Automobiles and related infrastructures combine to create a dense EM atmosphere. These massive, unnatural EMF exposures affect the health of all living beings. In addition, wireless signaling features of **Bluetooth** transport systems open up risks to privacy, vehicle Infotainment access and data ownership. This map can only introduce technologies and suggest areas of concern. Ignition system

RF field sources inside vehicle

RFID LF	30 - 500 KHz
Anti-theft	125 MHz
Throttle control	150 MHz
Remote locking	315 MHz
Pressure sensor	434 MHz
RFID - HF	900 MHz
GPS	1.6 GHz
	1.2 GHz
Bluetooth	2.4 GHz
WiFi	2.4 GHz
RFID HF	2.45 GHz
Blindspot radar	24 GHz
Collision radar	77 GHz
	94 GHz



Hum Diagnostics Anti-theft systems **RFID** tags in parts Remote immobilizer Electronic car alarm Car-to-car connection Tire pressure monitors Steel-belted radial tires mm Wave radar systems Collision avoidance radar Collision preventing radar Hands-free app activation Car alarms, parts of alarm **Electromagnetic suspension** Remote lock, unlock systems Wireless EV charging systems Navigation, parking spot finder Hybrid low-speed magnetic fields Magnetic sensors, distance betw. cars

EMF IN AUTOMOBILES

GPS

CarFi

LAWS: CURRENT, FUTURE

TIRE PRESSURE SENSORS EVENT DATA RECORDERS 2016 BACK-UP CAMERAS

CONNECTED CAR GUIDE

DIGITAL CARJACKERS

CONSUMER REPORTS

PRACTICAL TIPS

Home: Oscillatorium Newest version this map Date of this update: 02-15-17

Magnetic field sources

Alternator Spark plugs Distance sensor A/C, heating fans Ignition -- longer wires, esp. Entire engine compartment Steel-belted radials

Additional roadside EMF sources

Cell towers, small cell antennas Broadcast stations WiFi hotspots Traffic photo radar **Pre-PASS** Other cars: radar, EF, MF, RF/MW High voltage transmission lines



Tesla Motors

Google project

VW Hover Car?

Driver facial recognition, device detection

SELF-DRIVING CARS

WIRELESS ISSUES Interference Hacking Remote disconnect Adverse health effects Adverse environmental effects Distracted driving Surveillance, privacy Dysfunction of software, hardware

V2V TECHNOLOGY

V2V COMMUNICATION **CAR/CAR COMMUNICATION**



"The gasoline-ignition engine has spark plugs to ignite the fuel-air mixture. The ignition (spark) system is a tremendous source of broad spectrum RF Radiation as well as Magnetic Fields.

The car body is used as part of the electrical system, considerable electrical emissions exist inside an automobile.

The alternator is a strong source of Magnetic Fields.

The diesel engine with mechanical fuel injection has no spark plugs at all. An electric spark is not required therefore lower Magnetic Field emissions

The car stereo is a large source of EMF, even when powered off.

Keep distance form the audio speakers which emit large magnetic fields.

The air conditioning and heating fan generate large magnetic fields.

Most new cars have a satellite communication system and can transmit high levels of RF radiation.

Avoid speaking on a cell phone in the car without an external antenna. The RF waves will be reflected back at you from the metal chassis, doors and roof magnifying the radiation. Also, the cell phone has a hard time sending its signal out of the car because of the metal chassis, and increases its transmitting strength to compensate.

New hybrid vehicles will emit high electric and magnetic fields." Safe Living Technologies

Features to look for:

- larger vehicle
- older vehicle
- no anti-lock brakes
- few electronic gadgets
- battery far from driver
- ignition coil far from driver
- alternator far from driver
- fuse box far from driver
- no side-mounted engine

EIWELLSPRING: Low EMF **EIWELLSPRING:** Measurement

Self-driving cars 2020

Wireless under the hood

Highway network for self-driving cars





Short ignition wires are generally safer

There is no US standard for automobile EMF

The preference is that the driver's side have the lower EMF

Most car insurance offers discounts if there is anti-theft system in place

The metallic chassis reflects RF inside vehicle, adding to total exposure.

Many RF technologies are standard in cars, so consider getting an older model.