



Newsletter

2025 Q3

Digital & Product Solutions
Business Line **EMC & RF**

innovating safety & security



歐洲 (歐盟與英國)

《無線電設備指令》 (RED) 協調標準清單於 2025 年 5 月 14 日更新

最新的協調標準清單已正式更新，以下表格摘要列出主要變更項目。完整清單可透過下方官方連結查閱。

主要更新標準版本：

Test Standard	Title	Comments
EN 301 893 V2.2.1	5 GHz WAS/RLAN	Supersedes V2.1.1. Transition period up to 2028-05-15. New version includes the following updates: - Add technical requirements and methods of measurement for U-NII-3 band (5.725 – 5.850 MHz). - Add Adjacent Channel Selectivity Test Case. - Add User Access Restrictions Test Case. - Update Transmitter Unwanted Emissions to accommodate flexible use of spectrum for multi-channel operation and minimize interference. - Update Energy Detection Threshold (EDT) requirements in Adaptivity Test Case for Frame Based Equipment (FBE) and Load Based Equipment (LBE). - Remove the possibility of compliance by declaration for the Channel Access Mechanism and Maximum Channel Occupancy Time (COT).
EN 303 687 V1.1.1	6 GHz WAS/RLAN	New standard harmonised. Specify technical requirements for U-NII-5 band (5.945 – 6.425 MHz).
EN 301 908-3 V15.0.0	IMT cellular networks Part 3: CDMA Direct Spread (UTRA FDD) Base Stations (BS)	Supersedes V13.1.1. Transition period up to 2026-11-15.



Test Standard	Title	Comments
EN 301 908-13 V13.3.1	IMT cellular networks Part 13: Evolved Universal Terrestrial Radio Access (E-UTRA) User Equipment (UE)	Supersedes V13.2.1. Transition period up to 2026-11-15. New version includes the following updates: - Add Bands 41, 72, 87 and 88. - Add LTE Carrier Aggregation CA_8-41, CA_41-41, CA_41-42, CA_41-46 and CA_3-41-42 bands combinations. - Include additional spurious emissions limits for frequency range 470 to 694 MHz to protect Broadband Public Protection and Disaster Relief (BB-PPDR) and Digital Terrestrial Television (DTT) operations. - Add requirements for Transmitter adjacent channel leakage power ratio for intraband non-contiguous Carrier Aggregation.
EN 301 908-23 V15.1.1	IMT cellular networks Part 23: Active Antenna System (AAS) Base Station (BS)	New standard harmonised.
EN 301 908-24 V15.1.1	IMT cellular networks Part 24: New Radio (NR) Base Stations (BS)	New standard harmonised.
EN 301 908-25 V15.1.1	IMT cellular networks Part 25: New Radio (NR) User Equipment (UE)	New standard harmonised.
EN 301 406-2 V3.1.1	Digital Enhanced Cordless Telecommunications (DECT) Part 2: DECT-2020 NR	New standard harmonised.



Test Standard	Title	Comments
EN 302 064 V2.2.1	Wireless Digital Video Links operating in the 1,3 GHz to 50 GHz frequency band	Supersedes EN 302 064-2 V1.1.1. Transition period up to 2026-11-15. New standard includes the following updates: - Change Maximum allowable channel bandwidth requirements and necessary bandwidth limits. - Add new Receiver Sensitivity in Gaussian channel requirement. - Add new Blocking or desensitization requirement. - Add new Adjacent channel selectivity requirement. - Add channel occupancy test to limit channel bandwidth. - Add a new transmitter category with enhanced ACPR performance.
EN 303 661 V1.1.1	Short Range Devices (SRD) Ground Based Synthetic Aperture Radar (GBSAR) in the frequency range 17,1 GHz to 17,3 GHz and High Definition Ground Based Synthetic Aperture Radar (HD-GBSAR) in the frequency range 76 GHz to 77 GHz	New standard harmonised.
EN 303 753 V1.1.1	Wideband Data Transmission Systems (WDTS) for Mobile and Fixed Radio Equipment operating in the 57 - 71 GHz band	New standard harmonised.
EN 304 220-1 V1.2.1	Wideband data transmission SRD Part 1: Wideband data transmission devices: network access points operating in the frequency bands 863 MHz to 868 MHz and 915,8 MHz to 919,4 MHz	New standard harmonised.
EN 304 220-2 V1.2.1	Wideband data transmission SRD Part 2: Wideband data transmission devices: terminal node operating in the frequency bands 863 MHz to 868 MHz and 915,8 MHz to 919,4 MHz	New standard harmonised.



