



Systems & Electronics Inc.

201 Evans Lane
St. Louis, MO 63121-1126

An ESSI Company

29 August 2002

Federal Communications Commission (FCC)
Experimental Radio Service
P.O. Box 358320
Pittsburgh, PA 15251-5320

Gentlemen:

SEI is submitting this letter as an informal request for a Special Temporary Authority (STA) for conducting experimental radar tests. SEI is a defense contractor who is engaged in the design, development and production of defense electronic equipment that includes radar systems operating with microwave carrier frequencies. We are currently developing a radar system using internal research and development (IRAD) funds. The development of this system is at a stage where ground tests will be required for a limited period to evaluate the benefits of the proposed design. If the IRAD program is successful, the design will transition into the Military sector through a future development program.

The limited time duration of the proposed testing and the non-commercial nature of the proposed product support our request for an STA from the FCC for the proposed. This request is being submitted in accordance with the procedure outlined in Part 5, Section 5.56 of the FCC Regulation (47 CFR, Chap. 1). Information that must be submitted is summarized in the attached table.

The \$50.00 processing fee for the STA licensing procedure will be paid by SEI Visa credit card

Your prompt attention to this request is sincerely appreciated. Please submit your response to my attention at the following address:

Mr. John A. Ziegler
Mail Station 4050
SEI
201 Evans Lane
St. Louis, MO 63121

Thank you.

Yours truly,

John A. Ziegler
Sr. Engineering Scientist

Attachments: Table 1, SEI Response to Information Required by the FCC for Special Temporary Authority

Table 1. SEI Response to Information required by the FCC for Special Temporary Authority

Name and Address:	Systems & Electronics Inc. (SEI) 201 Evans Lane St. Louis, MO 63121
Need for Special Action:	SEI desires to conduct tests to evaluate the utility of new radar waveform design, which is being developed using SEI IRAD funding. The new radar waveform is being marketed to the US Department of Defense.
Type of Operation to be Conducted	Ground tests at fixed test sites will be conducted to collect and process radar echoes from typical natural and man-made ground reflectors.
Purpose of Operation:	The purpose of the operation is to collect experimental data that is needed for the evaluation of the utility of the proposed radar system design.
Time and Date of Proposed Operation:	The radar tests will be conducted during a six-month period commencing no sooner than 1 October 2002 and concluding no later than 31 March 2003. The actual tests are expected to take approximately one month. The time of testing is typically expected to be daily between the hours of 0800 AM to 6:00 PM.
Class of Station, Call Sign of Station, Nature of Service:	Class of Station: Experimental Call Sign of Station: Not Applicable, New Application Nature of Service: Fixed
Location of Proposed Operation	Tests will be conducted in the greater St. Louis, Missouri, area at both the SEI facility in St. Louis County, Missouri and at a remote test site. The most likely test site will be located in Jersey County, Illinois, with radiation across the Mississippi River in the direction of St. Charles County, MO and up the Illinois River in the direction of Calhoun County, Illinois. Alternate test sites that could be considered include St. Louis and St. Charles counties in Missouri and Calhoun and Washington counties in Illinois.
Equipment to be used, including Manufacturer, Model and number of Units:	The experimental radar that will be tested was assembled by SEI and is called the Vertical Lift Radar Testbed. Only one unit will be assembled and tested.
Frequency(ies) Desired:	The center frequency of the transmitted signal and its bandwidth will be such that all transmissions will be confined between 16200 MHz and 16800 MHz.
Effective Radiated Power:	The effective radiated power (erp) will be adjustable with a peak value of 77.3 dBm. This erp is the result of transmitting a peak power of 20 Watts through an antenna with a peak gain of 34.3 dB with respect to isotropic (dBi).
Type of emission:	Per Section 2.201 and 2.202 of the FCC guidelines, the type of emission is 160MWXX.
Overall Height of Antenna Structure Above Ground:	The tests will be conducted with the antenna mounted on the ground in the doorway of a one story manufacturing facility and on the back of a truck parked in a lot of a facility which is located on a bluff over the Mississippi River. The anticipated antenna height that results with the second test site will be less than 230 feet above the ground terrain nearby.