

Applicant: CSG USA INC
File Number: 0522-EX-CR-2021

NARRATIVE STATEMENT

Applicant CSG USA INC requests a conventional experimental license to field-test a through-the-wall radar intended for use by first responders in emergency situations.

For police and firefighters, ignorance can be deadly. The ability to precisely locate hostages and victims prior to entering a space threatened by fire or armed suspects can mean the difference between life and death. Often, gaining this information requires sensing through solid walls.

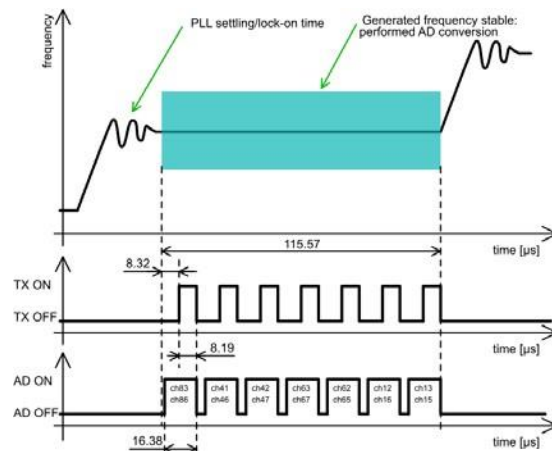
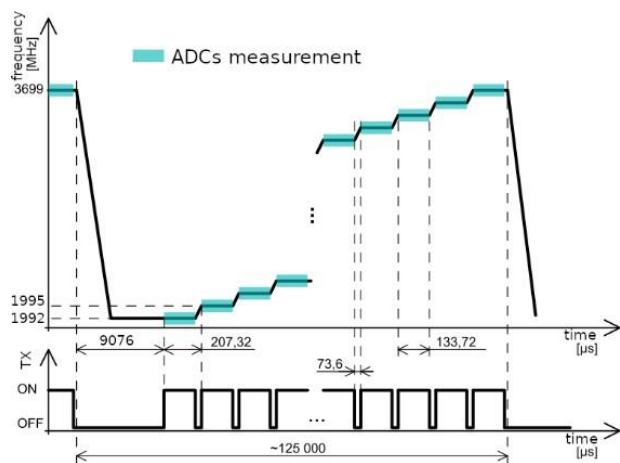
One critical, life-saving application of through-the-wall radar is the ability to pinpoint the position of an unconscious person by detecting the small chest motions of the victim's breathing. Especially when the victim is behind a thick wall, this requires a radar with high sensitivity and resolution. Having the device on the scene when needed also calls for a small form factor and adequate battery life.

The device to be tested is an ultra-wideband through-the-wall radar, similar in application to devices eligible for certification under Sec. 15.510, but seeking to improve performance with two departures from the UWB rules. Instead of using a conventional UWB train of short pulses to generate a wide bandwidth, the device gains better performance by stepping sequentially across the 1992-3699 MHz band. (See timing diagrams below.) Also to improve performance, for experimental purposes, the power levels exceed the limits in Sec. 15.510 by about 15 dB, when measured per the Commission's Part 15 rules.

The power levels entered on Form 442 are specified pursuant to Sec.15.35(b).

The locations identified on the form are the facilities of first responders who will participate in the testing. Results of the research will help to guide development of the next generation of this life-saving technology .

IMPORTANT: The website requests "AFTRCC Pre-coordination Document "and "FAA Regional Pre-coordination Document." These should not be required at this application's UWB nanowatt power levels.



Timing diagrams for equipment under experimental application