# Agile Communications Equipment Approval Framework: Final Report

APEC Telecommunications and Information Working Group

September 2025

Asia-Pacific Economic Cooperation


Asia-Pacific
Economic Cooperation

# Agile Communications Equipment Approval Framework: Final Report

**APEC Telecommunications and Information Working Group**

**September 2025**

APEC Project: TEL 03 2023S

Produced by
Norzailah Mohd Yusoff
Malaysian Communications and Multimedia Commission

For
Asia-Pacific Economic Cooperation Secretariat
35 Heng Mui Keng Terrace
Singapore 119616
Tel: (65) 68919 600
Fax: (65) 68919 690
Email: info@apec.org
Website: www.apec.org



APEC#225-TC-01.2

## TABLE OF CONTENTS

# EXECUTIVE SUMMARY

The need for rigorous conformity assessment of communications equipment has never been more critical. It serves as a fundamental pillar of trust and reliability in our increasingly interconnected society, ensuring that the myriad devices we rely on daily are safe, interoperable, and do not interfere with each other.

As technology hurtles forward with the advent of the Internet of Things (IoT), 5G, and Artificial Intelligence (AI), the landscape of conformity assessment is undergoing a profound transformation, demanding more dynamic and sophisticated approaches to guarantee the integrity of our global communications infrastructure. We also found that existing frameworks rooted in traditional certification models increasingly face limitations in supporting timely and cost-effective equipment deployment, as well as creating a barrier to trade.

Regulators must strike a balance between the rigorous, non-negotiable demands of conformity assessment and the agility required for seamless global trade when creating a suitable approval framework for communications equipment. Overly burdensome processes can erect significant technical barriers to trade, stifling innovation and economic growth. However, a lax approach risks public safety, interoperability, and consumer trust.

Considering this conundrum, Malaysia has embarked on a project entitled Agile Communications Equipment Approval Framework under the Asia-Pacific Economic Cooperation (APEC) Telecommunications and Information Working Group (TELWG). Through this self-funded initiative, regulatory and policy studies on the operating models and conformity assessment procedures practiced by APEC member economies were conducted.

This final report documents the project's outcome and presents a comprehensive comparative analysis of the conformity assessment frameworks for communications equipment across fourteen (14) APEC economies. Drawing on data from initial surveys and detailed workshop presentations, this analysis identifies key trends, best practices, and challenges in balancing regulatory oversight with trade facilitation.

# 1.0 INTRODUCTION

The Malaysian Communications and Multimedia Commission (MCMC) is the regulatory body that oversees the communications and multimedia industry in Malaysia based on the powers provided for in the Communications and Multimedia Act 1998 (CMA 1998). Pursuant to this Act, its role is also to implement and promote the government's domestic policy objectives for the communications and multimedia sector.

Under the CMA 1998, the Communications and Multimedia (Technical Standards) Regulations 2000 (TSR 2000) are established to ensure the safety, interoperability, and quality of all communications equipment and services in Malaysia based on technical standards.

Malaysia's current communications equipment approval framework requires all communications equipment (customer equipment, radiocommunications equipment, network facility) to undergo the certification process with a registered certifying agency, regardless of its type and potential risks. The certification of communications equipment is divided into the following, and shown in Figure 1:

a) Compliance approval, which is granted to a specific model of communications equipment that complies with standards.

b) Special approval, which is granted to any communications equipment that is used exclusively by the applicant for the applicant's sole purpose (e.g., research, demonstration, trial, proof of concept (PoC), training, or exhibition).

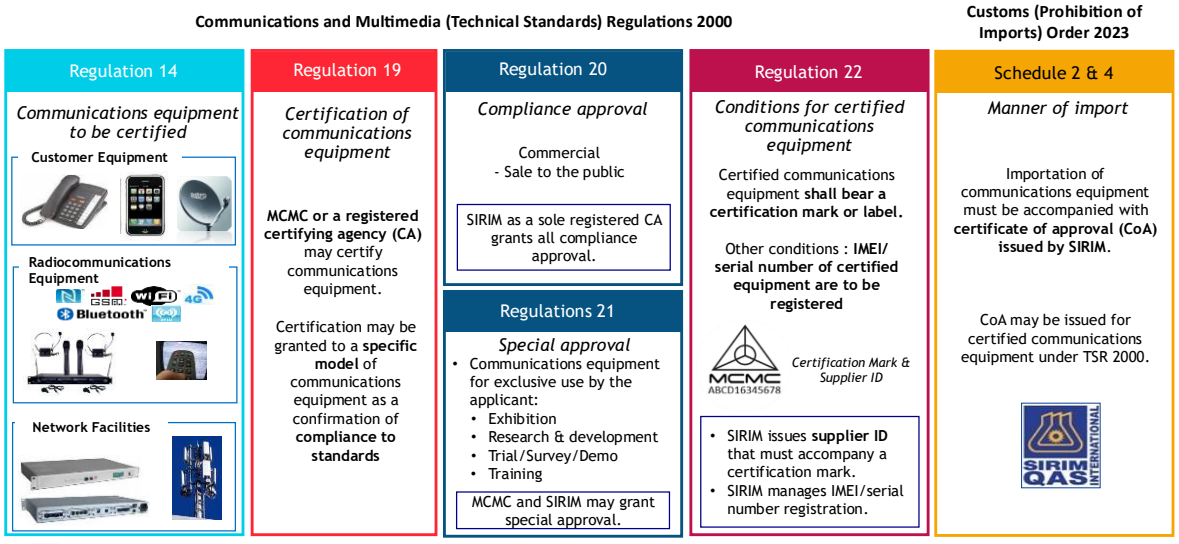


**Figure 1**: Malaysia's Current Communications Equipment Framework

Currently, SIRIM QAS International Sdn. Bhd. (SIRIM) is the only registered certifying agency for the certification of communications equipment. The certification issued by SIRIM as a registered certifying agency is deemed as an approval by MCMC.

The current certification framework has not been reviewed since 2000, except for minor amendments to facilitate the implementation of the Mutual Recognition Arrangement (MRA) in 2001 and the latest amendments to definitions, fees, and penalties (gazetted on 30 June 2022 as P.U(A) 226).

