

**Dt&C**

**VINA**

*Automotive testing center*

# 1. Only Automotive Test Lab in Vietnam



# 2. One-stop Total Digital Testing Service



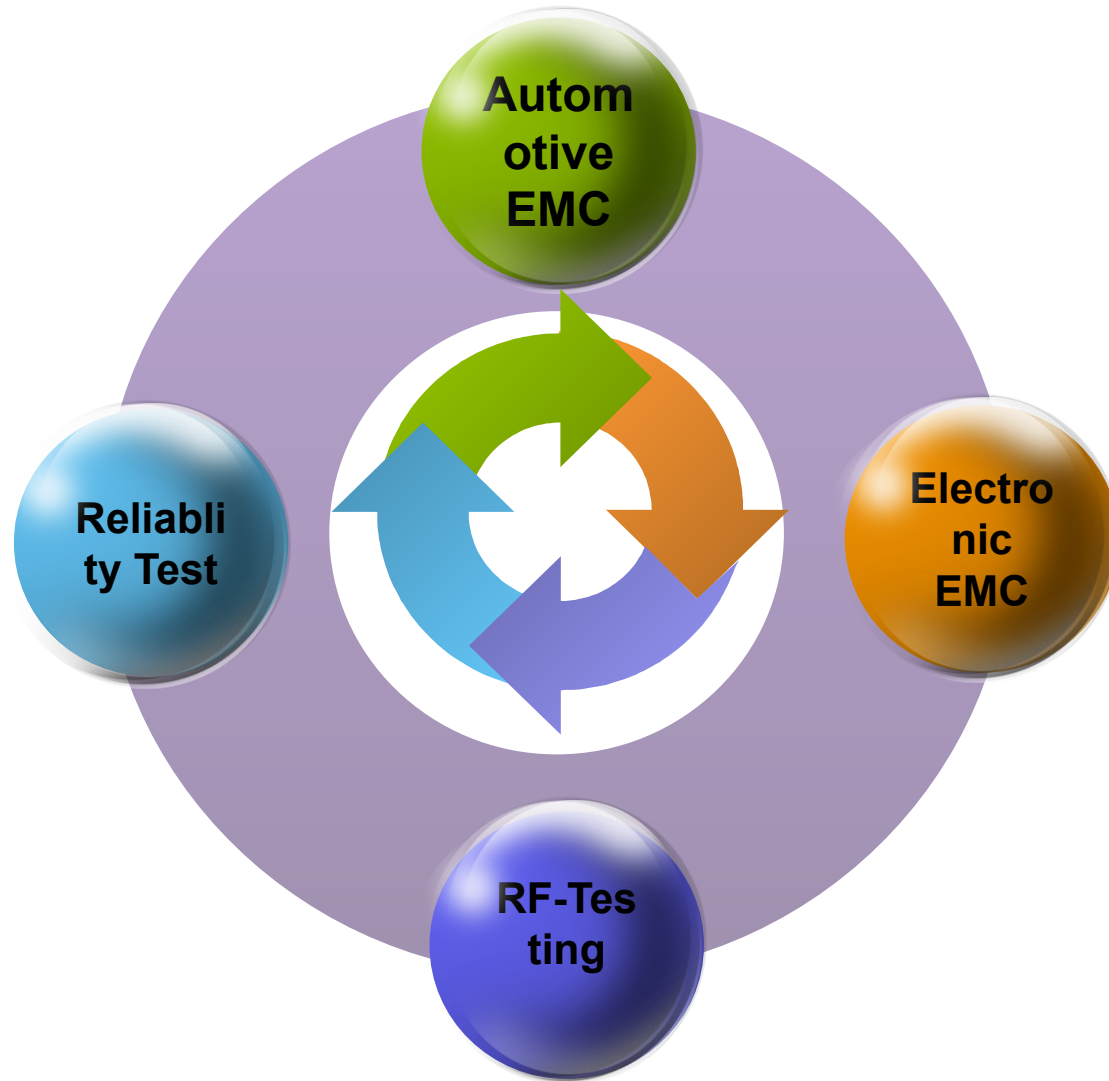
IP test system



Vibration test system



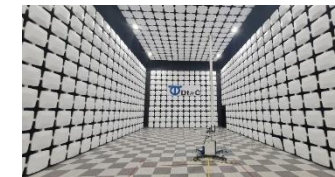
Rapid temp./humidity chamber



EMI Shield Room



RS Chamber (Radiated Susceptibility)



