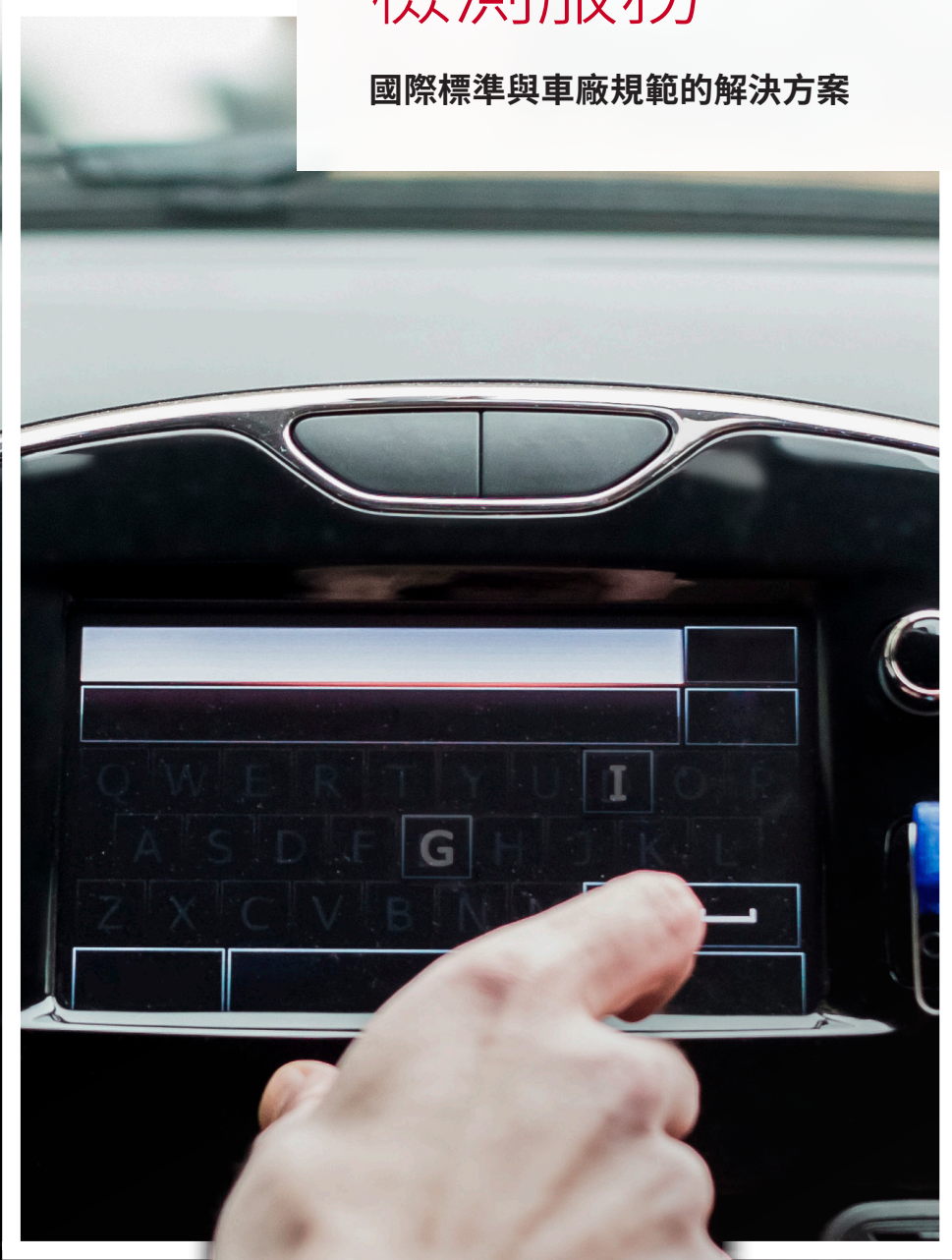


# 車載裝置 EMC 檢測服務

國際標準與車廠規範的解決方案





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# UL Solutions 是產品安全、資訊安全和永續發展領域的全球專家