Through market surveillance and initial policy review, we discovered that a regulation drafted in the era of dial-up internet and 2G mobile networks faces significant challenges in effectively governing the modern digital landscape. The relentless pace of technological advancement, heightened cybersecurity and data privacy imperatives, global market alignment and trade facilitation, as well as consumer and environmental concerns, have become the primary impetus for revising and transforming the current model from a static, reactive structure into an agile, proactive, and progressive regulatory framework.

Due to this, Malaysia conducted a strategic review of its approval framework for communications equipment to identify gaps, assess challenges, and formulate a new approval framework to address the contemporary market needs of communications equipment in relation to technological advancements and global practices. One component of the strategic review was the benchmarking and comparative analysis of operating models and conformity assessment procedures by international regulators.

Therefore, Malaysia initiated an APEC project titled Agile Communications Equipment Approval Framework to support the strategic review. The main objectives of this project are:

a) Conduct regulatory and policy studies on the operating models and conformity assessment procedures for communications equipment implemented by APEC member economies.

b) Identify the essential elements, review required resources, and specify distinct roles and responsibilities of key stakeholders involved in the conformity assessment ecosystem.

c) Explore the pros and cons of the different models in balancing between compliance with regulations and trade facilitation

d) Facilitate discussions on common challenges encountered during enforcement activities and market surveillance to identify effective solutions and strategies to overcome these obstacles.

e) Foster knowledge exchange and enhance project participants' understanding and proficiency in the best practices, policy-making decisions, and regulatory mechanisms of the conformity assessment framework.

The outcomes of this project will not only support Malaysia's regulatory reform but also contribute to APEC-wide knowledge sharing, capacity building, and policy harmonization. It sets the stage for future regulatory cooperation through MRA Phase

II, especially in managing the conformity assessment of low-risk, hybrid, and emerging communications technologies.

The project promotes regional alignment with international best practices, fostering seamless trade and investment flows through a modern, interoperable, and future-ready regulatory landscape in the Asia-Pacific region. These aspirations align with APEC's collective goals under the Putrajaya Vision 2040.

## 2.0 COMPARATIVE ANALYSIS OF CONFORMITY ASSESSMENT FOR COMMUNICATIONS EQUIPMENT

The Agile Communications Equipment Approval Framework project's subject matter aligns with TELWG's ICT Conformity Assessment and Interoperability Steering Group's (CISG) vision for continued market liberalization in the telecommunications or ICT sector, which would encourage policy and regulatory environments that promote competition and enable innovation and investment.

As the APEC economies continue to evolve in their regulatory practices, there is clear recognition of the importance of harmonizing conformity assessment procedures, ensuring efficient market access, and maintaining high safety and interoperability standards. MRAs are integral to fostering cross-border trade and regulatory cooperation, while also reducing certification burdens for suppliers.

The ongoing refinement of conformity assessment frameworks across APEC economies plays a crucial role in supporting the growth of the communications equipment market, safeguarding public interest, and ensuring the seamless integration of new technologies. The project encompassed a multi-phase approach as illustrated in Figure 2.

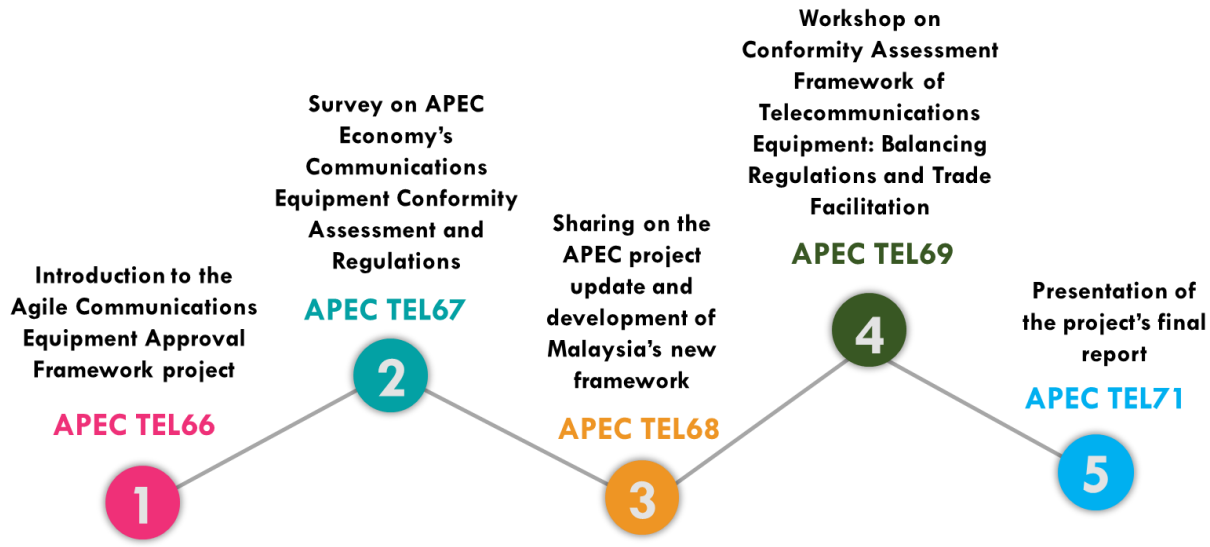


**Figure 2**: Project's Phases

**a) Introduction to Malaysia's Project on Agile Communications Equipment Approval Framework**

Malaysia presented its project proposal and conducted a sharing session on its initiative to develop a new, agile regulatory framework at APEC TEL66. At its heart, friction arises because conformity assessment procedures, which are essential for ensuring equipment meets an economy's technical regulations and standards, can vary significantly from one market to another. This forces manufacturers to undergo multiple, often duplicative and costly, testing and certification processes for the same product, delaying market entry and acting as a de facto trade barrier.

In order to mitigate these issues, a combination of established international trade principles and modern, agile practices must be employed. These strategies work in concert to build confidence, reduce redundancy, and streamline the path to global markets.

Hence, this APEC project was a good platform for facilitating knowledge exchange and building the capacity of its members on the subject of communications equipment conformity assessment procedures.