10m Full Chamber





# 3. Dt&C VINA Network



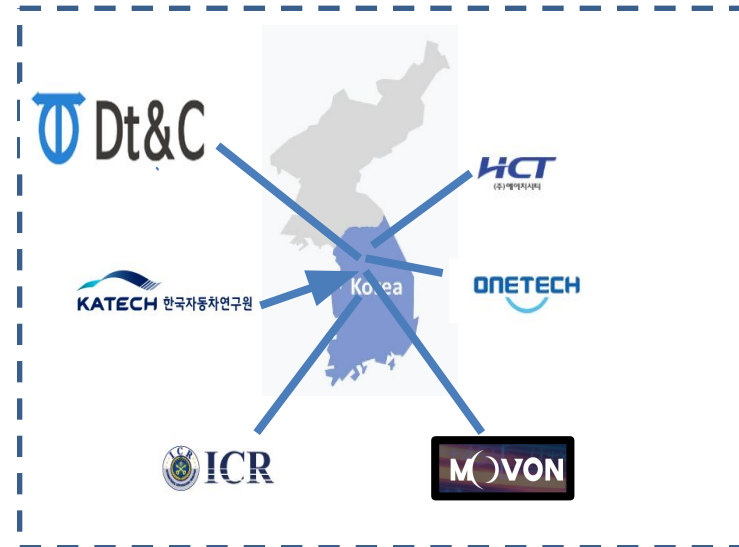
Testing & Certification in Korea



Railway and ICT Industry Testing & Certification



Vietnamese Testing & Certification Development



Non-Clinical, Toxicity Test, Bioequivalence, Clinical Trial



Dt& SanoMedics Contract Research Organization



Safe Soft



Software V&V, Automotive Testing in Japan



Chinese Testing & Certification



Venture Capital Investment

## 4. What is Automotive EMC ?

Automotive EMC is a test to prevent unintentional radiation of automobiles from affecting motor vehicles and local electrical and electronic devices, and to protect motor vehicles, passengers, and other vehicle users from electromagnetic waves

Today's cars are made up of more sophisticated electronic components and systems than ever before. Additionally, new advances such as autonomous driving technology are using more and more sensors and electronics to enable connectivity and secure communication. Therefore, automotive electronics testing is essential to ensure that the components are safe and do not interfere with the safe operation of the vehicle. Automotive electronics testing ensures that every vehicle's electronic components withstand rigorous testing and comply with applicable regulatory and EMC testing standards.

## 5. Automotive electronic product testing service?

In line with the technology development trend of the automobile industry, DT&C VINA provides the best quality and technology for the testing of domestic and foreign automobile manufacturers' electronic components.



## 6. Test item : Any part or device that conducts electricity in a vehicle

- Car AVN, Car Audio, Navigation, Black Box, Digital Clock
- BMS (Battery Management System), ECU (Engine Control Unit)
- TPMS (Tire Pressure Monitoring System), FATC (Full Automatic Temperature)
- SKM (Smart Key Management) Cluster, ACU (Airbag Control Unit), Immobilizer, Cruise Control, BCM, PSM
- PAS (Parking Aid System), RVC (Rear View Camera), Head Lamp, ABS, Telematics System, Alternator
- Relays, Motors (Power Window, Sunroof, Wiper, Washer, Seat, etc.), Sensors, etc

# 7. Automotive EMC

Testing service to evaluate whether electrical electronic equipment is designed without suffering from the deterioration of performance due to electromagnetic interference.

	Test Scope
<b>E-Mark</b>	ECE R-10, ECE R-97
<b>CISPR 25</b>	
<b>ISO Series</b>	ISO 11452-1, ISO 11452-2, ISO 11452-4, ISO 11452-8, ISO 11452-9, ISO 7637-1, ISO 7637-2, ISO 7637-3, ISO 10605, ISO 16750-1, ISO 16750-2
<b>SAE Series</b>	SAE J1113-4, SAE J1113-11, SAE J1113-12, SAE J1113-13, SAE J1113-21, SAE J1113-22, SAE J1113-41, SAE J1113-42
<b>VINFAST</b>	VFDST00026302, VFDST00026303, VFDST00028121
<b>HYUNDAI-KIA</b>	ES96200-00, ES96202-01, ES96100-02, ES95400-10
<b>SSANGYONG</b>	SES E 922
<b>RENAULT</b>	36-00-808/--M
<b>NISSAN</b>	28401NDS02
<b>GENERAL MOTORS</b>	GMW3097
<b>FORD</b>	EMC-CS-2009.1
<b>CHRYSLER</b>	DC-10615, CS-11979
<b>PSA PEUGEOT</b>	B21 7110
<b>VOLVO</b>	STD 515-0003, REQ-043878
<b>VOLKSWAGEN</b>	TL 965, TL 82066, TL 82166, TL 82366, TL 82466, TL 82566, TL 81000

## Absorber lined Shielded Enclosure (EMI/EMS Chamber)

- **Radiated Emission** : 9 kHz ~ 8GHz
- **Conducted Emission** :  
Voltage Method 100 kHz ~ 200 MHz  
Current Probe Method 20 Hz ~ 500 MHz
- **Magnetic Field Emission** : 1 Hz -> 400 MHz
- **Radiated Immunity** : ALSE 80 MHz ~ 6 GHz (200 V/m)



## Shield Room #1 BCI, MFI

- Bulk Current Injection** :  
10 kHz ~ 2.1 GHz:
- Magnetic Field Immunity** :  
DC, 15 Hz ~ 1 MHz



## Shield Room #2 CTI, ESD

- Conducted Transient Immunity** :  
12V/24V Systems
- Electrical Loads** :  
12V/24V Systems
- Voltage Transient Emission** :  
12V/24V Systems
- Electrostatic Discharge**



# Contact!

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