Test Standard	Title	Comments
EN 301 489-3 V2.3.2	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 246 GHz	New standard harmonised.
EN 301 489-17 V3.3.1	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services Part 17: Specific conditions for Broadband and Wideband Data Transmission Systems	New standard harmonised. New version includes the following updates with regard to EN 301 489-17 v3.2.2 (previous version not harmonised): - Removal of flicker and fluctuations requirements as these are covered by EN 61000-3-2 and EN 61000-3-3. - Scope increased to cover equipment operating in the 57 GHz to 71 GHz band that falls with the scope of article 3.2 standards ETSI EN 303 722. - Scope and title amended to cover both Broadband and Wideband equipment. - Scope of radiated emissions requirements expanded to cover enclosure port of radio equipment. - Annex A aligned with content of standard.
EN 301 489-19 V2.2.1	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services Part 19: Specific conditions for Receive Only Mobile Earth Stations (ROMES) operating in the 1,5 GHz band providing data communications and GNSS receivers operating in the RNSS band providing positioning, navigation, and timing data	New standard harmonised.
EN 301 489-28 V2.1.1	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services Part 28: Specific conditions for wireless digital video links	New standard harmonised.



Test Standard	Title	Comments
EN 301 489-52 V1.3.1	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services Part 52: Specific conditions for Cellular Communication User Equipment (UE) radio and ancillary equipment	Supersedes V1.2.1. Transition period up to 2026-11-15. New version includes in the scope 5G FR2.
EN 301 489-54 V1.1.1	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services Part 54: Specific conditions for fixed ground based aeronautical and meteorological radars	

附加資訊：

- Amendment of 14 May 2025 to Implementing Decision (EU) 2022/2191: https://eur-lex.europa.eu/eli/dec_impl/2025/893/oj/eng
- Consolidated Harmonised Standard List (PDF): <https://webgate.ec.europa.eu/circabc-ewpp/d/d/workspace/SpacesStore/8e7cd43d-baab-4450-8f0c-7c9785e75f2c/download>
- Consolidated Harmonised Standard List (XLS): https://single-market-economy.ec.europa.eu/document/download/1b07bf21-0158-466f-9865-2fcba3bf67d6_en?filename=SummaryListForLegislation_generated%2013.10.2025.xlsx

ETSI RED 工作計畫：新標準版本更新

ETSI (歐洲電信標準協會) 持續更新其 EMC / RF 測試標準。下表彙整了 2025 年第二季 (Q2/2025) 期間最常用測試標準的最新進展。

Test Standard	Title	Comments
Draft EN 300 328 V3.0.1_0.0.3	Wideband transmission systems Data transmission equipment operating in the 2,4 GHz band	Early Draft. Test Standard development work is just starting.
Draft EN 300 440-1 V3.1.1_0.0.8	Short Range Devices (SRD) operating in 1 GHz to 40 GHz Part 1: Radiocommunication equipment operating in the frequency range 2,4 GHz to 2,4835 GHz and 5,725 GHz to 5,875 GHz;	Early Draft. Test Standard development work is progressing.



Draft EN 300 440-2 V3.1.1_0.1.7	Short Range Devices (SRD) operating in 1 GHz to 40 GHz Part 2: Radiodetermination equipment for location tracking applications operating in the frequency range 2,4 GHz to 2,4835 GHz	Draft. Approved by Technical Body. Under ETSI Deliverable approval process. Once it is completed, the final assessment form European Commission is required.
Draft EN 300 440-3 V1.1.1_0.0.5	Short Range Devices (SRD) Harmonised Standard for access to radio spectrum for Intrusion radiodetermination equipment operating in the frequency range 1 GHz to 40 GHz	Early Draft. Test Standard development work is progressing.
Draft EN 300 422-1 V2.3.1_0.0.4	Wireless Microphones Audio PMSE up to 3 GHz Part 1: Audio PMSE Equipment up to 3 GHz	Early Draft. Test Standard development work is just starting.
Draft EN 301 406-1 V3.1.20	Digital Enhanced Cordless Telecommunications (DECT) Part 1: DECT, DECT Evolution and DECT ULE	Stable Draft. European Commission first assessment completed and currently addressing the comments.
Draft EN 301 783 V0.0.17	Commercially available amateur radio equipment	Early Draft. Test Standard development work is progressing.
Draft EN 301 908-23 V17.1.1_0.0.2	IMT cellular networks Part 23: Active Antenna System (AAS) Base Station (BS);	Early Draft. Test Standard development work is just starting.
Draft EN 301 908-24 V17.1.1_0.0.3	IMT cellular networks Part 24: New Radio (NR) Base Stations (BS)	Early Draft. Test Standard development work is just starting.
Draft EN 301 908-25 V17.1.1_0.0.1	IMT cellular networks Part 25: New Radio (NR) User Equipment (UE)	Early Draft. Test Standard development work is just starting.
Draft EN 301 908-26 V1.1.1_0.0.5	IMT cellular networks Part 26: Aerial User Equipment (UE)	Early Draft. Test Standard development work is just starting.
Draft ETSI EN 304 122 V1.1.1_0.0.4	Satellite Earth Stations & Systems (SES) NR-NTN (New Radio Non-Terrestrial Networks) capable User Equipment operating in Frequency bands below 7,125 GHz	Early Draft. Test Standard development work is just starting. New standard for 5G NTN for bands FDD n255 and FDD n256.