**b) Survey on APEC Economy's Communications Equipment Conformity Assessment and Regulations**

This survey was distributed to member economies during APEC TEL67 to gather data on regulatory regimes, the implementation of Supplier's Declaration of Conformity (SDoC), classification of equipment risks (safety, interference, etc.), approval procedures, labelling standards, and post-market surveillance approaches, including on e-commerce platforms. The full survey can be found in Appendix I.

Twelve (12) economies provided their responses: Australia; China, Hong Kong, China; Indonesia; Japan; the Republic of Korea; Mexico; Papua New Guinea; Singapore; Chinese Taipei; Thailand; and the United States (USA).

In summary, conformity assessment schemes across APEC economies are generally robust, though diverse. SDoC is selectively adopted with varying degrees of success. Economies that do not currently utilize SDoC remain committed to certification-based frameworks and emphasize the importance of both pre-market and post-market controls to ensure compliance.

**c) Workshop on Conformity Assessment Framework of Telecommunications Equipment: Balancing Regulations and Trade Facilitation**

Malaysia organized a half-day in-person workshop on 10 September 2024 in conjunction with APEC TEL69 in Mexico City. The workshop featured two (2) sessions with speakers from eight (8) economies: Australia; Canada; China; Indonesia; Japan; Malaysia, Mexico; and Chinese Taipei. The agenda for this Workshop is attached in Appendix II.

Session 1 was on the agile and progressive conformity assessment framework for telecommunications equipment. During this session, the speakers shared the policy and technical measures put in place by APEC member economies in developing the conformity assessment framework for telecommunications equipment to balance regulation and trade facilitation, including the process for equipment registration or approval, labelling, importation, and monitoring.

In Session 2, the best practices for SDoC and how it can increase compliance with regulations were deliberated. APEC members shared their experience, best practices, and challenges on how to successfully implement SDoC in their regulatory ecosystem, including managing testing laboratories, SDoC and test report verification, and regulatory provisions for false declarations.

This report synthesizes findings from the initial survey and detailed workshop presentations from the fourteen (14) different economies. The analysis is structured to provide a comparative overview of the following:

a) Regulatory authorities and their legal mandates.
b) Different conformity assessment models.
c) Regulatory requirements for supplier registration and communications equipment labeling.
d) Critical role and function of post-market surveillance.
e) Key recommendations and best practices for a regulatory framework in a modern digital landscape.

## 2.1 REGULATORY OVERSIGHT AND LEGAL FRAMEWORKS

A designated authority in each economy is responsible for establishing and enforcing the rules for communications equipment as listed in Table 1. The core objectives of these regulatory authorities are remarkably consistent: managing radio spectrum to prevent interference, ensuring the health and safety of the public, protecting the integrity of public telecommunications networks, and ensuring access to emergency services.

| Economy | Primary Regulatory Authority | Laws & Regulations |
|---|---|---|
| Australia | Australian Communications and Media Authority (ACMA) | • Radiocommunications Act 1992<br>• Telecommunications Act 1997 |
| Canada | Innovation, Science and Economic Development Canada (ISED) | • Radiocommunication Act<br>• Telecommunications Act |
| China | Ministry of Industry and Information Technology (MIIT) | • Telecommunications Regulations of the People's Republic of China<br>• Measures for the administration of telecommunications equipment access to the network<br>• Radio Regulations of the People's Republic of China |
| Hong Kong, China | Communications Authority (CA) & Office of the Communications Authority (OFCA) | • Telecommunications Ordinance |
| Indonesia | Ministry of Communication and Digital Affairs (MCDA) | • Government Regulation No 46 Year 2021 on Post, Telecommunication and Broadcasting<br>• Regulation of Minister of Communications and Informatics Number 7 of 2018<br>• Regulation of Minister of Communications and Informatics Number 16 of 2018 |
| Japan | Ministry of Internal Affairs and Communications (MIC) | • Radio Law<br>• Telecommunications Business Law |
| Republic of Korea | Ministry of Science and ICT (MSIT) & Radio Research Agency (RRA) | • Radio Waves Act<br>• Enforcement Degree of Radio Waves Act |
| Malaysia | Malaysian Communications and Multimedia Commission (MCMC) | • Communications and Multimedia Act 1998 (CMA 1998)<br>• Communications and Multimedia (Technical Standards) Regulations 2000 (TSR 2000) |
| Mexico | Federal Telecommunications Institute (IFT) | • Federal Telecommunications and Broadcasting Law<br>• Federal Economic Competition Law |

| | | |
|---|---|---|
| Papua New Guinea | National Information and Communications Technology Authority (NICTA) | • National ICT Act 2009<br>• Radio Spectrum Regulation 2010 |
| Singapore | Infocomm Media Development Authority (IMDA) | • Telecommunications Act 1999<br>• Telecommunications (Dealers) Regulations |
| Chinese Taipei | National Communications Commission (NCC) | • Telecommunications Management Act |
| Thailand | National Broadcasting and Telecommunications Commission (NBTC) | • NBTC Notification: Inspection and certification of telecommunication equipment and device standards |
| United States | Federal Communications Commission (FCC) | • Title 47 of the US Code of Federal Regulations<br>• Communications Act of 1934, as amended |

**Table 1**: Regulatory Authority and Laws for Communications Equipment

## 2.2 CONFORMITY ASSESSMENT MODELS

The APEC economies demonstrate a spectrum of conformity assessment or approval models, ranging from strict, regulator-led certification to more flexible, supplier-led systems. The comparative analysis of fourteen (14) economies identified three (3) main models.

### a) Mandatory Regulator or Third-Party Certification

This is the most traditional and stringent model, requiring all or most communications equipment to be tested by an accredited laboratory and formal approval (type approval or certification) from the regulator or a recognized certification body (CB) before a product can be legally marketed. This approach provides the highest level of pre-market assurance.

**Economies using this model**: Indonesia; Japan; Malaysia; Mexico.

**Pros (Favors Compliance & Certainty)**:

- High Pre-Market Assurance: This model provides the highest level of confidence that a product complies with local standards before it reaches consumers. This is critical for high-risk devices that could impact public safety or cause significant network interference.

- Clear Regulatory Control: The regulator maintains direct control over market entry. It is a gatekeeper, which simplifies initial enforcement and provides a clear, centralized record of all approved equipment.

