

9 February, 2009

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



Dear Mr. Robinson:

Subject: Type Approval of General Dynamics SATCOM Technologies 3.8M C-Band Series 1385, 1386 and 1387 Linearly Polarized Antennas. This series is manufactured under the Prodelin brand product line. The single-offset, 4-piece reflector Antenna Model is equipped with a 2-port feed and meets standards F1 and G. The GVF/Intelsat Type Approval number is GVF/IA204A00.

Reference: General Dynamics SATCOM Technologies (Prodelin) Final Test Data Report and Design Review Report dated 15 January 2009.

We are pleased to inform you that effective 15 January 2009 the General Dynamics SATCOM Technologies (Prodelin Brand) Series 1385, 1386 and 1387 3.8M, 4-piece, C-Band Linearly Polarized Antennas equipped with a 2-port feed is hereby granted approval as an GVF/INTELSAT type approved Antenna Model (GVF/IA204A00) to operate on the Intelsat Satellite System. Our examination of the data submitted confirms compliance with IESS-207 and 601 for standard F1 and G Antenna Models, respectively.

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

- 1.0 Manufacturer: General Dynamics SATCOM Technologies
- 2.0 Antenna Details: Model 1385-XXX Standard Antenna, Model 1386-XXX Dual Axis Tracking Antenna and Model 1387-XXX Quick Deploy Antenna
- 3.0 Approval code: GVF/IA204A00
- 4.0 Approval date: 15 January 2009
- 5.0 Antenna size: Circular 3.8 Meters (C-Band)
- 6.0 Standards: F1 and G
- 7.0 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 components of General Dynamics SATCOM Technologies manufacture:

Reflector Petal part numbers:

- 0178-3801, 0178-3802, 0178-3803 and 0178-3804

2-Port Tx/Rx Feed Assembly part numbers:

- 0183-344 (C-band Co-Pol feed with WR137 WG interface)

- 0183-345 (C-band Cross-Pol feed with WR137 WG interface)
- 0183-352 (C-band Co-Pol feed with Type N interface)
- 0183-353 (C-band Cross-Pol feed with Type N interface)

8.0 Performance characteristics from test results:

Transmit Gain, (Horiz Pol) (Normalized) Value at 6000 MHz: 46.1 dBi, Efficiency: 69%

Transmit Isolation, (Horiz Pol), Average: -30.7 dB Minimum: -29.8 dB

Transmit Gain, (Vert Pol) (Normalized), Value at 6000 MHz: 45.9 dBi, Efficiency: 68 %

Transmit Isolation, (Vertical Pol), Average: -30.73 dB, Minimum: -29.7 dB

Receive Gain, (Hor Pol) (Normalized), Value at 4000 MHz: 42.3 dBi, Efficiency: 66 %

Receive Gain, (Vert Pol) (Normalized), Value at 4000 MHz: 42.3 dBi, Efficiency: 66 %

Receive Noise Temperature, (Horiz Pol), Value at 4000 MHz @ 10° elevation: 42.5 K

Receive Noise Temperature, (Vert Pol), Value at 4000 MHz @ 10° elevation: 42.5 K

Receive G/T, calculated, (Horiz Pol), Value at 4000 MHz @ 10° elevation with 30K LNB: 23.7 dB/K

Receive G/T, calculated, (Vertical Pol), Value at 4000 MHz @ 10° elevation with 30K LNB: 23.7 dB/K

Side Lobe Level: 29 - 25 Log Theta dBi

Feed Arm Load Bearing: 30 lbs

Sincerely,

Calvin C. Harriott

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GVF/Intelsat ATE

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