



**TRW Electronics &  
Technology Division**  
Space & Electronics Group

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November 24, 1998

Ms. Magalie Roman Salas  
Secretary  
Federal Communications Commission  
The Portals TW-A325  
445 12th St., S.W.  
Washington, DC 20554

**RECEIVED**

**DEC 9 1998**

**FCC MAIL ROOM**

RE: Ultra-Wideband N.O.I., ET Docket 98-153

Dear Ms. Magalie Roman Salas:

- TRW does \$11 billion in annual sales, two thirds of which are derived from Tier 1 automotive components and systems, and the remaining third in aerospace systems. Our aerospace business adds value to our automotive business by technology transfer mechanisms. My name is Barry Dunbridge. I have a dual role in our Space and Electronics Group as well as in our Center for Automotive Technology, which facilitates this technology transfer. Under my direction, our aerospace engineers are evaluating UWB for automotive applications.
- A large proportion of TRW's automotive business is in safety systems. TRW hopes to use low power UWB technology to enable several new electronic systems in automobiles, primarily in safety systems. For example, we envision this modulation format as a viable means to implement (1) lane change collision warning proximity sensors and (2) airbag proximity measurement (passenger position measurement), using time of flight radar principles. In both cases, we believe that UWB is needed to obtain sufficient measurement accuracy and precision, and we believe the function can be accomplished by devices using UWB waveforms at power levels so low that they will not interfere with any other services.

TRW's extensive Remote Keyless Entry product line may also benefit from UWB formats. We also envision UWB as a viable candidate for wireless data transfer among electronic sensors and actuators in automobiles, providing a combination of low power, robust intravehicle communication at low cost to consumers. Finally, intelligent highway applications involving short range intervehicle communications is an application area in which TRW may wish to apply UWB.

- TRW believes that UWB has advantages as stated above and can coexist with other services in the applications stated above. We recommend that the FCC should issue modified rules to allow for UWB.

Sincerely,

  
for

Dr. Barry Dunbridge  
Chief Scientist, Electronics and Technology Division