- Simplified Enforcement at the Border: For customs officials, verifying a mandatory, official certificate is often more straightforward than validating a supplier's declaration, potentially making it easier to block non-compliant goods at the point of import.

**Cons (Hinders Trade Facilitation)**:

- Slower Time-to-Market: The mandatory review and approval process adds a significant step, delaying product launches. In a fast-moving technology sector, this can be a major competitive disadvantage.

- Higher Costs for Industry: Certification fees, testing costs at specific labs, and administrative overhead create a significant financial burden for suppliers, which can be a barrier to entry for smaller businesses.

- Regulatory Bottlenecks: The regulator or its designated CBs can become a bottleneck, especially with a high volume of applications. This can stifle innovation and slow the introduction of new technologies.

- Lack of Flexibility: A one-size-fits-all certification approach treats a simple Bluetooth mouse with the same level of scrutiny as a powerful cellular base station, which is inefficient and disproportionate to the actual risk.

**Balancing Act**: This model prioritizes compliance and regulatory certainty at the direct expense of trade facilitation and market agility. It is most suitable for economies where ensuring pre-market control is the highest priority or for specific categories of high-risk equipment.

### b) Supplier's Declaration of Conformity (SDoC)

The SDoC model places the primary responsibility for compliance on the supplier (typically the Australian manufacturer or importer). The supplier must ensure the equipment is tested against relevant standards and issue a formal declaration of conformity. Upon declaration, equipment can be placed on the market without prior regulatory approval.

**Economies using this model**: Australia

**Pros (Favors Trade Facilitation & Agility)**:

- Maximizes Speed to Market: This is the fastest route for getting compliant equipment to consumers, as it eliminates the pre-market regulatory approval step. This is a significant advantage for trade and industry competitiveness.

- Reduces Costs and Administrative Burden: Suppliers save on certification fees, and regulators can redirect resources from routine approvals to targeted, risk-based enforcement and surveillance.

- Promotes Industry Responsibility: The model fosters a culture of accountability within the industry, as the legal liability for compliance rests directly with the supplier.

- Flexibility and Scalability: It easily accommodates the vast and growing number of low-risk connected devices (IoT) without overwhelming the regulatory system.

**Cons (Challenges Compliance & Enforcement)**:

- Lower Pre-Market Assurance: There is an inherent risk that non-compliant equipment will reach the market, either through error or deliberate non-compliance by the supplier. The "gatekeeper" function is removed.

- Requires Robust Post-Market Surveillance: The model is only effective if backed by a well-funded, active, and vigilant post-market surveillance program. Without this "safety net," the system can be easily abused.

- Difficult Enforcement and Accountability: It can be difficult and resource-intensive to obtain compliance documentation (like test reports) and hold suppliers accountable after a product is on the market, especially if the supplier is based overseas.

- Potential for Higher Non-Compliance: By its nature, SDoC relies on the diligence of the supplier, which can lead to a higher rate of non-compliant equipment reaching the market compared to mandatory pre-market certification.

**Balancing Act**: This model prioritizes trade facilitation and market agility but requires a fundamental shift in regulatory focus from pre-market approval to post-market enforcement. It is most effective when the regulator has strong enforcement powers and a commitment to active market surveillance.

### c) Hybrid / Risk-Based Framework

The clear trend is a move away from a one-size-fits-all approach towards a hybrid model that combines elements of both mandatory third-party certification and SDoC. It uses a risk-based approach to apply the appropriate conformity assessment path to different categories of equipment.

**Economies using this model**: Canada; China; Hong Kong,China; Korea; Singapore; Chinese Taipei; Thailand; Papua New Guinea; USA.

**Pros (Strikes the Optimal Balance)**:

- Proportionality and Efficiency: It applies the highest level of scrutiny (Certification) only to high-risk devices, while using a more efficient path (SDoC) for low-risk devices. This optimizes the use of both industry and regulatory resources.

- Maintains High Safety Standards: By mandating certification for critical equipment (e.g., cellular handsets, high-power transmitters), it ensures that devices with the greatest potential for harm are thoroughly vetted before market entry.

- Fosters Innovation and Trade: By providing a fast, low-cost SDoC path for the vast majority of consumer electronics and IoT devices, it encourages innovation and facilitates trade without compromising on core regulatory objectives.

- Creates a Clear and Predictable System: Suppliers have a clear understanding of the requirements based on their product type, which provides regulatory certainty.

**Cons (Requires Sophisticated Governance)**:

- Requires Clear Risk Categorization: The framework's success depends on the regulator's ability to clearly define and maintain the criteria that separate high-risk from low-risk equipment. This requires ongoing technical expertise and industry consultation.
- Complexity in Management: Managing multiple parallel approval streams can be more complex than a single, monolithic system.
- Still Relies on Strong Post-Market Surveillance: Like the pure SDoC model, the integrity of the low-risk SDoC stream depends entirely on the credibility of the regulator's post-market enforcement actions.

**Balancing Act**: The hybrid model represents the most sophisticated attempt to balance compliance with trade facilitation. It acknowledges that not all equipment carry the same risk and tailors the regulatory burden accordingly.

This approach allows an economy to be both a safe and competitive place to do business, which is why it is emerging as the international best practice.

## 2.3 SUPPLIER LICENSE AND REGISTRATION

The concept of a "supplier" and the requirement for their registration or licensing is a cornerstone of an effective conformity assessment system. It answers the fundamental regulatory question: "Who is legally responsible for this product's compliance?"

The approach to this varies significantly across the APEC economies, generally falling into three (3) categories:

a) **Mandatory Economy-Level Supplier Registration**

Requires the legal entity (importer or manufacturer) responsible for supplying the equipment to be formally registered with the regulator on a domestic database before placing any communications equipment on the market. This creates a direct link between a product and a local, accountable party.

**Economies using this model**: Australia; Papua New Guinea; Singapore.

b) **Required Local Responsible Party**

It does not always require the supplier to register themselves for pre-market purposes, but it mandates that a local entity be identifiable and legally responsible for the product, especially for legal and enforcement purposes. This is particularly crucial for frameworks that rely heavily on SDoC and post-market surveillance.

