



# **POLICY AND REGULATION OF CONFORMITY AND INTEROPERABILITY ESTABLISHMENT/DEVELOPMENT**

**DEVELOPMENT AND REVIEW OF REGULATORY FRAMEWORK AND  
ROADMAP FOR ESTABLISHMENT OF C&I REGIMES.**

**ACCRA, 15<sup>th</sup> - 19<sup>TH</sup> NOVEMBER 2021**



***NATIONAL COMMUNICATIONS AUTHORITY***  
*Division*

# PRESENTATION OUTLINE

- What is Conformance & Interoperability?
- Introduction
- Why C&I Regime
- Scenarios for establishing C&I Regime
- Development & Review of Regulatory Framework
- Technical Requirements
- C&I Regime: Ghana's Case

# WHAT IS CONFORMANCE & INTEROPERABILITY REGIME



- Conformity Assessment guarantees that an ICT equipment implements a technical specification or standards.
- Interoperability testing measures if two or more products correctly implement the technical specifications necessary to ensure successful integration supporting particular communication protocols.
- Compliance helps vendors and users of the equipment to evaluate how the equipment will perform in the network where it will integrate with other network devices to provide an offered network service.
- Conformance and interoperability testing is important to identify the possible non-compliance aspects of an equipment to be part of ICT network, as defined by accepted standards in the industry, that may interfere in the quality of the network service being provided.
- C & I Regime is therefore a regime setup to ensure compliance of an ICT equipment to be part of ICT network as defined by accepted standards of the industry.





# INTRODUCTION

- Service providers and operators specify standards and specifications for equipment and systems which they employ to provide services to their customers.
- National regulators mandate regulations, standards and specifications for equipment and systems which are deployed and used in their territories.
- Users of the equipment and systems along with the service providers and national regulators require evidence and proof that the equipment and systems conform to the appropriate standards and specifications and to the extent that they interoperate with each other as specified.
- The process used to obtain the evidence and proof is called conformity assessment – the demonstration that specified requirements relating to a product, process, system, person or body are fulfilled.



# WHY C&I REGIME

- To ensure standardization in the industry.
- Consumer Trust and Confidence.
- Strengthens Business environment.
- Scalability & cost reduction of equipment.
- Encouraged trade & technology transfer.
- Removal of technical barrier.
- Availability of standard equipment.

# SCENARIOS FOR ESTABLISHING C&I REGI



Below are the possible scenarios to be considered when establishing a C & I Regime.

Scenario	Regulatory	Accreditation	Laboratories	Certification Bodies
Single Country	all structure must be selected and adopted by a country	Depending on the obligation for type approval or Accreditation of Certification Bodies or others	Depending on the obligation for type approval	Each case is unique
Bilateral	Harmonization	Yes, at list in one country	Yes, at list in one country	Yes, at list in one country
Unified Regime	1 Steering Committee	Any country	Any country	Any country



# DEVELOPMENT & REVIEW OF REGULATORY FRAMEWORK



- For establishment of a C&I regime, the following steps shall be the guide:
  1. Definition/outlining the goal the of C & I Regime
  2. Development of Legal regime
  3. Define methods of the fee of Type approval process
  4. Law enforcement and Surveillance
  5. Definition & Publication of the reference standards, specifications and essential requirements for type approval of ICT equipment.



# DEVELOPMENT & REVIEW OF REGULATORY FRAMEWORK



- **For establishment of a C&I regime, the following steps shall be the guide:**
  6. Accreditation, recognition and acceptance of laboratories and qualified professional.
  7. Coordination and harmonization of the C&I regime with other national regulatory agencies.
  8. Specify budget for establishing conformity assessment Lab.
  9. Training Needs for staffs to review reports based on requirement of the C&I Regime.





# DEVELOPMENT & REVIEW OF REGULATORY FRAMEWORK (1)



- In defining the C & I regime required by a country, the following shall be the guide:
  - i. Identify the statement problem of the existing regime.
  - ii. State the expected objectives of prospective C & I regime.
  - iii. State the scope of the prospective C & I regime.
  - iv. State the essential regulatory requirement.
  - v. State the technical requirement.
  - vi. State the application requirement
  - vii. State the operational process and procedure



# DEVELOPMENT & REVIEW OF REGULATORY FRAMEWORK (2)



- In developing a legal framework for a C & I regime, the following shall be the guide:
  - i. Develop an Act or Law to establish an institution with the necessary powers and responsibilities.
  - ii. Develop Regulations to explain provisions of the law.
  - iii. Develop Guidelines to properly define and outline the processes, procedures, requirements and the scope of the C & I Regime.
  - iv. Develop, adopt or adopt standards.
  - v. Fees, Offences, Enforcement, surveillance and inspections.
  - vi. Forfeiture and waivers.
  - vii. Lab Recognition.



