodelin model 1244 antenna. Attached to this exhibit please find the manufacturer data sheets for each antenna model which reflect that the Prodelin model 2244 does indeed have the same technical performance characteristics as the Prodelin model 1244. The Prodelin 1244 does not strictly comply with 25.209 of the FCC Rules and Regulations.

Pursuant to the *Part 25 Earth Station Fifth Report and Order*, the International Bureau (Bureau) provides a List of Approved Non-Routine Earth Station Antennas. Specifically the website <http://www.fcc.gov/ib/sd/nresa> lists non-routine earth station antennas licensed for use by one or more U.S. earth station operators since March 15, 2005.

“The Commission has ruled that an Earth station applicant proposing to use an antenna on this list may no longer be required to attach antenna radiation plots as an exhibit to their applications, as required by Section 25.132 (b)(3) of the Commission's rules, 47 C.F.R. § 25.132 (b)(3). Rather, they need only to provide an attachment to their applications citing the particular non-routine earth station antenna they plan to use, and an application file number and call sign of a license in which that type of non-routine antenna has been previously approved.”

Accordingly, Harris submits the application file number and call sign, **File No. SES-LIC-20060302-00342 (Call Sign: E060075)**, of a previously licensed Prodelin 1244, 2.4 meter earth station, which indicates that the 2.4 meter antenna proposed in this application will operate without conflict.

The applicant agrees to accept any adjacent satellite interference in the 4 GHz receive band as a result of the performance of the antenna in the 1° to 1.5° region. The applicant understands that no adjacent satellite interference protection will be available in the 1° to 1.5° regions. The applicant understands that adjacent satellite interference protection applies only to the extent of the criteria set forth in §25.209. Should the use of this antenna cause interference to other systems; the applicant agrees to terminate transmission upon notice from the Commission.

2.4M Rx/Tx High Wind Antenna

Series 2244

Technical Specifications

Electrical	C-Band Linear	C-Band Circular	Ku-Band	
Antenna Size	2.4 M (96.00 in.)	2.4 M (8 ft.)	2.4 M (96.00 in.)	
Operating Frequency (GHz)	Receive Transmit	3.625 - 4.20 GHz 5.85 - 6.425 GHz	3.625 - 4.20 GHz 5.85 - 6.425 GHz	10.70 - 12.75 GHz 13.75 - 14.50 GHz
Antenna Gain at Midband, dBi ($\pm .2$ dB)	Receive Transmit	38.20 dBi 42.20 dBi	38.20 dBi 42.20 dBi	47.40 dBi 49.20 dBi
VSWR		1.3:1 Max	1.3:1 Max	Tx: 1.3:1 Max Rx: 1.5:1 Max
Pattern Beamwidth (in degrees at midband)				
-3 dB	2.20° Rx 1.40° Tx	2.20° Rx 1.40° Tx	0.70° Rx 0.60° Tx	
-15 dB	4.90° Rx 3.10° Tx	4.90° Rx 3.10° Tx	1.60° Rx 1.40° Tx	
Sidelobe Envelope, $100\lambda/D \leq \theta \leq 20^\circ$ $7^\circ < \theta \leq 9.2^\circ$ $9.2^\circ < \theta \leq 48^\circ$ $48^\circ < \theta$	29 - 25 Logq dBi -3.5 dBi 32 - 25 Logq dBi -10 dBi (averaged)	29 - 25 Logq dBi -3.5 dBi 32 - 25 Logq dBi -10 dBi (averaged)	29 - 25 Logq dBi -3.5 dBi 32 - 25 Logq dBi -10 dBi (averaged)	
Antenna Noise Temperature				
5° Elevation	55 K	61 K	85 K	
10° Elevation	47 K	53 K	78 K	
20° Elevation	43 K	49 K	73 K	
40° Elevation	43 K	49 K	70 K	
Cross Polarization Isolation				
On Axis	> 30 dB	Rx > 15 dB Tx > 17.7 dB	Rx > 30 dB Tx > 35 dB	
With 1.0 dB Beamwidth`	> 27 db	Rx > 15 dB Tx > 17.7 dB	Rx > 25 dB Tx > 26 dB	
Output Waveguide Interface	Rx CPR 229 Tx CPR 137 or Type N	Rx CPR 229 Tx CPR 137 or Type N	Rx WR75 Tx WR75	

Mechanical			
Reflector Material	Glass Fiber Reinforced Polyester SMC		
Antenna Optics	Four Piece Offset, Prime Focus		
Mast Pipe Size	6" SCH 80 Pipe (6.62" OD) 16.80 cm.		
Elevation Adjustment Range	5° - 90° Continuous Fine Adjust		
Azimuth Adjustment Range	+/- 45° Fine Adjustment, 360° Continuous		
Mount Type	Elevation over Azimuth		
Shipping Specifications (Approximate Net Weight):	930 lbs.	950 lbs.	920 lbs.