**Economies using this model**: Mexico; USA.

**c) No Mandatory Supplier Registration/License**

In these systems, the regulatory focus is primarily on the communications equipment itself, obtaining the necessary certification or approval. Accountability is tied to the holder of the certificate for that specific product model, rather than having a formal system for registering the supplier entity.

**Economies using this model**: Canada; China; Hong Kong, China; Indonesia; Japan; Korea; Malaysia; Chinese Taipei; Thailand.

## 2.4 COMMUNICATIONS EQUIPMENT LABELING

Equipment labeling is a critical, public-facing component of any conformity assessment framework. It serves as the primary visual indicator to regulators, customs officials, businesses, and consumers that a product has met the required economy-level standards. The approach to labeling across the surveyed APEC economies reveals a clear trend towards flexibility and modernization, balanced with the need for unambiguous compliance verification.

The requirements can be broadly analyzed through three key themes:

a) **Compliance Mark**: The specific logo, symbol, or text used.

b) **Placement and Method**: Whether the label must be physical or can be electronic (e-labeling), and where it must be located (product body, packaging, manual).

c) **Mandatory vs. Voluntary Application**: Whether labeling is required for all approved equipment or only for specific categories.

Table 2 summarizes the key requirements for the communications equipment label.

| Economy | Key Mark / Content | Mandatory / Voluntary | Physical Label Required? | E-Labeling Permitted? |
|---|---|---|---|---|
| Australia | Regulatory Compliance Mark (RCM) | Mandatory (except for specific devices) | No (QR code is an option) | Yes |
| Canada | Text Statement (e.g., CAN ICES) | Mandatory | Yes (must be visible) | Not specified as primary method |
| China | NAL label | Mandatory (for certified devices) | No (optional method) | Yes |
| Hong Kong, China | CA label | Voluntary (except for specific devices) | No (except for specific devices) | Yes (but physical labels still required for specific devices) |
| Indonesia | Certificate ID, QR Code, Warning Sign | Mandatory | Yes (on body and package) | No (QR code is part of physical label) |
| Japan | Giteki mark | Mandatory | No (optional method) | Yes |
| Republic of Korea | Korea Certification (KC) mark | Mandatory | Yes | Yes (conditions) |

| | | | | |
|---|---|---|---|---|
| Malaysia | MCMC label | Mandatory | Yes (certain equipment) | Yes (conditions) |
| Mexico | IFT seal | Mandatory | Yes | Not specified as primary method |
| Papua New Guinea | NICTA label | Mandatory | Yes | Yes |
| Singapore | IMDA compliance label | Mandatory | No (optional method) | Yes |
| Chinese Taipei | NCC logo | Mandatory | No (optional method) | Yes |
| Thailand | NBTC label | Mandatory | Yes | Yes |
| United States | FCC ID / logo | Mandatory (for required devices.) | No (optional method – note that there are Certification, SDOC, and physical and e-label allowances.) | Yes (E-label is allowed under specific conditions for permitted devices) |

**Table 2**: Labeling Requirements for Communications Equipment

## 2.5 CRITICAL ROLE OF POST-MARKET SURVEILLANCE

There is an overwhelming consensus across all surveyed economies: as pre-market barriers are lowered, post-market enforcement must be strengthened. Post-market surveillance is the essential safety net that ensures the integrity of an agile regulatory framework.

A robust post-market monitoring strategy should combine regulatory technology, proactive enforcement, and stakeholder collaboration. These efforts not only enhance equipment compliance but also promote consumer trust, fair competition, and cross-border market access. Effective surveillance programs are diverse and can include:

a) **Market Sweeps**: Proactively sampling equipment from both physical retail stores and, increasingly, online e-commerce platforms to verify compliance. (Practiced by Australia; China; Japan; Malaysia, and in part by the United States).

b) **E-commerce Monitoring**: Dedicated programs to scrutinize major online platforms, checking for the display of correct compliance labels and verifying the validity of certification numbers. (China conducts quarterly inspections and the United States monitors e-commerce sites to a degree).

c) **Complaint-Driven Investigations**: A responsive system to investigate reports of non-compliance or harmful interference from consumers, competitors, or other agencies.

d) **Mandatory Audits**: Requiring third-party bodies to share the surveillance burden. The USA mandates that its designated telecommunications CBs must sample and test a percentage of the devices they have certified.

e) **Transparency as a Tool**: Publicly accessible databases of approved equipment, such as those maintained by Hong Kong, China and Chinese Taipei empower consumers and competitors to identify and report potentially non-compliant equipment.

While most economies employ a combination of pre-market and post-market surveillance mechanisms, the balance between these approaches differs. Some economies favor stringent pre-market requirements to ensure compliance, while others focus more on effective post-market surveillance to address non-compliance.

## 2.6 SUMMARY OF THE CONFORMITY ASSESSMENT APPROACHES

**Australia**: ACMA regulates communications equipment by utilizing SDoC model, which places compliance responsibility on Australian manufacturers and importers without fees for certification or registration. This model, complemented by mandatory testing, self-declaration, and post-market surveillance, has been effective for years. ACMA recognizes MRAs support e-labelling and maintains an economy-level suppliers database, ensuring smooth market access while upholding regulatory standards.

**Canada**: ISED adopts a dual-path approach based on equipment classification. High-risk or wireless transmitters require mandatory certification by an ISED-recognized Certification Body and must be listed on the Radio Equipment List (REL). Lower-risk equipment is subject to SDoC, where suppliers must perform internal testing, retain documentation, and apply appropriate labelling (e.g., CAN ICES markings), but are not required to register with the authority.

**China**: MIIT employs a multi-component conformity assessment framework, with testing, certification, declaration and exemptions. Equipment is categorized under the Network Access License (NAL) scheme and registration is not explicitly required. MIIT recognizes third-party testing bodies and enforces post-market surveillance through MRAs. While SDoC applies to lower-risk communications equipment, China finds pre-market requirements more effective in ensuring compliance.

**Hong Kong, China**: OFCA regulates communications equipment under the Telecommunications Ordinance, utilizing both voluntary and compulsory certification schemes. While registration is not mandatory, OFCA publishes certified equipment,

and post-market surveillance is limited. E-labelling is allowed but must be accompanied by physical labels for certain equipment.