我們提供測試、檢驗和認證 (TIC) 服務、訓練和重要見解，幫助 100 多個國家的客戶實現產品安全、資訊安全和永續發展目標。我們對產品、系統和資產的深入瞭解，讓面臨複雜挑戰的客戶視我們為首選夥伴。





# UL Solutions 以豐富的經驗為基礎，為車載裝置提供 EMC 檢測服務

## 測試服務概覽

為滿足消費者對產品安全、資訊安全和高性能的需求，我們提供一套全方位的 EMC、無線和車載裝置測試服務。



### 法規合規性測試和認證支援

我們根據國際汽車法規 (ECE 法規) 和國際標準 (ISO、CISPR) 為客戶提供完善的測試服務。



### 根據汽車製造商標準進行的測試和認證

我們根據每位汽車製造商的標準執行 EMC 測試。在根據製造商特定的要求進行 EMC 測試方面，我們擁有豐富的經驗。

對於電動車輛、混合動力車輛和插電式混合動力車輛的高壓電源線連接裝置，我們還可提供所需的電壓波動測試。



### E-mark

核准授予機構的國家代碼，表示符合 ECE 法規對汽車部件的要求。

# UL Solutions 在台灣的車載裝置 EMC 檢測

國際標準	測試能量範圍
CISPR 25, SAE J1113-41	Radiated disturbance/conducted disturbance 150kHz – 6 GHz
ISO 11452-2, SAE J1113-21	Absorber-lined shielded enclosure (ALSE) : 200 MHz – 6 GHz, 200 V/m Radar band: 1.2 GHz – 1.4 GHz, 600 V/m Radar band: 2.7 GHz – 3.1 GHz, 600 V/m
ISO 11452-3, SAE J1113-24	Transverse electromagnetic (TEM) cell: 10 kHz – 400 MHz, 200 V/m
ISO 11452-4, SAE J1113-4	Bulk current injection (BCI) : 10kHz – 400 MHz, 200 mA
ISO 11452-5, SAE J1113-23	Strip line: 10 kHz – 400MHz, 200 V/m
ISO 11452-7, SAE J1113-3	Direct radio frequency power injection: 250 kHz – 400 MHz, 0.5 W
ISO 11452-8, SAE J1113-22	Immunity to magnetic fields: 15Hz-150kHz, 1000A/m
ISO 11452-9	Portable transmitters: 360MHz-6GHz
ISO 7637-2, ISO 7637-3, ISO 16750-2 SAE J1113-11; SAE J1113-12; SAE J1113-42	Transient voltage emission: Slow/fast pulse Transient voltage immunity: Pulse type Harness immunity: CCC, DCC, ICC
ISO 10605, SAE J1113-13	+/- 25kV
ISO/TS 7637-4	High voltage supply line





# UL Solutions 車輛 EMC 檢測實驗室

為滿足消費者對產品安全、資訊安全和高性能的需求，我們提供一套全方位的 EMC、無線和車載裝置測

<b>測試場域</b>	Hsinchu Automotive EMC Lab - Taiwan	Automotive Techn
<b>服務範圍</b>	<ul style="list-style-type: none"> <li>• Testing services: On-site testing, testing by request</li> <li>• Supported standards:             <ul style="list-style-type: none"> <li>◦ CISPR 25</li> <li>◦ ISO 11452-2,-3,-4,-5,-7,-8,-9</li> <li>◦ ISO 7637-2,-3</li> <li>◦ ISO 10605</li> <li>◦ ISO/TS 7637-4</li> </ul> </li> <li>• Applicable products:             <ul style="list-style-type: none"> <li>◦ EV component, Autonomous system, ADAS, ECU, VCU, T-BOX, HUD</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Testing service</li> <li>• Supported stan</li> <li>◦ International series, ISO 1</li> <li>◦ In-vehicle de</li> <li>◦ Theft preven</li> <li>◦ Auto manuf</li> <li>◦ Electrical tes</li> <li>• Applicable pro</li> <li>car audio, navi</li> <li>equipment for</li> </ul>
<b>設備系統</b>	<ul style="list-style-type: none"> <li>• 2 anechoic chambers</li> <li>• 4 shielded rooms</li> <li>• TEM cell</li> <li>• 50 Ω Strip line</li> </ul>	<ul style="list-style-type: none"> <li>• 2 anechoic cha</li> <li>• 1 EHV chambe</li> <li>• 3 anechoic cha</li> <li>• 2 shield chamb</li> <li>• 2 electrical tes</li> <li>• TEM cell</li> <li>• G-TEM cell</li> <li>• 50 Ω Strip line</li> <li>• Tri-plate</li> <li>• DC low voltage</li> <li>• High voltage p</li> <li>• Water proof te</li> <li>• Dust proof tes</li> <li>• Vibration test</li> <li>• Thermostatic c</li> <li>• Interoperabilit</li> </ul>