# DEVELOPMENT & REVIEW OF REGULATORY FRAMEWORK (3)



- In defining methods for Type approval fees, the following shall be the guide:
  - i. Determine whether fees will be charged or not.
  - ii. Determine the component or cost build up of the fees.
  - iii. Determine the fees will be for cost recovery or the regime shall server as revenue source for the agency
  - iv. Determine if the payment will be for all categories or there will be waiver for some categories.
  - v. Determine whether the fees will be one time or annually.
  - vi. Determine the frequency of review of the fees.



# DEVELOPMENT & REVIEW OF REGULATORY FRAMEWORK (4)



- In defining the law enforcement and surveillance framework, the following shall be guide:
  - i. Pre market surveillance.
  - ii. Inspections at the port of entry.
  - iii. Post market surveillance.
  - iv. Prohibition, Withdrawal or Recalls.
  - v. Combating counterfeit.
  - vi. Implementation of a centralized identity register.
  - vii. Equipment Marking.



# DEVELOPMENT & REVIEW OF REGULATORY FRAMEWORK (5)



- In defining & publishing the reference standards, specifications & essential requirement for type approval, the following shall be guide:
  - i. A list of national & International standards which covers the basic requirements.
  - ii. Develop the list of equipment or categorization of type approval system with reference to listed standards.
  - iii. Technical requirement
  - iv. Essential requirement
  - v. Harmonization of HS Code



# DEVELOPMENT & REVIEW OF REGULATORY FRAMEWORK (6)



- In developing accreditation, recognition and acceptance regime, the following shall be guide:
  - i. Designation of accreditation & certification.
  - ii. Define the procedure for recognizing Test Lab.
  - iii. Define the procedure to accept self declaration test result from testing labs.
  - iv. Definition of how to become accredited by international accredited bodies.



# DEVELOPMENT & REVIEW OF REGULATORY FRAMEWORK (7)



- In defining the coordination and harmonization of the C & I Regime, the following shall be guide:
  - i. Mutual Recognition agreement.
  - ii. Harmonization of technical requirement.



# DEVELOPMENT & REVIEW OF REGULATORY FRAMEWORK (8)



- In specifying the budget for establishing conformity assessment Lab, the following shall be guide:
  - i. The need of the market or regime.
  - ii. Feasibility study on the testing lab
  - iii. The scope of the lab.





# DEVELOPMENT & REVIEW OF REGULATORY FRAMEWORK (9)



- Training Needs for staffs should cover:
  - i. Ability to review reports based on requirement of the C&I Regime.
  - ii. Issues of establishing C & I regime
  - iii. Issues of certificate of conformity.



# THE TECHNICAL REQUIREMENTS



Below are the areas to consider when developing technical requirements for a C & I Regime:

- In-band/out of band emissions
- Transmission Power
- Frequency stability
- Energy efficiency
- Eco-environmental specifications
- SAR limits
- EMF limits
- Bandwidth
- Gain
- Electrical shock/Fire protection
- Overcurrent protection

as set out by ITU-T, 3GPP, ISO, ETSI



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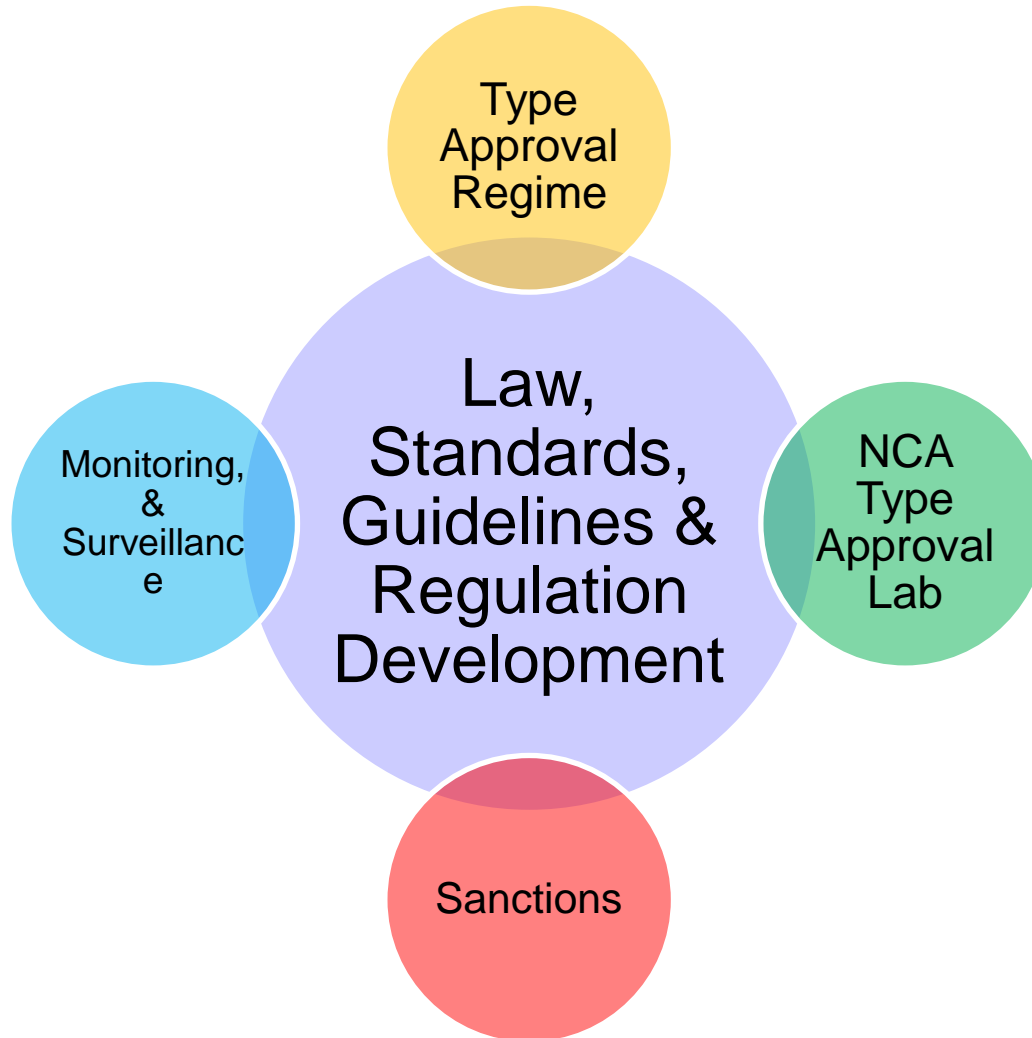
# THE TECHNICAL REQUIREMENTS