**Indonesia**: MCI requires certifications for all communications equipment, including mandatory testing and registration. E-labelling, including a QR code, is compulsory, and regular post-market surveillance is conducted. Although Indonesia does not adopt SDoC, it emphasizes both pre-market and post-market mechanisms for compliance.

**Japan**: The conformity certification system by MIC requires all applicable equipment to undergo type approval or self-inspection registration based on risk and device category. Certification is issued by registered CBs, and compliant equipment must display the Giteki mark. E-Labeling is allowed for devices with displays, provided accessibility criteria are met.

**Republic of Korea**: MSIT and the RRA regulate communications equipment under the Radio Waves Act, which involves testing, certification, and declaration. Registration is mandatory, and the economy employs SDoC for low-risk equipment. Post-market surveillance is emphasized, with non-compliance actions for identified issues.

**Malaysia**: MCMC regulates communications equipment under the TSR 2000. All communications equipment must undergo certification by a registered certifying agency. There is no supplier self-registration pathway, and pre-market control is strictly enforced. Post-market surveillance is conducted through customs coordination, random inspections, and marketplace monitoring to ensure ongoing compliance.

**Mexico**: IFT regulates equipment under the Federal Telecommunications and Broadcasting Law, requiring approval before use. MRAs with the US and Canada support mutual recognition and post-market surveillance, along with e-labelling. SDoC is not part of Mexico's regulatory framework.

**Papua New Guinea**: The NICTA oversees type approval and registration, with both mandatory and simplified registration schemes. SDoC expedites approval but faces regulatory challenges due to importers' non-compliance. Post-market surveillance is conducted randomly, but e-commerce platforms are not involved.

**Singapore**: IMDA regulation of communications equipment includes mandatory testing, certification, declaration, and registration. E-labelling has been implemented since 2012, and post-market surveillance includes complaint-based checks. IMDA highlights pre-market controls for effective compliance.

**Chinese Taipei**: NCC follows a similar approach, where mandatory testing, certification, declaration, and exemptions are based on equipment risk. Suppliers must register their equipment, including e-commerce platforms, with third-party testing bodies recognized under international standards. Despite using SDoC for lower-risk equipment, pre-market controls are preferred due to higher non-compliance rates in post-market inspections.

**Thailand**: NBTC regulates communications equipment based on a three-tiered classification system: Class A (mandatory certification), Class B (Supplier's Declaration of Conformity or SDoC), and Class C (exempted equipment). All approved equipment must bear the NBTC compliance label, and e-labelling is permitted under specific conditions. Although there is no formal supplier registration, documentation must be retained for inspection purposes. NBTC conducts post-market surveillance, including inspections and online market monitoring, to ensure regulatory compliance.

**United States**: FCC employs certification, SDoC, and exemption models with compulsory registration for certified equipment. The FCC recognizes third-party conformity bodies and allows e-labelling. Post-market surveillance includes random testing. The FCC has refined its processes to balance market efficiency and compliance.

In conclusion, the regulatory frameworks for communications equipment conformity assessment across APEC economies vary in their approaches, reflecting each economy's distinct needs and priorities.

# 3.0 RECOMMENDATIONS

Based on the comparative analysis conducted in this project, the following recommendations were formulated. They serve as the foundation for Malaysia's ongoing regulatory transformation for communications equipment and are intended to be a reference for other APEC economies pursuing similar reforms. These recommendations aim to support regulatory modernization while fostering regional cooperation and convergence in conformity assessment mechanisms.

The solution lies in a multi-faceted strategy that embraces international best practices, risk-based approaches, and technological innovation to create a robust and responsive system.

## 3.1 IMPLEMENT HYBRID APPROVAL FRAMEWORK

Malaysia is in the process of developing a new, hybrid approval framework that offers multiple conformity assessment methods tailored to the level of risk of communications equipment. To successfully implement this approach and reap the benefits from the best of both models, we propose:

a) Continue the use of certification approval for high-risk communications equipment.

b) Incorporate SDoC as an alternative method for low and medium-risk equipment.

c) Introduce exemptions for communications equipment with negligible impact on public safety and network integrity. On the other hand, equipment classified as very high risk due to significant potential impact or association with illegal activities is strictly prohibited.

This new framework, illustrated in Figure 3, would enhance regulatory agility, reduce administrative burdens, and promote faster time to market, particularly for emerging technologies and low-risk equipment.

