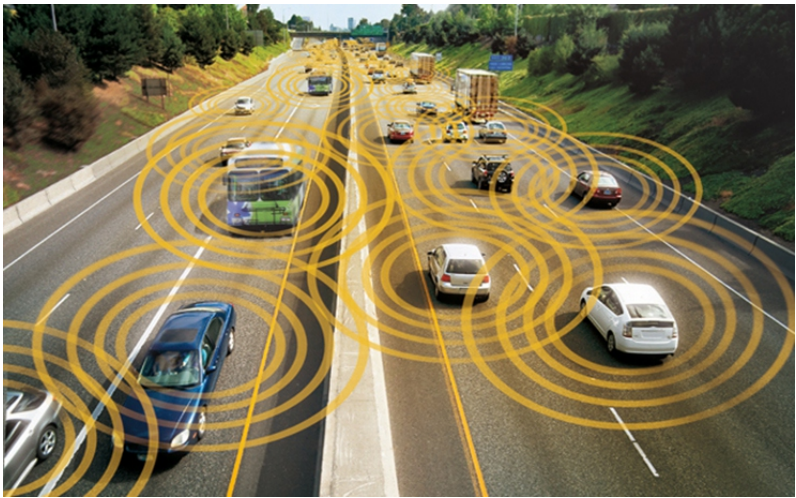


SELF-ORGANIZING DEDICATED SHORT-RANGE COMMUNICATION MIMO-SYSTEM FOR VEHICLES RADIOLOCATION AND VEHICLE-TO-VEHICLE DATA TRANSMISSION ON HIGHWAY



Intercommunication between vehicles on highway
by means of the DSRC MIMO-system

Areas of Application

Vehicles monitoring and information exchange is between the participants of road motion on highway.

Advantages

DSRC MIMO-system has not of analogues in the world.
DSRC MIMO-system envisages a completely off-line operation of vehicle at complete absence of base stations.
Combination of spatially code (S-CDMA) separation of channels and chaotic waveform coding and a new procedure of binding over of code to every transport vehicle are distinguishing features of DSRC MIMO-system.
Unique codes give a potential possibility for construction of DSRC MIMO-system without the dedication of frequency or temporary channel for every vehicle and data reception on without searching basis.

Specification

Frequency range, GHz	5,725–5,875
Number of motion stripes	8
Number of frequency channels	2
Channel bandwidth, MHz	74
Access method	S-CDMA
Spread-spectrum codes	CWS, UBPRS
Codes number	128
Data transmission rate, Mbit/s	≥1,152
Carrying capacity of channel, Mbit/s	≥74
Synchronization	GPS

Stage of Development

IRL5, TRL6
Development and making of corresponding equipment of the system come true in order.

IPR Protection

IPR2, IPR5

Contacts

Logvinov Yuriy Fedorovich; O.Ya.Usikov Institute of Radiophysics and Electronics, National Academy of Sciences of Ukraine; +38-057-315-20-09; logvinov@ire.kharkov.ua