

01 January, 2012

Mr. Colin Robinson
General Dynamics SATCOM Technologies
1500 Prodelin Drive
Newton, NC 28658

Dear Mr. Robinson:

Subject: Type Approval of General Dynamics SATCOM Technologies 1.8M Ku-band Antenna Series 1182. This antenna is manufactured under the Prodelin brand product line. The single-offset, single-piece reflector Antenna Model is equipped with a 2-port feed and meets standards K3 and G. The GVF/Intelsat Type Approval number is GVF/IA207A00.

Reference: General Dynamics SATCOM Technologies (Prodelin) Final Test Data Report and Design Review Report dated 15 December 2011

I am pleased to inform you that effective 01 January 2012 the General Dynamics SATCOM Technologies (Prodelin Brand) 1.8M, single-piece, Ku-band Antenna Model equipped with a 2-port feed is hereby granted approval as a GVF/INTELSAT type approved Antenna Model (GVF/IA207A00) to operate on the Intelsat Satellite System. Our examination of the data submitted confirms compliance with IESS-208 and 601 for standard K3 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: 1182-990, 1182-991, 1182-994, 1182-995
1182-96, 1182-997
3. Approval code: GVF/IA207A00
4. Approval date: 01 January 2012
5. Antenna size: Circular 1.8 Meters (Ku-band)
6. Standards: K3 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:

	<u>Part Description</u>	<u>Manufacturer</u>	<u>Part Number</u>
7.3.1	1.8M Antenna	General Dynamics SATCOM Technologies	1182-990,-991,-994 -995, -996, -997
7.3.2	2 Port Tx/Rx Feed system	General Dynamics SATCOM Technologies	TIER 1 0800-4670 or 0800-4376

TIER 2
0800-4671 or
0800-4672 or
0800-4673

TIER 3

0800-4674 or
0800-4375

- 8.1. Transmit Gain (HLP) (Normalized)
Value at 14000 MHz: 46.9 dBi
Efficiency: 70%
- 8.2. Transmit Isolation (HLP)
Average: -29.3 dB
Minimum: -26.2 dB
- 8.3. Transmit Gain (VLP) (Normalized)
Value at 14000 MHz: 46.9 dBi
Efficiency: 70 %
- 8.4. Transmit Isolation (VLP)
Average: -32.3 dB
Minimum: -27.0 dB
- 8.5. Receive Gain (HLP) (Normalized)
Value at 11000 MHz: 45.1 dBi
Efficiency: 71 %
- 8.6. Receive Gain (VLP) (Normalized)
Value at 11000 MHz: 44.6 dBi
Efficiency: 70 %
- 8.7. Receive Noise Temperature (HLP)
Value at 11000 MHz @ 10° elevation : 52K
- 8.8. Receive Noise Temperature (VLP)
Value at 11000 MHz @ 10° elevation : 52K
- 8.9 Receive G/T (calculated) (HLP)
Value at 11000 MHz @ 10° elevation
with 70K LNB : 24.24 dB/K
- 8.10 Receive G/T (calculated) (VLP)
Value at 114000 MHz @ 10° elevation
with 70K LNB: 23.74 dB/K
- 8.11 Side Lobe Level: 29 - 25 Log Theta dBi
- 8.12 Feed Arm Load Bearing TIER 1 = 6 lbs
TIER 2 = 12 lbs
TIER 3 = 15 lbs

Sincerely,

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