Antenna Development Corporation - AntDevCo

Introduction:

*A*ntenna *D*evelopment *C*orporation, Inc. (*AntDevCo*) is a New Mexico sub-chapter S corporation founded in June of 2005 by Dr. Bruce Blevins and Thomas Greenling. We were spun off from the Electromagnetics Group at the Physical Science Laboratory, New Mexico State University.

The company's charter is to develop and manufacture high technology antennas and antenna hats for rockets, missiles, and spacecraft. We concentrate on custom solutions for broad beamwidth, low gain antennas for the space and near-space environment. We also provide contract design and analysis services for space communications with concentration on the TDRSS project, both at the ground station and for TDRSS customer spacecraft antennas.

The company has embraced the ISO philosophy from its inception and maintains its ISO 9001-2008 registration. Quality is our primary concern and we strive to make continuous improvements in all of our processes and products.

Facilities:

AntDevCo operates out of a 2200 square foot office/high bay facility located in Las Cruces, New Mexico. We subcontract certain activities to qualified suppliers including New Mexico State University with its Physical Science Laboratory antenna test facilities, machine shops, and highly qualified professors and scientists. In addition, we also use certain qualified RF test labs, circuit board manufacturers and local machine shops. We have developed close relationships with these external sources and have had very good success with the production of quality devices.

Equipment/Resources:

Network Analyzers: HP8510C/8514 (three systems), HP8754A, HP8752C.
Synthesizers: Gigatronics 2408AL (three) (0.01 to 8 GHz) Scientific Atlanta 2180/3 (0.1 to 20 GHz)
Sweep Generators: HP8350 (two), 0.01 to 26.5 GHz
Frequency Counters: HP5340 (two) HP 5343A
RF Matrix Switch: AntDevCo designed unit.
Antenna Range Receiver: Scientific Atlanta 1783
Anechoic Chamber: Dual linear polarization, 1 – 20 GHz
Thermal Test Chamber: Thermotron EL1200, -70 to +200 C
Thermal Vacuum – Turbo pump, RGA, TQCM, -110 to +120 C, 10^{-6} Torr. 20" dia. X 15" tall SS chamber.
Power Meters: HP432, HP436 with heads to 26.5 GHz
Electromagnetic Software: HFSS (Ansoft), NEC, NEC-BSC, In-house antenna analysis software.
CNC Router: (sheet metal processing) – ShopBot 4' X 8'
Temperature monitoring: National Inst. USB-TC
Mechanical Pyro Shock: Pneumatic cannon, analysis software, digitizer.
Assembly tools: Laboratory & process ovens, binocular microscope, calipers, weight scale, 12-ton press, clean bench, eyelet press, soldering stations etc.

History:

The two principals of *AntDevCo* have an aggregate experience of more that 40 years of antenna design, test, and manufacture. Dr. Blevins has designed antennas for experimental astrophysics receivers, radars, and many small spacecraft and missiles. Thomas Greenling began his antenna career with the repair of submarine antennas while in the Navy and has also designed numerous antennas for spacecraft and missiles. Dr. Blevins owned and operated his own company, (Tesota Products Antenna Division - TPAD) in the 90's and started his production of antennas for small spacecraft at that time. Blevins and Greenling then worked together at the Electromagnetics group at PSL from 1997 through 2005 on many antenna programs for manufacturing and test. We have personally been the leaders in the development of the low gain antennas for the Insight, Ladee, Iris, TERRIERS, HETE, THEMIS, MIGHTYSAT, ALEXIS (Blackbeard), GENESIS, STARDUST, ROADRUNNER, ST-5, and HESSI spacecrafts – to name just a few. AntDevCo also designed and delivered several antennas for a DOD spacecraft GPS receiver system. Further, we were the design engineers for a number of sounding rocket, ballistic missiles, and ballistic missile target vehicle antennas as subcontractors for BMD and other programs. For example, Dr. Blevins led the PSL effort to develop and manufacture dual GPS antennas for the MOD-7 wafer used in the sustaining flight tests of the Minuteman III missile. We have also designed and developed a number of antenna hats (couplers) for spacecraft and missile antenna systems. Finally, both of the principals of AntDevCo have significant experience at the TDRSS program in systems design and analysis.

ISO 9001:2008 Registration No. 41211811

Antenna Development Corporation

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Precision Antennas for Spacecraft, Rockets, and Missiles