Draft EN 302 065-2-5 V1.1.1_0.1.4	Short Range Devices (SRD) using Ultra Wide Band technology (UWB) Part 2: Ultra Wide Band location tracking devices Sub-part 5: Requirements for enhanced indoor devices within 6,0 GHz to 8,5 GHz	Stable Draft. Under European Commission first assessment.
EN 302 729-1 V3.1.1	Short Range Devices (SRD) using Ultra Wide Band technology (UWB) Part 1: Level Probing Radar (LPR) equipment operating in the frequency ranges 6 GHz to 8,5 GHz, 24,05 GHz to 26,5 GHz, 57 GHz to 64 GHz, 75 GHz to 85 GHz for strictly vertical downward installation	Already published by ETSI and delivered to European Commission for final assessment. Waiting for its publication as Harmonised Standard in OJEU.
Draft EN 302 729-2 V3.1.1_0.1.7	Short Range Devices (SRD) using Ultra Wide Band technology (UWB) Part 2: Level Probing Radar (LPR) equipment operating in the frequency range 75 GHz to 85 GHz for tilted downward installation	Stable Draft. European Commission first assessment completed and comments already addressed.
Draft EN 303 940-1 V1.1.1_0.1.2	Short Range Devices (SRD) using Ultra Wide Band technology (UWB) Part 1: Millimeter Wave Security Scanners operating in 69,8-80,5 GHz	Stable Draft. Ready to send it to European Commission for first assessment.
Draft EN 302 194-1 V2.2.1_0.0.34	Navigational radars used on inland waterways Part 1: Magnetron Radars	Stable Draft. European Commission first assessment completed and currently addressing the comments.
Draft EN 302 326-2 V2.2.1_0.0.9	Fixed Radio Systems Multipoint Equipment and Antennas Part 2: Harmonised Standard for access to radio spectrum	Stable Draft. European Commission first assessment completed and comments already addressed.
EN 302 480 V3.1.1	Mobile Communication On Board Aircraft (MCOBA) systems	Already published by ETSI and delivered to European Commission for final assessment. Waiting for its publication as Harmonised Standard in OJEU.
Draft EN 303 354 V1.1.9	Amplifiers and active antennas for TV broadcast reception in domestic premises	Draft. Approved by Technical Body. Under ETSI Deliverable approval process. Once it is completed, the final assessment form European Commission is required.



EN 303 659 V1.1.1	Short Range Devices (SRD) in Data Networks Radio equipment to be used in the frequency ranges 865 MHz to 868 MHz and 915 MHz to 919,4 MHz	Already published by ETSI and delivered to European Commission for final assessment. Waiting for its publication as Harmonised Standard in OJEU.
Draft EN 303 687 V1.1.7	6 GHz WAS/RLAN	Early Draft. Test Standard development work is just starting.
EN 303 851 V1.1.1	Radio Frequency Identification Equipment operating in the band 2 446 MHz to 2 454 MHz with power levels up to a maximum of 500 mW e.i.r.p. and up to a maximum of 4 W e.i.r.p.	Already published by ETSI and delivered to European Commission for final assessment. Waiting for its publication as Harmonised Standard in OJEU.
Draft EN 302 858 V3.1.1_0.0.1	Short Range Devices; Transport and Traffic Telematics (TTT) Radar equipment operating in the 24,05 GHz to 24,25 GHz range	Early Draft. Test Standard development work is just starting.
Draft EN 303 867 V1.1.1_0.0.4	Rail telecommunications (RT) Urban rail radiocommunications equipment operating in the 5 875 MHz to 5 935 MHz frequency band	Early Draft. Test Standard development work is just starting.
Draft EN 303 699 V1.1.10	Satellite Earth Stations and Systems (SES) Fixed earth stations communicating with non-geostationary satellite systems in the 20 GHz and 30 GHz FSS bands	Early Draft. Test Standard development work is just starting.
Draft EN 304 118 V1.1.1_0.0.2	Medical Implantable Wireless Power Transmission (WPT) equipment	Early Draft. Test Standard development work is just starting.
Draft EN 305 550-3 V1.1.1_0.0.8	Short Range Devices (SRD) to be used in the 40 GHz to 260 GHz frequency range Part 3: Radiodetermination devices for fixed, mobile and portable generic applications within 57 GHz to 64 GHz	Early Draft. Test Standard development work is just starting.
Draft EN 305 550-4 V1.1.1_0.0.4	Short Range Devices (SRD) to be used in the 40 GHz to 260 GHz frequency range Part 4: Radiodetermination equipment for vehicular applications operating within 57 GHz to 64 GHz	Early Draft. Test Standard development work is just starting.



