

Attachment to

Application for new or modified radio station authorization under part 5 of FCC rules experimental radio service (other than broadcast)

Narrative statement to point 7:

(a) The complete program of research and experimentation proposed including description of equipment and theory of operation.

The application of the product we are developing is a driver assistance system. The system alerts a user when an unsafe lane change is about to made. Warnings are accomplished by two 24-Ghz radar sensors which are mounted in the left, and right rear corners of the vehicle, behind the bumper. The oscillators of the two radar sensors are not phase coupled to each other so no coherent addition of the emitted signal takes place. The transmit antennas are not designed for maximum gain. The radiation pattern has a special shape to illuminate the rear area of the car – left corner and right corner. Consequently the main beam direction is towards the rear of the car. The radar sensors measure range, range rate, and angular position of objects by applying well-known radar concepts (FMCW, simultaneous lobbing)

The above described system shall be operated for testing, and customer presentation purposes primarily in/on company premises, public roads, and residential areas.

(b) The specific objectives sought to be accomplished.

- present system performance to car manufactures
- test, and optimize system performance (under realistic conditions)

(c) How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion, or utilization of the radio art, or is along line not already investigated.

In the automotive industry a considerable improvement to the safety of road vehicles, and road traffic is achieved when using radars to assist drivers.