試服務。

Technology Center (ATC) - Japan	Kashima EMC Laboratory - Japan
<p>Services: On-site testing, testing by request</p> <p>Standards:</p> <ul style="list-style-type: none"> <li>International Standards (CISPR 25, ISO 11452 series, ISO 7637 series, ISO 10605 series, and others)</li> <li>In-vehicle device EMC testing (ECE Reg. 10, EN 50498)</li> <li>Immobilization alarm device (ECE Reg. 97, ECE Reg. 116)</li> <li>Automobile manufacturers' standards</li> <li>Electrical testing (ISO 16750-2, LV 124, LV 148, LV 123)</li> </ul> <p>Applicable products: Alarm systems, immobilizer, navigation system, ECU, various sensors, other in-vehicle equipment, in HV, PHV, EV vehicles requiring high voltage power</p>	<ul style="list-style-type: none"> <li>• Testing services: On-site testing, testing by request</li> <li>• Supported standards: GM standards (GMW 3097, GMW 3172) <ul style="list-style-type: none"> <li>◦ Ford standards (ES-XW7T-1A278-AB, -AC, EMC-CS-2009.1, FMC 1278)</li> <li>◦ JAGUAR LAND ROVER standards (JLR-EMC-CS v1.0)</li> <li>◦ MAZDA standards, other automobile manufacturers' standards</li> </ul> </li> <li>• International Standards (CISPR 25, ISO 11452 series, ISO 7637 series, ISO 10605 series, and others) <ul style="list-style-type: none"> <li>◦ In-vehicle device EMC testing (ECE Reg. 10, EN 50498)</li> <li>◦ Electrical testing (ISO 16750-2, LV 124, LV 148, LV 123)</li> </ul> </li> <li>• Applicable products: Car audio, various sensors, other automotive equipment, in HV, PHV, EV vehicles that require high voltage to be installed</li> </ul>
<p>Equipment:</p> <ul style="list-style-type: none"> <li>• 3 anechoic chambers (CISPR 25:2016 Ed. 4 Annex I compliant)</li> <li>• 2 shield chambers for in-vehicle equipment</li> <li>• 1 high voltage electrical test room</li> <li>• ISO 7637 testing system</li> <li>• G-TEM cell</li> <li>• TEM cell</li> <li>• 50 Ω Strip line</li> <li>• 90 Ω Strip line</li> <li>• Tri-plate</li> <li>• DC low voltage, high voltage power supply fluctuation testing equipment</li> <li>• Electrical testing equipment</li> </ul>	<p>Equipment:</p> <ul style="list-style-type: none"> <li>• 3 anechoic chambers for automotive equipment</li> <li>• 2 shield chambers for automotive equipment</li> <li>• 1 high voltage electrical test room</li> <li>• ISO 7637 testing system</li> <li>• G-TEM cell</li> <li>• TEM cell</li> <li>• 50 Ω Strip line</li> <li>• 90 Ω Strip line</li> <li>• Tri-plate</li> <li>• DC low voltage, high voltage power supply fluctuation testing equipment</li> <li>• Electrical testing equipment</li> </ul>



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