EN 305 550-6 V1.2.1	Short Range Devices (SRD) to be used in the 40 GHz to 260 GHz frequency range Part 6: Specific radiodetermination applications - Tank Level Probing Radar (TLPR) and Level Probing Radar (LPR) equipment operating in the frequency ranges 116 GHz to 148,5 GHz; 167 GHz to 182 GHz and 231,5 GHz to 250 GHz	Already published by ETSI and delivered to European Commission for final assessment. Waiting for its publication as Harmonised Standard in OJEU.
Draft EN 305 550-8 V1.1.1_0.0.1	Short Range Devices (SRD) to be used in the 40 GHz to 260 GHz frequency range Part 8: exterior radiodetermination devices on vehicles within 122,25 GHz to 130 GHz and 134 GHz to 148,5 GHz	Early Draft. Test Standard development work is just starting.
Draft EN 305 550-9 V1.1.1_0.0.1	Short Range Devices (SRD) to be used in the 40 GHz to 260 GHz frequency range Part 9: Radiodetermination for industrial applications (like RDI & RDI-S) equipment operating within 57 GHz to 64 GHz	Early Draft. Test Standard development work is just starting.
Draft EN 300 386 V2.2.10	Telecommunication network equipment Harmonised Standard for ElectroMagnetic Compatibility (EMC) requirements	Draft. European Commission first assessment received. Comments addressed and ready to initiate the Working Group approval process.
Draft EN 301 489-5 V2.2.9	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services Part 5: Specific conditions for Private land Mobile Radio (PMR) and ancillary equipment (speech and non-speech) and Terrestrial Trunked Radio (TETRA)	Draft. Approved by Technical Body. Under ETSI Deliverable approval process. Once it is completed, the final assessment form European Commission is required.
Draft EN 301 489-9 V2.2.1_0.0.5	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services Part 9: Specific conditions for wireless microphones, similar Radio Frequency (RF) audio link equipment, cordless audio, in-ear monitoring and assistive listening devices	Stable Draft. Test Standard development work is progressing.
Draft EN 301 489-13 V2.1.1_0.0.14	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services Part 13: Specific conditions for Citizens' Band (CB) radio and ancillary equipment	Draft. Approved by Technical Body. Under ETSI Deliverable approval process. Once it is completed, the final assessment form European Commission is required.



Draft EN 301 489-50 V2.4.0	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services Part 50: Specific conditions for Cellular Communication Base Station (BS), repeater and ancillary equipment	Draft. Approved by Technical Body. Under ETSI Deliverable approval process. Once it is completed, the final assessment form European Commission is required.
Draft EN 301 489-55 V1.1.1_0.0.17	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services Part 55: Specific conditions for ground based equipment for air navigation operating in the frequency range 960 MHz to 1 215 MHz	Draft. Approved by Technical Body. Under ETSI Deliverable approval process. Once it is completed, the final assessment form European Commission is required.
Draft EN 301 489-56 V1.1.1_0.0.1	ElectroMagnetic Compatibility (EMC) standard for radio equipment and services Part 56: Specific conditions for ULP-AMI and ULP-AMI-P Harmonised Standard for ElectroMagnetic Compatibility	Early Draft. Test Standard development work is just starting.
Draft EN 301 843-2 V2.3.1_0.0.7	ElectroMagnetic Compatibility (EMC) standard for marine radio equipment and services Part 2: Specific conditions for VHF radiotelephone transmitters and receivers operating in the frequency range 156 MHz to 174 MHz	Stable Draft. European Commission first assessment completed and currently addressing the comments.
Draft EN 301 843-8 V1.1.1_0.0.9	ElectroMagnetic Compatibility (EMC) standard for marine radio equipment and services Part 8: Specific conditions for radio beacons and locating devices	Stable Draft. European Commission first assessment completed and currently addressing the comments.

