

Form 442: Description of Research Project – Addendum

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Description of the nature of the research project being conducted:

Technology Driven Products (TDP) is a contract design and manufacturing business engaged in design and manufacturing a variety of GPS enabled devices including:

- Vehicle tracking systems.
- Portable weather observations systems (DropSonde, and RadioSonde).
- Emergency response systems.
- Geolocation equipment.

Accurate rendering of position based on GPS is a critical function of these devices.

This project seeks to enable development and the production testing of the GPS receivers by improving signal level inside the manufacturing complex.

An antenna located on the roof of the building receives the signal then it is re-radiated inside the building.

Show that the communication facilities requested are necessary for the research project involved:

Until now, development units have been laboratory tested or taken outdoors in small quantities for test due to attenuation of the GPS signals passing through the building.

Production volumes of these devices will require in-line test with immediate feedback of GPS receiver functionality.

Further research and development of GPS based equipment requires access to live signals.

Show that the existing communication facilities are inadequate:

Transportation of sensitive and exposed electronic instruments to the outdoors for acquisition of GPS signals is unrealistic in production volumes* during Colorado winter weather conditions and across multiple work shifts. There are concerns about employee safety and potential for product contamination.

The 41700 ft² building is concrete and steel with a metallic roof structure.

There are no production or engineering lab areas with suitable exposure to GPS signals.

* Production volumes are confidential but available upon request.