

## Exhibit A

### Non-Routine Earth Station Antenna, Uplink EIRP Density, and Protection From Interference

In this application, GCI Communication Corp (GCI) proposes to employ the General Dynamics 2244 2.4m C-band earth station antenna. This antenna is, in terms of performance, identical to the General Dynamics (formerly Prodelin) 1244 antenna. The General Dynamics 2244 antenna has been recognized as non-compliant with the antenna performance standards defined in 47 C.F.R. Ch. 1 §25.209. Included as part of this exhibit are three documents from General Dynamics namely (a) a letter affirming that the 2244 antenna does indeed have the same technical performance characteristics as the Prodelin 1244 antenna and (b) the manufacturer data sheets for each antenna model.

Per the instructions set forth in the FCC International Bureau Public Notice DA 09-425 (“International Bureau Establishes Website For List Of Previously Approved Non-Routine Earth Station Antennas”), GCI cites the following non-routine earth station application to serve as a reference for this GCI application:

Antenna Manufacturer:	Prodelin Corporation
Antenna Model Number:	1244
Reference Application File Number:	S-LIC-20080718-00955
Reference Call Sign:	E080172
Reference Licensee Name:	Intelsat LLC

As presented in the FCC license associated with Call Sign E080172 (noted above), GCI will operate the earth station associated with its’ application at a level 6 dB below the maximum power density into the antenna defined in 47 C.F.R. Ch. 1 §25.212(d)(2). As such, the maximum EIRP density will not exceed -8.7 dBW/4kHz (calculated as: -2.7 dBW/4kHz – 6.0 dB = -8.7 dBW/4kHz).

Furthermore, GCI understands that it is not protected from interference which may result from the General Dynamics 2244 antenna’s main lobe and/or side lobe performance characteristics. As such, GCI will only seek protection to the level associated with an antenna meeting the performance standards defined in 47 C.F.R. Ch. 1 §25.209.

# GENERAL DYNAMICS

## SATCOM Technologies

July 29, 2013

Paloma Field  
General Communication, Inc  
2550 Denali Street  
Suite 1000  
Anchorage, Alaska 99503

Re: General Dynamics SATCOM Technologies Model 2244 C-band Tx/Rx Antenna System

Ms. Field:

This letter is in response to your recent inquiry into the General Dynamics SATCOM Technologies Model 2244 C-band Linear Tx/Rx Antenna System and its performance in relation to the Prodelin Model 1244 C-band Antenna System.

As you are aware, the Prodelin antenna brand was acquired by General Dynamics in 2004 as part of the purchase of TriPoint Global Communications. At the time of purchase, the Prodelin brand was a well-known manufacturer of satellite antennas including the Model 1244.

After acquiring the Prodelin brand and products, General Dynamics developed the Model 2244 Antenna System which is designed for high-wind operation. However, the operational frequency range, gain, pattern beamwidth and noise temperature are all identical. For all intents and purposes, the performance of these two models is identical save for tolerance for high-wind operation.

I understand that you are in the process of licensing the General Dynamics 2244 antenna with the Federal Communications Commission (FCC). For the purposes of this licensing effort, the technical performance characteristics of the Model 2244 antenna are the same as the Prodelin Model 1244 antenna.

Sincerely,



Penny Stevenson  
VSAT Sales Manager  
General Dynamics SATCOM Technologies, Inc.  
1500 Prodelin Drive  
Newton, NC 28658

1500 Prodelin Drive  
Newton, NC 28658  
(P) 828-464-4141  
[www.gdsatcom.com](http://www.gdsatcom.com)

# 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 <sup>2</sup>		

**GENERAL DYNAMICS**  
SATCOM Technologies

**BUY NOW**

1000-025 Rev. 07/11

# 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

## GENERAL DYNAMICS SATCOM Technologies

1500 Prodelin Drive • Newton, NC 28658 USA • Telephone: +1-828-464-4141 • Fax: +1-828-464-4147  
Email: vsat@gdsatcom.com • Web Site: www.gdsatcom.com

1000-057 Rev. 04/12