

# Human Exposure to Radio Frequency (RF) Fields From Mobile (Vehicle - Mounted) Antennas

## FCC Consumer Facts

### Background

Vehicle-mounted antennas used for wireless communications normally operate at a power level of three watts or less. These wireless antennas are typically mounted on the roof, trunk, or rear window of a car or truck.

### Results of Studies

Studies show that, in order to be exposed to RF levels that approach the safety limits adopted by the FCC, it would be necessary to remain very close to a vehicle-mounted wireless antenna for a significant amount of time. Studies have also shown that the metal body of the vehicle can effectively shield occupants. Proper installation of a vehicle-mounted antenna to maximize this shielding effect is a good way to minimize exposure. Some companies recommend that antennas be installed either in the center of the roof or center of the trunk of a vehicle. In response to concerns expressed over the commonly used rear-window mounted wireless antennas, a minimum separation distance of 1-2 feet has been suggested as a way to minimize exposure to vehicle occupants.

### Conclusions/Recommendations

From data gathered to date, properly-installed, vehicle-mounted, personal wireless antennas using up to three watts of power result in maximum exposure levels in or near the vehicle that are typically well below the FCC's safety limits, assuming that the transmitting antenna is 6 inches or more from vehicle occupants.

### For More Information

For more information on this issue, visit the FCC's RF Safety Web site at [www.fcc.gov/oet/rfsafety](http://www.fcc.gov/oet/rfsafety). For further information about any other telecommunications-related issues, visit the FCC's Consumer & Governmental Affairs Bureau Web site at [www.fcc.gov/cgb](http://www.fcc.gov/cgb), or contact the FCC's Consumer Center by e-mailing [fccinfo@fcc.gov](mailto:fccinfo@fcc.gov); calling 1-888-CALL-FCC (1-888-225-5322) voice or 1-888-TELL-FCC (1-888-835-5322) TTY; faxing 1-866-418-0232; or writing to:

Federal Communications Commission  
Consumer & Governmental Affairs Bureau  
Consumer Inquiry and Complaints Division  
455 12<sup>th</sup> Street, SW  
Washington, DC 20554.

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