

05 September, 2012

Mr. John Vezmar
General Dynamics SATCOM Technologies
1500 Prodelin Drive
Newton, NC 28658



Dear Mr. Vezmar:

Subject: Type Approval of General Dynamics SATCOM Technologies 2.4M Ku-band Antenna Series 1241. This antenna is manufactured under the Prodelin brand product line. The Single Optic offset, single-piece reflector Antenna Model is equipped with a 2-port feed and meets standards K-3 and G. The GVF/Intelsat Type Approval number is GVF/IA209A00.

Reference: General Dynamics SATCOM Technologies (Prodelin) Final Test Data Report and Design Review Report dated 29 August 2012.

I am pleased to inform you that effective 05 September 2012 the General Dynamics SATCOM Technologies (Prodelin Brand) 2.4M, single-piece, Single Optic Ku-band Antenna Model, Series 1241, equipped with a 2-port feed is hereby granted approval as an GVF/INTELSAT type approved Antenna Model (GVF/IA209A00) to operate on the Intelsat Satellite System. Our examination of the data submitted confirms compliance with IESS-208 and 601 for standard K-3 and G Antenna Models, respectively.

Antenna Model certified by General Dynamics SATCOM Technologies of the United States:

- | | |
|-------------------|--|
| 1. Manufacturer: | General Dynamics SATCOM Technologies |
| 2. Model #'s: | 1241-990, 1241-991, 1241-992, 1241-993, 1241-350 |
| 3. Approval code: | GVF/IA209A00 |
| 4. Approval date: | 5 September 2012 |
| 5. Antenna size: | Circular 2.4 Meters (Ku-band) |
| 6. Standards: | K-3 and G |
| 7. Restrictions: | |

- 7.1 Operation of Antenna Models using this Type Approved Antenna Model within a leased transponder must be in accordance with an approved transmission plan.
- 7.2. All new individual Antenna Models intended for operation under this Type Approval must be installed according to the manufacturer's specifications.
- 7.3. All new individual Antenna Models under this Type Approval must be equipped with the following parts:

7.3.1 2.4M Antenna manufactured by General Dynamics

Part Number	Part Description
1241-990	2.4m Rx/Tx Ku-Band Antenna System
1241-991	2.4m Rx/Tx Ku-Band Antenna System WSHC
1241-992	2.4m Rx/Tx Ku-Band Antenna System W/120V Anti-Ice
1241-993	2.4m Rx/Tx Ku-Band Antenna System W/240V Anti-Ice
1241-350	2.4m Rx/Tx Ku-Band Antenna System W/OMT/TRF

Feed System

7.3.2 **Part Description**
39 degree Ku-band Feed Assembly

Part Number	
0183-725	39o Feed Horn
0183-495	OMT/TRF Assembly – Ku Band

8.1. Transmit Gain (HLP) (Normalized)

Value at 14000 MHz: 49.2 dBi

Efficiency: 65%

8.2. Transmit Isolation (HLP)

Average: - 34.4 dB

Minimum: - 26.8 dB

8.3. Transmit Gain (VLP) (Normalized)

Value at 14000 MHz: 49.3 dBi

Efficiency: 66 %

8.4. Transmit Isolation (VLP)

Average: -35.8 dB

Minimum: - 26.4 dB

8.5. Receive Gain (HLP) (Normalized)

Value at 11000 MHz: 47.1 dBi

Efficiency: 65 %

8.6. Receive Gain (VLP) (Normalized)

Value at 11000 MHz: 47.1 dBi

Efficiency: 65 %

8.7. Receive Noise Temperature (HLP)

Value at 11000 MHz @ 10° elevation : 64K

8.8. Receive Noise Temperature (VLP)

Value at 11000 MHz @ 10° elevation : 64K

8.9 Receive G/T (calculated) (HLP)

Value at 11000 MHz @ 10° elevation

with 70K LNB : 25.83 dB/K

8.10 Receive G/T (calculated) (VLP)

Value at 11000 MHz @ 10° elevation

with 70K LNB: 25.83 dB/K

8.11 Side Lobe Level: 29 - 25 Log Theta dBi

8.12 Feed Arm Load Bearing 12 lbs
100 lbs with stabilizer

Sincerely,

Calvin Harriott
GVF ATE
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