無線電設備指令合規協會 (REDCA) 技術指導文件 (TGN) #29 與 #33 更新

TGN 29 - 關於公告機構與製造商 EU 型式檢驗證書 (EU-TEC) 維護的指引此文件已於 2025 年 3 月更新，新版本包含多項重要說明：

- **EU-TEC 的有效性與到期條件**：先前版本暗示 EU-TEC 將持續有效，除非被撤銷。新版本則明確指出 EU-TEC 可能失效的情況，例如在協調標準或技術現況更新後，製造商未採取必要的修正措施時，該證書即可能失效。
- **由公告機構主動發起的 EU-TEC 更新**：新版文件說明公告機構 (NB) 必須持續監控已核發的 EU-TEC，並在協調標準或基本要求更新時通知製造商。



- 當公告機構確認《歐盟公報》(OJEU) 發佈新的**協調標準**時，應於約一個月內通知製造商，並給予過渡期 (通常與舊標準撤回日期一致)，以便製造商採取更正行動並更新 EU-TEC。
- 若使用**非協調標準**或草案文件，而該文件首次在 OJEU 成為協調標準，公告機構應自行決定合理過渡期 (通常為 18-24 個月)，讓製造商完成 EU-TEC 更新。

TGN 33 — 安裝於車輛內的無線電設備

此文件於 2025 年 6 月更新，更新後的適用範圍擴大，涵蓋「需型式認證」與「非型式認證」車輛。先前版本僅作為製造商及安裝商的一般指引。新版本明確界定各相關方的責任如下：

- **無線電設備製造商：**需依據該設備於車輛中的實際使用情境進行風險評估，確保其在與車輛系統、零組件共同運作時，仍符合 RED 的基本要求。
- **車輛製造商：**
責任依下列條件而定：(1) 該無線電設備是否已於歐盟市場銷售，(2) 該車輛是否需取得車輛型式核准，以及 (3) 無線電設備的安裝方式。
 - 若該設備已於歐盟市場銷售，車廠需以文件證明或驗證設備在與其他系統共同運作時仍維持合規性，並建議以風險評估進行驗證。
 - 若該設備尚未於歐盟市場銷售，車廠即為該無線電設備之製造商，必須依 RED 第 10 條履行相關義務，包括進行風險評估(必要時包含額外的測試)，以驗證無線電設備安裝在車輛並與車輛的系統、零部件或組件配合運行時是否符合 RED 要求。
- **無線電設備安裝人員：**必須遵循原始無線電設備製造商的安裝指引，不得更改產品原始性能、用途或型式，且需確保安裝到其預期使用的環境中。

新版本澄清，如果 (1) 未遵守無線電設備製造商提供的相關說明，或 (2) 無線電設備的原始性能、用途或類型被修改到影響合性規的程度，或 (3) 無線電設備安裝在非預期使用的環境中時，該車輛製造商或無線電設備安裝商則轉變成為無線電設備製造商。

附加資訊：

- REDCA Technical Guidance Notes (TGNs): <https://www.redca.eu/Pages/Documents1.htm>

AdCo EMC 2024 年市場監督統計報告

AdCo EMC 於 2025 年 4 月發布了針對 **2024 年度市場監督活動** 的統計結果。

本次監督行動的重點產品為電動腳踏車 (e-bike)、電動滑板車 (e-scooter)、平衡車 (hoverboard) 及其他小型電動車輛的**充電器** (不包括電動汽車與電動機車充電設備)。

共有十二個國家的市場監督機關參與此計畫，包括：

克羅埃西亞、芬蘭、德國、匈牙利、愛爾蘭、立陶宛、盧森堡、荷蘭、波蘭、羅馬尼亞、瑞典及瑞士。

總計檢查了 **58 種不同型號的產品**。

抽樣方式為「準隨機取樣」，涵蓋所有價格範圍及不同來源 (國內、歐洲經濟區內、以及第三國進口產品)。



整體而言，產品在合規文件與技術要求的符合程度偏低，僅有 **約 21%** 的測試樣品被評定為完全符合規定。

Group	Devices Checked	Compliance Rate
Administrative		
CE Marking	58	56 (97%)
Declaration of Conformity	58	23 (40%)
User Manual	40	20 (50%)
Technical Documentation	13	2 (15%)
Traceability (Type, Batch or Serial Number)	44	43 (98%)
Traceability (Manufacturer Name/Address)	43	24 (56%)
Compliance with Harmonised Standards		
Emissions	53	26 (49%)
Immunity	5	5 (100%)

附加資訊：

- AdCo EMC report on market surveillance 2024: <https://webgate.ec.europa.eu/circabc-ewpp/d/d/workspace/SpacesStore/919329f7-8976-4740-818e-0b39b1f6b6b9/download>



北美 (美國和加拿大)

FCC KDB 更新

2025 年第二季度發布/更新的主要 KDB:

KDB	Status	Question	Comments
987594	Update	What are the requirements for obtaining a Certification for U-NII 6 GHz devices operating in the 5.925-7.125 GHz band under Part 15, Subpart E?	KDB extends Very Low Power Device (6VL) to 5.925 - 7.125 GHz band (U-NII-5, U-NII-6, U-NII-7 and U-NII-8). KDB provides further guidance for approval procedures for VLP devices and also specifically for VLP devices intended for use in vehicles only.

