

Evaluation solution to achieve high quality and high efficiency development of wireless devices

Benefits

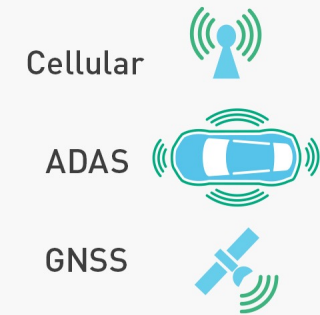
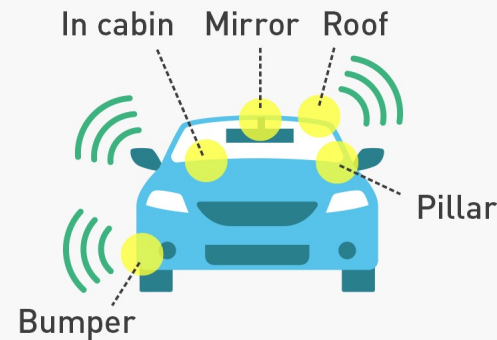
Evaluation solution with vehicle body

High-quality communication performance and optimal antenna placement by evaluating the body as well.

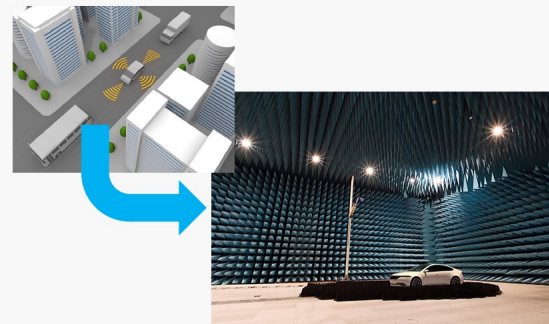
This solution is available not only for antenna and radio communication development, but also for function and application development.

Replacing outdoor field test with Lab test to provide more efficient development.

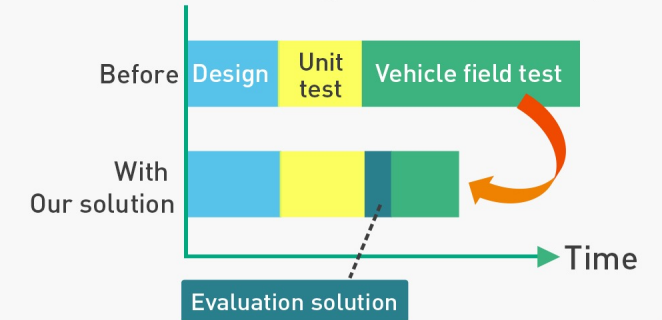
Compatibility of communication performance and vehicle design



Replace field test with Lab test



Effect of shortening development period



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Technical Advantages

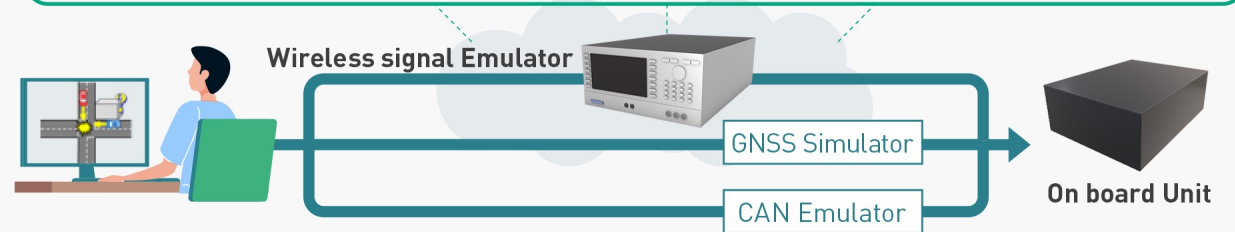
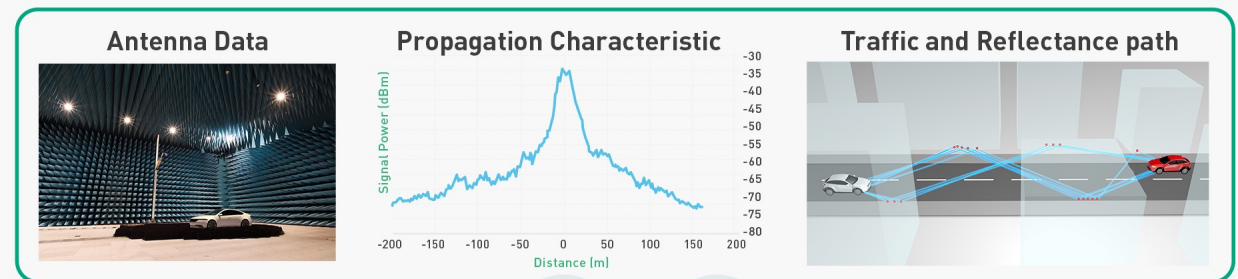
Applying measured antenna data to emulation

- Analysis techniques for radio propagation. ex, Attenuation, Delay, Doppler modulation
- Combine with road conditions and other vehicles to create test scenarios in various traffic environments.

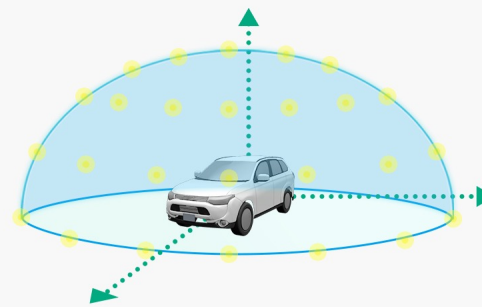
Omnidirectional Vehicle Wireless Performance Analysis

- Technology to analyze the effect of the vehicle body on radiation characteristics in 3D.
- Analysis techniques of Multi-antenna. ex, MIMO/Diversity/Beamforming

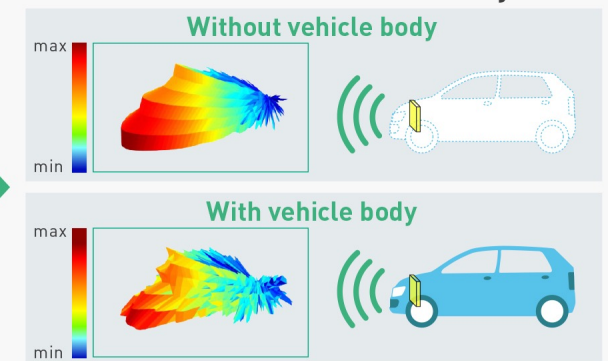
Application Examples of Antenna Performance Data



Omnidirectional Measurement



Antenna Performance Analysis



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Applications

Wireless communication system for safety driving

Evaluating various systems such as telephony, sensing.

•5G/V2X

By evaluating with vehicle, we can analyze the communication performance with a variety of vehicle types and antenna layout in a vehicle.

•ADAS Radar

This system can evaluate the performance of 3D short range radar as well as 2D long range one.

5G/V2X

Optimal location verification of antennas.



General V2X unit specification

	Specification	
RF interface	Communication system	DSRC C-V2X
	Frequency	5,850 ~ 5,925MHz
	Diversity	Tx/Rx
GNSS	constellation	GPS, GLONASS, SBAS

DSRC : Dedicated Short Range Communications
C-V2X : Cellular V2X
GLONASS : Global Navigation Satellite System
SBAS : Satellite-Based Augmentation Systems

ADAS Radar

3D radar requires vertical performance evaluation.

2D Radar : Horizontal direction

3D Radar : Horizontal and Vertical direction