Environmental Performance			
Wind Loading	Operational	65 MPH (104 km/h) with 0.5dB loss @ 14.25GHz 75 MPH (120 km/h) with 1.0dB loss @ 14.25GHz, 0.5dB loss @ 6.14GHz 90 MPH (145 km/h) with 1.0dB loss @ 6.14GHz	
	Survival	150 MPH (240 km/h)	
Temperature	Operational	-40° to 140° F (-40° to 60° C)	
	Survival	-50° to 160° F (-46° to 71° C)	
Atmospheric Conditions	Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas		
Relative Humidity	0 to 100% With Condensation		
Solar Radiation	360 BTU/h/ft ²		

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2.4M C & Ku-Band Antennas Rx/Tx

Series 1244

Technical Specifications

Electrical		C-Band Linear	C-Band Circular	Ku-Band
Antenna Size		2.4 M (8 ft.)	2.4 M (8 ft.)	2.4 M (8 ft.)
Operating Frequency (GHz)	Receive Transmit	3.625 - 4.20 GHz 5.85 - 6.425 GHz	3.625 - 4.20 GHz 5.85 - 6.425 GHz	10.70 - 12.75 GHz 13.75 - 14.50 GHz
Midband Gain (+/- .2 dB)	Receive Transmit	38.20 dBi 42.20 dBi	38.00 dBi 42.00 dBi	47.40 dBi 49.20 dBi
VSWR		1.3:1 max	1.3:1 max	Rx: 1.5:1 Max Tx: 1.3:1 Max
Pattern Beamwidth (in degrees at midband)	-3 dB -15 dB	Rx: 2.20° Tx: 1.40° Rx: 4.90° Tx: 3.10°	Rx: 2.20° Tx: 1.40° Rx: 4.90° Tx: 3.10°	Rx: 0.70° Tx: 0.60° Rx: 1.60° Tx: 1.40°
Sidelobe Envelope, Co-Pol (dBi) 100λ / D < θ ≤ 20° 20° < θ ≤ 26.3° 26.3° < θ ≤ 48° θ > 48°		29 - 25 Logθ dBi -3.5 dBi 32 - 25 Logθ dBi -10 dBi (averaged)	29 - 25 Logθ dBi -3.5 dBi 32 - 25 Logθ dBi -10 dBi (averaged)	29 - 25 Logθ dBi -3.5 dBi 32 - 25 Logθ dBi -10 dBi (averaged)
Antenna Noise Temperature 5° Elevation 10° Elevation 20° Elevation 40° Elevation		55 K 47 K 43 K 43 K	61 K 53 K 49 K 49 K	85 K 78 K 73 K 70 K
Power Handling		1 kW	1 kW	100 W
Cross Polarization Isolation On Axis Within 1.0 dB Beamwidth		> 30 dB > 27 dB	Rx > 15 dB Tx > 17.7 dB Rx > 15 dB Tx > 17.7 dB	Rx > 30 dB Tx > 35 dB Rx > 25 dB Tx > 26 dB
Output Waveguide Interface Flange		Rx: CPR 229 Tx: CPR 137 or Type N	Rx: CPR 229 Tx: CPR 137 or Type N	Rx: WR75 Tx: WR75

Mechanical				
Reflector Material		Glass Fiber Reinforced SMC		
Antenna Optics		Four-Piece, Prime Focus, Offset Feed		
Mast Pipe Size		6" SCH 40 Pipe (6.62" OD) 16.80 cm.		
Elevation Adjustment Range		5° to 90° Continuous Fine Adjustment		
Azimuth Adjustment Range		+/- 30° Fine Adjustment, 360° Continuous		
Mount Type		Elevation over Azimuth		
Shipping Specifications (Approximate Net Weight)		640 lbs	660 lbs	630 lbs.

Environmental Performance		
Wind Loading	Operational Survival	50 mph (80 km/h) 125 mph (201 km/h)
Temperature (operational)		- 40°to 140°F (- 40°to 60°C)
Rain (operational)		½" / hr
Ice (operational)		-----
Atmospheric Conditions		Salt, Pollutants and Contaminants as Encountered in Coastal and Industrial Areas
Relative Humidity		0 to 100% with Condensation
Solar Radiation		360 BTU/h/ft2

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