FCC 批准保護設備授權流程免受不良實驗室侵害的措施

2025 年 5 月 22 日，作為 ET 案卷第 24-136 號中包含的舉措的一部分，FCC 通過了新規則，禁止與美國政府認為對美國國家安全構成風險的公司和/或外國政府機構相關的實驗室/TCB。

FCC 已經限制「涵蓋清單」中的公司對產品進行認證，並透過新規則，他們將此限制擴展到參與度超過 10% 的實驗室和 TCB，這些實驗室和 TCB 來自「涵蓋清單」中包含的公司以及其他被美國政府確定為「禁止機構」的外國政府機構。

採用的規則要求 FCC 中列出的所有實驗室和 TCB:

- 在《聯邦公報》上發布新規則後 60 天內，向 FCC 提供證明，證明實驗室/TCB 不屬於 **47 CFR § 2.902** 規定的“禁止機構”所有、控制或受其指示。
- 在《聯邦公報》發布新規則後 120 天內，向 FCC 提供文件，以識別在實驗室/TCB 中擁有 **5% 或更高股權或投票權的任何機構**。

FCC 將「由股東擁有、控制或受其指示」定義為股東擁有 10% 或以上股權或投票權的任何機構，或任何其他機構直接或間接有權決定、指導或決定重要事項的任何機構。

「禁止機構」在 CFR 47 第 2.902 部分中確定:

- 根據 47 CFR §1.50002 在涵蓋清單上確定的每個機構
- 商務部根據 15 CFR 791.4 確定為外國對手的機構

由以下任何來源識別的機構：

- [1]: 根據 15 CFR 第 744 部分補充第 4 號的商務部工業和安全局機構清單。
- [2]: 根據 15 CFR 第 744 部分補充第 7 號的商務部工業和安全局軍事最終用戶名單。
- [3]: 美國國土安全部《維吾爾強迫勞動預防法》機構清單，由強迫勞動執法工作組根據 19 U.S.C. 4681 發布。



[4] : 2023 財年《James M. Inhofe 國防授權法》(L. 117-263 號刊物) 第 5949 條。

[5] : 2021 財年《國防授權法》(NDAA) 第 1260H 條 (L. 116-283 號刊物) 。

[6] : 根據 31 CFR 第 586 部分的財政部非特別指定國民中國軍工複合體公司名單。

在 FCC 登錄的 DEKRA 德凱實驗室或 DEKRA TCB 均沒有任何“禁止機構”持有其 10%或以上的股權或投票權。因此，它們不受 FCC 新規則的影響。

附加資訊：

- ET Docket No. 21-136 Adopted Rules: <https://www.fcc.gov/ecfs/search/search-filings/filing/105271115107819>
- Covered List: <https://www.fcc.gov/supplychain/coveredlist>
- Foreign Adversaries: <https://www.ecfr.gov/current/title-15/subtitle-B/chapter-VII/subchapter-E/part-791/subpart-A/section-791.4>
- Other Entities:
 - [1]: <https://www.ecfr.gov/current/title-15/subtitle-B/chapter-VII/subchapter-C/part-744/appendix-Supplement%20No.%204%20to%20Part%20744>
 - [2]: <https://www.ecfr.gov/current/title-15/subtitle-B/chapter-VII/subchapter-C/part-744/appendix-Supplement%20No.%207%20to%20Part%20744>
 - [3]: <https://www.govinfo.gov/content/pkg/USCODE-2023-title19/pdf/USCODE-2023-title19-chap29-subchapVI-partD-sec4681.pdf>
 - [4]: <https://www.govinfo.gov/content/pkg/PLAW-117publ263/pdf/PLAW-117publ263.pdf>
 - [5]: <https://www.govinfo.gov/content/pkg/PLAW-116publ283/pdf/PLAW-116publ283.pdf>
 - [6]: <https://www.ecfr.gov/current/title-31/subtitle-B/chapter-V/part-586>

TCB 理事會發布涵蓋清單軟體最佳實踐文件

TCB 委員會創建了一份最佳實踐文件，以指導製造商、實驗室和 TCB 在確定是否符合涵蓋清單要求時進行合理的盡職調查。

本文件概述了 TCB 確保設備不包含來自 FCC 涵蓋清單上機構（例如卡巴斯基實驗室）的軟體的程序。它強調證明之外的盡職調查，需要文件顯示如何驗證符合性，並包括技術理由（例如，設計限制或分析）。如果裝置無法儲存或執行涵蓋的軟體，則可以顯示固有的符合性，否則，符合性可能依賴軟體物料清單（SBOM）。

附加資訊：

- Covered List Best Practices Guidance Document: <https://tcbc.memberclicks.net/covered-list-best-practices>

ISED 更新

2025 年第二季度沒有 ISED 無線電標準更新。

ISED 主要一般通告於 2025 年第二季度發布

Notice	Description	Comments
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[Notice 2025-DRS0002](#)

RSS-HAC (Issue 2) Extension of Entry into Force of Hearing Aid Compatibility Requirements and Volume Control for Cellphone Device Manufacturers

ISED has extends the compliance date for cellphone device manufacturers for hearing aid compatibility and volume control requirements from January 1, 2026 until January 1, 2028.

