

FCC Form 442 Exhibit #1

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The experimentation that George Schmitt & Co., Inc. is proposing to undertake with this license is: Advanced Radio Frequency Identification Systems.

George Schmitt & Co. is a company that designs, assembles, and tests passive Radio Frequency Identification (RFID) tags/labels. These RFID tags/labels are used in Radio Frequency Auto Identification Systems throughout the world. Schmitt & Co. presently manufactures, tests, and sell millions of these RFID tags/labels for use in the North American marketplace. These N. American RFID products operate within the approved FCC frequency bands of 13.56Mhz. and 902-928Mhz. Schmitt & Co. is now working to expand its RFID label business globally. In order to support this global expansion it will be necessary for Schmitt & Co. to be able to manufacture and test RFID inlays, labels, & tags that operate in frequencies not approved for such operation within the USA. This application for an Experimental License is to allow Schmitt & Co. to set up and operate testing facilities to support the production of RFID labels/tags/inlays for shipment outside of the continental USA.

Different regions of the world have approved different frequency spectrum allocations for the operation of RFID systems. Schmitt is seeking approval to be able to operate low power RFID testing systems covering the following frequencies and power levels:

European UHF RFID band: 865.6Mhz to 867.6Mhz.	max 2W ERP
Japanese UHF RFID band: 952Mhz to 954Mhz.	max of 2W ERP
Chinese UHF RFID band: 840.25Mhz to 844.75Mhz	max 2W ERP
Singapore UHF RFID band: 866Mhz to 869Mhz.	max 0.5W ERP
Hong Kong UHF RFID band: 865Mhz to 868Mhz.	max of 2W ERP
New Zealand UHF RFID band: 864Mhz to 868Mhz.	max of 2W ERP

All of the testing done in these identified frequencies will utilize commercially available RFID Readers or interrogators along with commercially available antennas. All of these devices are manufactured and sold in each of the Global Regions identified above which have approved and allocated frequency spectrum (defined above) and operated within the maximum Effective Radiated Power (ERP) levels approved for these systems. All of these testing systems utilize industry standard backscatter modulation schemes and industry accepted and approved protocols. Schmitt's testing operations would utilize these testers in two possible operation modes: (1) frequency hopping per a given regions specifications (2) single frequency operation used only for testing purposes.

The theory of operation for passive RFID systems utilizing backscatter modulation is based upon two key pieces of equipment, one called a "Reader" or "Interrogator" and the second is called the "Tag" or "Transponder". The Tag is typically programmed with customer unique information and placed on an item or device to be tracked remotely. The Tag can also receive input from or control output from the item/device that it is placed upon.

The Reader illuminates the Tag with CW (continuous wave) RF (Radio Frequency) energy and can modulate the CW signal to tell the Tag to respond, or depending on the type of Tag, it may start to respond automatically in the presence of RF energy within its designed frequency band. The Tag responds by backscatter modulating the CW signal that is illuminating it with some or all of its programmed information. This backscatter signal is received, demodulated, and processed by the Reader into data that can then be utilized by the end user. Typical read ranges for these devices is from a few feet to maximum of about 30 ft..

The specific objectives sought are to be able to 100% test the operation and functionality of the RFID inlays, tags, and labels so that these can be sold to end customers throughout the world for use in their custom auto identification systems. These RFID labels/Tags will be marketed and sold throughout the world for profit.

Schmitt & Co. has developed its own unique RFID testing systems and methodologies utilizing commercially available Readers and antennas that has proven to be able to supply 100% readable inlays/tags/labels to end customers. These systems and methodologies have been submitted for patent protection in N. America. Schmitt & Co. has been awarded one of these patents to date.

Schmitt plans to utilize these same basic RFID testing systems and methodologies that it presently utilizes for its N. American product testing for the international frequency testing under the requested Experimental License. Schmitt plans to incorporate commercially available International Readers and antennas into its testing systems to accomplish this testing.