Category	Product	Standard	Technical Requirement
<b>User equipment</b>	Mobile	3GPP	Power; frequency stability, frequency in-band emission.
	Fixed Telephone	CEI	Power; frequency stability, frequency in-band emission.
	PABX	<ul style="list-style-type: none"> <li>Rec. UIT-T G.711.</li> <li>Rec. UIT-T Q.921.</li> </ul>	Protocols
	Charge and power adapter	Rec. UIT-T L.1000	Power, energy efficiency, eco-environment specifications
	Personal area communication	Allocation of national frequencies	Gain, transmission power, bandwidth, frequency stability.
	Residential optical unit	UIT-T G.984	Power; frequency stability, frequency in-band emission, SAR limits.
	UTP cable	ISO/CEI 11801	Return Loss, FEXT, NEXT, bandwidth
<b>RTTE</b>	Mobile - Broadband base station	ETSI	Gain, transmission power, bandwidth.
	Antenna	ETSI	Radiation Diagram, Gain, VSWR.
	Broadcast transmitter	ETSI	Gain, transmission power, frequency width.
	Earth station equipment / VSAT	ETSI	Gain, transmission power, bandwidth
<b>Network equipment</b>	Transmission equipment	Rec. UIT-T G.707	Protocols
	Network switches and routers.	MPLS - G.8121 Ethernet - G.8021 TVIP - H.62X	Protocols
	Cables	ISO/CEI 11801	Return Loss, FEXT, NEXT, bandwidth
	IPVT	Rec. UIT-T	See Standard
<b>Electromagnetic Compatibility</b>	All equipment	Rec. UIT-T K.48	Radiated spurious emission, conducted spurious emission, resistibility
<b>Safety</b>	All equipment	Rec. UIT-T K.21	Electrical shock protection, fire protection, overcurrent protection



# C&I REGIME: GHANA'S CASE



# C&I REGIME: GHANA'S CASE

LAWS	TA REGIME	LABORATORY	SURVEILLANCE
<ul style="list-style-type: none"><li>• NCA Act, 2008 Act 769</li><li>• EC Act, 2008 Act 775</li><li>• EC Regulations, 2011 L.I. 1991</li><li>• TA Guidelines 2015</li></ul>	<ul style="list-style-type: none"><li>• Application Processing</li><li>• Review of reports.</li><li>• TAMSys</li><li>• Fee payment</li><li>• Issuance of TA Certificate</li><li>• TA approved ECE database</li></ul>	<ul style="list-style-type: none"><li>• SAR Lab</li><li>• RF &amp; Signaling Lab</li><li>• EMF Lab</li></ul>	<ul style="list-style-type: none"><li>• Pre market surveillance</li><li>• Post market surveillance</li><li>• Sanctions</li></ul>

# Market Surveillance

- ❑ This procedure is conducted to ensure that electronic communications equipment placed or used on the market conform to the pre-market approved standards

- **Two-pronged Approach:**

- ❑ Entry clearance procedures – physical port inspection and clearance
- ❑ Post market surveillance activities

# NCA TA LABS

## SAR LAB



## RF & Signaling LAB





Thank you.



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# Any Questions?