ISED 不再接受單一欄位中的多個產品行銷名稱 (PMN)

自 2025 年 6 月 30 日起，ISED 將不再允許在單一欄位中包含多個 PMN 的申請，並以逗號、斜線、破折號或其他字元分隔。

包含多個 PMN 的申請被視為家庭申請，並應按家庭申請提交。如果單個 HVIN 存在多個 PMN，則這被視為家庭認證。

2025 年 6 月 30 日或之後提交的申請，如果有多個 PMN，則需要是系列申請(family application)。在新的系列認證申請下，如果存在多個 PMN，則每個 PMN 應單獨列在不同的產品版本 (PV) 下。

Example 1: Family application with 1 PMN and 5 HVINs

First PV = HVIN 1 + PMN 1

Second PV = HVIN 2 + PMN 1

Third PV = HVIN 3 + PMN 1

Fourth PV = HVIN 4 + PMN 1

Fifth PV = HVIN 5 + PMN 1

Example 2: Family application with 5 PMNs and 1 HVIN

First PV = HVIN 1 + PMN 1

Second PV = HVIN 1 + PMN 2

Third PV = HVIN 1 + PMN 3

Fourth PV = HVIN 1 + PMN 4

Fifth PV = HVIN 1 + PMN 5

Adding additional unique combinations of HVIN & PMN (Product Versions) can be done by adding models on the "List of Radio Models" page in SpectraWeb.

ISED 已撤回對多個實驗室的認可

ISED 已正式撤銷對以下位於中國的實驗室的認可：

- **BTF 檢測實驗室 (深圳) 有限公司 (CN0135)**。符合資格於 2025 年 11 月 4 日重新申請
- **深圳市安博泰合規實驗室有限公司 (CN0059)**。有資格在 2026 年 5 月 20 日重新申請。
- **深圳市通策檢測實驗室 (CN0031)**。有資格在 2026 年 5 月 20 日重新申請。



標準發展組織 (SDO)

國際電工委員會 (IEC)

2025 年第 2 季發布的與 EMC/RF 相關的主要 IEC 標準更新:

Publication	Scope
IEC 62232:2025	Determination of RF field strength, power density and SAR in the vicinity of base stations for the purpose of evaluating human exposure
IEC 61326-2-6:2025	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 2-6: Particular requirements - In vitro diagnostic (IVD) medical electrical equipment
CISPR PAS 38:2025	Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Requirements for radio beam wireless power transfer (RB-WPT) equipment
IEC 60730-2-8:2025 EXV	Automatic electrical controls - Part 2-8: Particular requirements for electrically operated water valves, including mechanical requirements
IEC 60730-2-14:2025	Automatic electrical controls - Part 2-14: Particular requirements for electric actuators
IEC 60730-2-23:2025 EXV	Automatic electrical controls - Part 2-23: Particular requirements for electrical sensors and sensing elements
IEC 60947-3:2020+AMD1:2025 CSV	Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units
IEC 60947-7-1:2025	Low-voltage switchgear and controlgear - Part 7-1: Ancillary equipment - Terminal blocks for copper conductors
IEC 61000-2-9:2025	Electromagnetic compatibility (EMC) - Part 2-9: Environment - Description of HEMP environment - Radiated disturbance
IEC 62840-1:2025	Electric vehicle battery swap system - Part 1: General and guidance
IEC 62290-1:2025 RLV	Railway applications - Urban guided transport management and command/control systems - Part 1: System principles and fundamental concepts
IEC 62590-1:2025	Railway applications - Electronic power converters for fixed installations - Part 1: General requirements
IEC TR 61340-1-1:2025	Electrostatics - Part 1-1: Electrostatic phenomena - Measurement errors, uncertainties and expression of results

附加資訊：

- IEC Standards Search: <https://webstore.iec.ch/en/products/>



CEN-CENELEC

2025 年第二季發布的與 EMC/RF 相關的主要 CEN-CENELEC 標準更新:

Publication	Scope
EN IEC 62232:2025	Determination of RF field strength, power density and SAR in the vicinity of base stations for the purpose of evaluating human exposure
EN IEC/IEEE 63184:2025	Assessment methods of the human exposure to electric and magnetic fields from wireless power transfer systems - Models, instrumentation, measurement and computational methods and procedures (frequency range of 3 kHz to 30 MHz)
EN IEC 60601-2-68:2025	Medical electrical equipment - Part 2-68: Particular requirements for the basic safety and essential performance of X-ray-based image-guided radiotherapy equipment for use with electron accelerators, light ion beam therapy equipment and radionuclide beam therapy equipment
EN IEC 60601-2-83:2020/A1:2025	Medical electrical equipment - Part 2-83: Particular requirements for the basic safety and essential performance of home light therapy equipment
EN IEC 62840-1:2025	Electric vehicle battery swap system - Part 1: General and guidance
EN 15955-1:2025	Railway applications - Infrastructure - Demountable machines, trailers and associated equipment - Part 1: Technical requirements for travelling and working
EN 15955-2:2025	Railway applications - Infrastructure - Demountable machines, trailers and associated equipment - Part 2: General safety requirements
EN IEC 60255-26:2025	Measuring relays and protection equipment - Part 26: Electromagnetic compatibility requirements
EN IEC 60730-2-14:2025	Automatic electrical controls - Part 2-14: Particular requirements for electric actuators
EN IEC 60947-3:2021/A1:2025	Low-voltage switchgear and controlgear - Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units
EN IEC 60947-5-1:2025	Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements - Electromechanical control circuit devices
EN IEC 61000-4-2:2025	Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test
EN IEC 61557-9:2025	Electrical safety in low voltage distribution systems up to 1 000 V AC and 1 500 V DC - Equipment for testing, measuring or monitoring of protective measures - Part 9: Equipment for insulation fault location in IT systems
EN IEC 62657-2:2025	Industrial networks - Coexistence of wireless systems - Part 2: Coexistence management

附加資訊：

- CEN-CENELEC Standards Search: <https://standards.cencenelec.eu/dyn/www/f?p=CEN:105::RESET:::>



國際標準化組織（ISO）

2025 年第二季發布的與 EMC/RF 相關的主要 ISO 標準更新：

Publication	Scope
ISO 11451-1:2025	Road vehicles Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 1: General principles and terminology
ISO 11451-2:2025	Road vehicles Vehicle test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 2: Off-vehicle radiation sources
ISO 11452-1:2025	Road vehicles Component test methods for electrical disturbances from narrowband radiated electromagnetic energy Part 1: General principles and terminology
ISO 10924-2:2025	Road vehicles Circuit breakers Part 2: Guidance for users
ISO/TR 17716:2025	Road vehicles Electrical disturbances from narrowband radiated electromagnetic energy Radiated immunity for V2X
ISO 11680:2025	Machinery for forestry Safety requirements and testing for portable pole mounted powered pruners
ISO 7176-21:2025	Wheelchairs Part 21: Requirements and test methods for electromagnetic compatibility of electrically powered wheelchairs and scooters, and battery chargers
ISO 7176-25:2022/Amd 1:2025	Wheelchairs Part 25: Lead-acid batteries and chargers for powered wheelchairs — Requirements and test methods Amendment 1: Range of charging voltage and range of the minimum and maximum rated DC output voltage for testing
ISO 23551-10:2025	Safety and control devices for gas burners and gas-burning appliances Particular requirements Part 10: Vent valves

附加資訊：



- ISO Standards Search: <https://www.iso.org/advanced-search/x/>

CTIA – 無線協會

2025 年第二季度發布的與無線（OTA）性能相關的主要 CTIA 標準更新：

Publication	Scope
CTIA 01.01	Test Scope, Requirements, and Applicability v6.0.6 (June 2025)
CTIA 01.03	Normative Reporting Tables v6.0.4 (June 2025)
CTIA 01.20	Test Methodology, SISO, Anechoic Chamber v6.0.4 (April 2025)
CTIA 01.50	Wireless Technology, 3GPP Radio Access Technologies v6.0.5 (June 2025)
CTIA 01.51	Wireless Technology, Location Based Technologies v6.0.6 (June 2025)
CTIA 01.90	Informative Reference Material v6.0.2 (April 2025)
CTIA 01.01	Test Scope, Requirements, and Applicability v8.0.1 (April 2025)
CTIA 01.03	Normative Reporting Tables v8.0.1 (April 2025)
CTIA 01.20	Test Methodology, SISO, Anechoic Chamber v8.0.1 (April 2025)
CTIA 01.50	Wireless Technology, 3GPP Radio Access Technologies v8.0.1 (April 2025)
CTIA 01.51	Wireless Technology, Location Based Technologies v8.0.1 (April 2025)
CTIA 01.90	Informative Reference Material v8.0.1 (April 2025)

附加資訊：

- CTIA Test Plans: <https://ctiacertification.org/test-plans/>