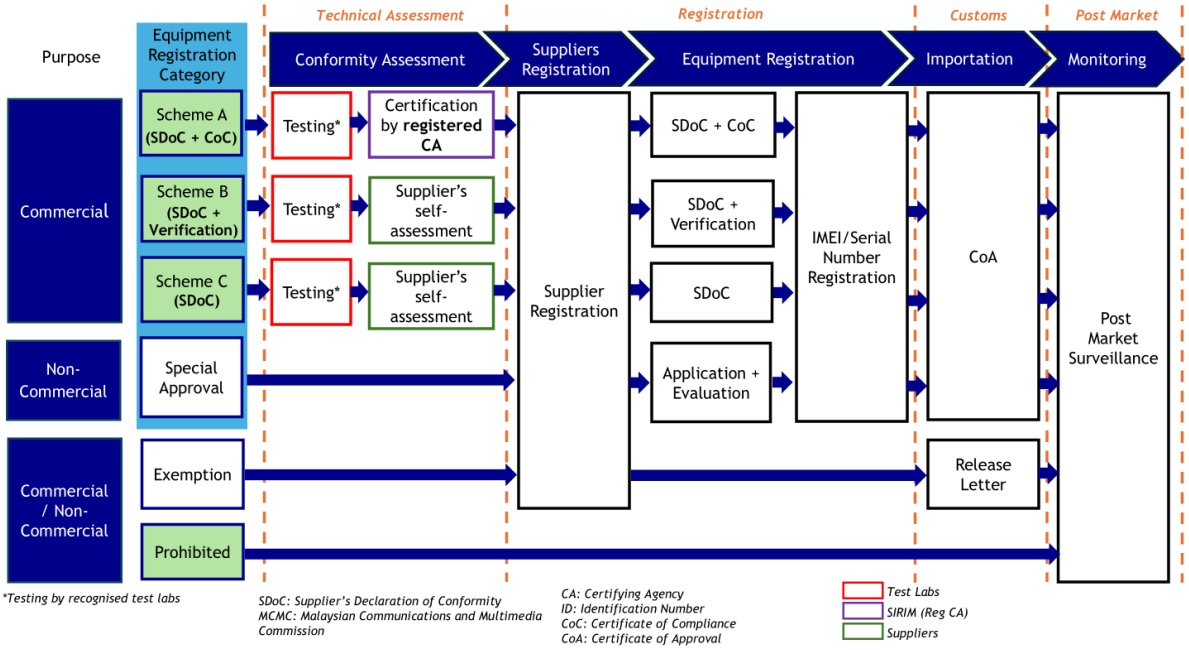


**Figure 3**: Malaysia's New Communications Equipment Framework (NCEF)

## 3.2 DEVELOP RISK-BASED CATEGORIZATION FOR COMMUNICATIONS EQUIPMENT

A comprehensive risk-based classification should be developed to provide structured guidance on the appropriate approval based on equipment type and technical parameters. Activities in this development are:

a) Define clear parameters for classification of communications equipment according to potential risks.

b) Map each risk scheme to the corresponding regulatory requirements.

c) Ensure transparency and predictability for suppliers and enforcement bodies.

Malaysia intends to introduce three (3) schemes, Scheme A (high-risk), Scheme B (medium-risk), and Scheme C (low-risk), aligned with the varying risk levels of communications equipment to facilitate and streamline the approval process. This

approach accelerates market entry and ensures a more efficient and risk-sensitive framework, fostering innovation and growth in the communications sector.

## 3.3 STRENGTHEN ENFORCEMENT AND POST-MARKET SURVEILLANCE

In order to support the adoption of agile regulatory frameworks, there is a need to strengthen enforcement mechanisms and enhance post-market surveillance activities. These measures are essential to identify and mitigate challenges that arise in maintaining compliance with standards and regulatory requirements, especially in a fast-evolving communications environment driven by technological innovation and growing e-commerce platforms. This includes:

a) Routine and random market inspections.

b) Strengthened cooperation with customs and border authorities as well as online platforms.

c) Deployment of digital tools for tracking and analytics.

d) Regulatory actions against non-compliant equipment or suppliers, especially those engaged in online sales.

The recommended actions will enable early detection of non-compliant equipment, improve consumer safety, and reinforce market integrity. As post-market surveillance becomes a more critical compliance pillar, it also enables regulators to manage the regulatory burden more efficiently by focusing intensive scrutiny on high-risk equipment while facilitating expedited access for low-risk innovations.

## 3.4 PROMOTE INTERNATIONAL KNOWLEDGE EXCHANGE AND CAPACITY BUILDING

The successful adoption of agile approval frameworks across APEC economies hinges on continuous capacity building and the ability to incorporate international best practices, particularly as new technologies and digital market platforms (such as e-commerce) reshape the regulatory landscape. To this end, fostering structured knowledge exchange among member economies is pivotal in enhancing capabilities to carry out effective conformity assessment procedures. Malaysia recommends:

a) Thematic working groups or sharing on digital compliance, e-commerce enforcement, cybersecurity, and AI mechanisms.

b) Joint development of technical guidance materials or toolkits.

c) Capacity building programs, such as workshops and forums, to support emerging economies in modernizing their regulatory framework.

Embracing international best practices accelerates domestic reforms, supports MRAs, encourages regulatory interoperability, and promotes inclusive growth in the communications sector. By leveraging collective experience, APEC economies can develop more responsive, risk-aligned, and innovative conformity assessment systems.

## 4.0 CONCLUSION

Malaysia’s new framework balances the need for effective regulatory controls with its ambition to become a progressive digital economy. By adopting a risk-based approach, embracing international standards, and expanding surveillance on digital platforms, Malaysia can create a more agile, transparent, and trade-friendly environment for communications equipment.

This is mirrored in the collective experience of APEC economies, where the conformity assessment framework does not point to a single, universally "best" regulatory model. Instead, it reveals a clear convergence towards a set of principles and best practices that define a modern, effective, and balanced framework. The alignment of this initiative with APEC’s broader goals reinforces the economies’ commitment to regional integration and technological leadership.

By encouraging regional dialogue, harmonizing standards, and facilitating cooperation on communications equipment regulations, APEC economies are successfully navigating the complex challenge of regulating technology, fostering innovation and economic growth while upholding their fundamental duty to protect the public and ensure the seamless operation of the increasingly interconnected communications ecosystem across the region.

## APPENDIX I


# Survey: Agile Communications Equipment Approval Framework

Conformity assessment is the process used to demonstrate that a product, service or system conforms to specified requirements and is commonly used by many standard development organizations. The vision for Malaysia's new conformity assessment program for communications equipment is towards developing a more competitive communications and multimedia industry through agile, proactive, and progressive approval framework.

In achieving this vision, Malaysia has implemented the Agile Communications Equipment Approval Framework project. The project's objective is to conduct regulatory and policy review of the operating models and conformity assessment procedures in APEC economies in order to learn about the best practices, policy-making decisions and regulatory mechanisms.

As part of the project activities, Project Overseers are conducting a survey to collect information on APEC economy's communications equipment conformity or compliance towards their regulations, specifically on how Supplier Declaration of Conformity (SDoC) are implemented. This includes categorizing products according to risks (safety, electromagnetic compatibility, power, etc.), the corresponding approval procedure for each product category, regulatory requirements and monitoring of sales on the market, including on e-commerce platforms. The results of this survey will help to develop an outcomes document to build participants' understanding of and capacity to adopt the best conformity assessment practices for communications equipment.

The survey should take 10-15 minutes to complete. Please respond to the questions based on the experiences of your individual economy. Please email Ms. Norzailah Mohd Yusoff (norzailah.yusoff@mcmc.gov.my) with any questions about the survey content or to submit your final responses. We kindly request the survey to be returned by **August 7, 2023.** Thank you for your participation.

| | |
|---|---|
| **Respondent Name** | |
| **Respondent Email Address** | |
| **Respondent Economy** | |
| **Respondent Job Title** | |
| **Respondent Ministry/Organization** | <br>Select One:<br>☐ Policymaking Body<br>☐ Regulatory Body<br>☐ Research/Academia<br>☐ Industry<br>☐ Other (Please detail) _____ |

1. Communications equipment are usually required to fulfil certain requirements in order to be marketed, sold and used in a particular economy. Which organization or regulator is responsible for overseeing this in your economy and what are the main Acts and/or Regulations involved?

_____

_____

_____

_____

2. What are the components of mandatory conformity assessment schemes for communications equipment in your economy? (Select all applicable)

   - ☐ Testing
   - ☐ Certification
   - ☐ Declaration
   - ☐ Exemption
   - ☐ Prohibition
   - ☐ Other (Please specify): _____

3. How are the communications equipment categorized according to applicable schemes in question (2), and what are the regulatory requirements and fees for each category? (You can provide the guideline, regulation, or policy paper for this.)

_____

_____

_____

_____

_____

4. Is registration compulsory for supplier and/or communications equipment in your economy, including on e-commerce platform? Please elaborate on the registration process. (You can provide the guideline, regulation, or policy paper for this.)

_____

_____

_____

_____

5. Does your economy recognize third party conformity assessment body or agency to conduct the testing and certification of communications equipment? If yes, how does the regulator recognize this body?

6. Does your economy implement e-labelling for communications equipment? If yes, who oversees the issuance and is it voluntary or mandatory?

7. Does your economy implement post-market surveillance program for communications equipment? If yes, please explain about the program and does it involve e-commerce platforms?

8. If applicable, please describe any opportunities or benefits your economy has experienced by adopting Supplier Declaration of Conformity (SDoC) for communications equipment, or any missed opportunities encountered by not adopting SDoC.

9. If applicable, please describe your economy's policy framework, guidelines, or regulations that facilitate the adoption of Supplier Declaration of Conformity (SDoC) for communications equipment.

_____

_____

_____

_____

10. What challenges (related to policies, regulations, trade, communications, etc.) has your economy faced in adopting Supplier Declaration of Conformity (SDoC) for communications equipment?

_____

_____

_____

_____

11. How has your economy addressed any policy and/or regulatory challenges in question (10)? Were these strategies successful? Please explain.

_____

_____

_____

_____

12. In your opinion, are pre-market requirements more effective in assuring conformity or compliance of communications equipment compared to post-market surveillance?

_____

_____

_____

_____

**Please email your completed survey via email to Ms. Norzailah Mohd Yusoff (norzailah.yusoff@mcmc.gov.my) by August 7, 2023.**

## APPENDIX II

Asia-Pacific Economic Cooperation

# Workshop on Conformity Assessment Framework of Telecommunications Equipment: Balancing Regulations and Trade Facilitation

Venue : Classico Room, 2nd floor, Sheraton Maria Isabel Hotel

Date : Tuesday, 10 September 2024

| TIME | AGENDA |
|---|---|
| 9:00-9:10 | **Opening Remarks**<br><br>Ms. Norfarhana Zainol Shokor<br>Principal Assistant Secretary, Policy and International Division<br>Ministry of Communications Malaysia |
| 9:10-9.30 | **Introduction to the Workshop**<br><br>Ms. Siti Nur Zulikasahiera Rahim<br>Deputy Director, Standards Planning Department<br>Malaysian Communications and Multimedia Commission |
| 9:30-10:50 | **Session 1: Agile and progressive conformity assessment framework for telecommunications equipment**<br><br>Knowledge exchange on the policy and technical measures put in place by APEC member economies in developing the conformity assessment framework for telecommunications equipment to balance regulation and trade facilitation, including the process for equipment registration or approval, labeling, importation and monitoring<br><br>1. **Policies and technical measures implemented by the IFT to develop the conformity assessment framework for telecommunications equipment in Mexico**<br>Mr. Rodrigo Jiménez López (Mexico)<br>Deputy Director of Regulatory Criteria,<br>Instituto Federal de Telecomunicaciones (IFT)<br><br>2. **Telecommunication Equipment Regulation in China**<br>Ms. Men Rujing (China)<br>Senior Engineer<br>China Academy of Information and Communications Technology (CAICT)<br><br>3. **Technical Regulations Conformity Certification System of Radio Equipment in Japan** |

| | |
|---|---|
| | Ms. Azusa Ito (Japan)<br>Assistant Director, Ministry of Internal Affairs and Communications<br><br>4. **Telecommunications Equipment Certification in Indonesia**<br>Mr. Umar Wicaksono (Indonesia)<br>Coordinator for MRA Cooperation,<br>Ministry of Communications and Informatics |
| 10:50-11:00 | **Coffee Break** |
| 11:00-12:00 | **Session 2: Best practices for Supplier's Declaration of Conformity (SDoC) and how it can increase compliance towards regulations**<br><br>Experience sharing, best practices and challenges by APEC member economies on how to successfully implement SDoC in their regulatory ecosystem, including managing testing laboratories, SDoC and test report verification and regulatory provision for false declaration.<br><br>**1. Supplier's Declaration of Conformity (SDoC) – Understanding ISED's Requirements and Procedures**<br>Mr. Yan Losier (Canada)<br>Manager, Telecom Equipment Regulatory Requirements<br>Engineering, Planning and Standards Branch<br>Department of Innovation, Science and Economic Development<br><br>**2. Balancing Regulations and Trade Facilitation: Controlled Telecommunications Radio-Frequency Devices and Telecommunications Terminal Equipment**<br>Mr. Jr-Chang Shie (Chinese Taipei)<br>Section Chief, National Communications Commission<br><br>**3. Overview of ACMA's Equipment Regulation**<br>Ms. Clare Spring (Australia)<br>Assistant Director<br>International Engagement - International Telecommunication Union and Asia-Pacific Telecommunity (ITU and APT)<br>Department of Infrastructure, Transport, Regional Development, Communications and the Arts |
| 12:00-12:15 | **Closing Remarks**<br><br>Ms. Norzailah Mohd Yusoff<br>Head, Standards Planning Department<br>Malaysian Communications and Multimedia Commission |