Conformity and Interoperability Training for AMS Region on Type Approval testing for Mobile Terminals, NGN testing, Homologation Procedures and Market Surveillance

Campinas-Brazil, 8-12 June 2015

Market Surveillance and enforcement

João Alexandre Zanon and Renata Santoyo

Introduction and concepts

Purpose

- To ensure the ICT products placed on the market comply with all the requirements set out in the relevant legislation and regulations
- To ensure that ICT products placed on the market do not cause electromagnetic interference, harm the public telecommunications network, and endanger health, safety, environment or any other aspect of protection of public interests
- To take necessary action (e.g. prohibitions, withdrawals, recalls) to stop the circulation of products that do not comply with all the requirements set out in the relevant legislation and regulations, to bring the products into compliance and to apply sanctions.

A definition:

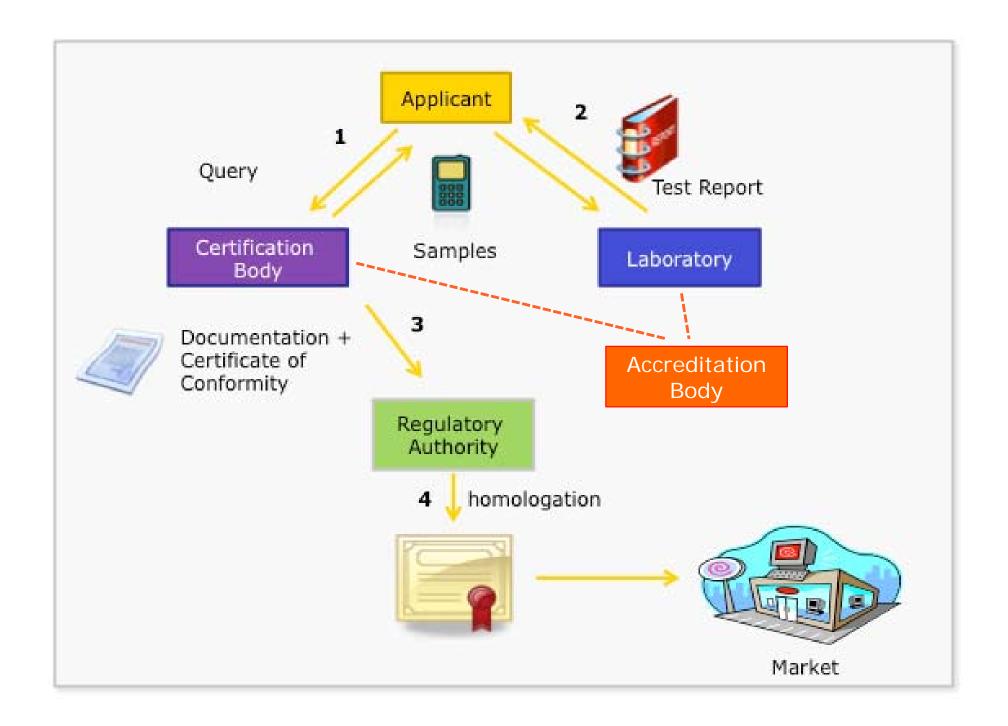
Market surveillance consists of the "activities carried out and measures taken by designated authorities to ensure that products comply with the requirements set out in the relevant legislation and do not endanger health, safety or any other aspect of public interest protection"

*Adapted from: Market Surveillance Regulation European Commission n. 765/2008, art 2

Market Surveillance Key Stakeholders

- Regulators
- Accreditation Bodies (ABs)
- Certification Bodies(CBs)
- Manufacturers, importers, vendors and service providers
- Users





Market Surveillance activities – Regulators

- Market surveillance mandates in place in legislation and regulations
- Processes and procedures in place to conduct market surveillance
- Monitor appointed/recognized Accreditation Bodies to ensure continued ISO/IEC 17011 compliance
- Monitor designated/recognized Certification Bodies (CBs) to ensure their continued compliance with ISO/IEC 17065
- Ensure that the designated/recognized CBs conduct appropriate market surveillance activities in with ISO/IEC 17065

Market Surveillance activities – Regulators (cont'd)

- Specify additional market surveillance tasks for designated/recognized CBs such as:
 - Conduct audit of X % of equipment they certified annually
 - > CBs may use the following criteria to select audit samples:
 - past history of compliance
 - whether the sample comes from a new applicant
 - whether the sample is based on new technology
 - popularity of the technology
 - price of the sample relative to the average price of similar technology
 - potential harm to the network or people as a result of noncompliance



Market Surveillance activities – Regulators (cont'd)

- Liaise with border control department to track ICT equipment imported in their territories
- Consult with foreign regulators to share and discuss market surveillance results and experience



Market Surveillance activities – Accreditation Bodies

- Maintain compliance with ISO/IEC 17011 by peer assessment as set out by ILAC for testing laboratories and IAF for certification bodies
- Ensure that the conformity assessment bodies which they had accredited remain compliant by reassessment and on-site surveillance according to ISO/IEC 17025 for testing laboratories and ISO/IEC 17065 for certification bodies



Market Surveillance activities – Certification Bodies (CBs)

- CBs to maintain compliance with ISO/IEC 17065
- CBs to conduct appropriate market surveillance activities in accordance with ISO/IEC 17065
- CBs to conduct specific tasks as requested by the regulators



Market Surveillance activities – Manufacturers, legal representative

- To ensure that equipment sold in the regulator's territory continues to meet the applicable standards throughout its entire life cycle.
- To provide audit samples to the regulator and CB on a timely basis



Market Surveillance activities – *Users* / *competitors*

- Awareness of the Conformity Assessment in place
- Contact authorities about suspicious equipment



Activities

- -Audit
- -consultations on Market Surveillance Intelligence and Experience
- -Importing monitoring



Audits

- Regulators, CBs and manufacturers conduct audits according to the regulators' requirements
- Audits can be random or targeted based on complaints or past surveillance results
- Audit samples may be obtained from:
 - > the manufacturer
 - > the domestic representative of a manufacturer or supplier
 - the importer or distributor
 - > the marketplace



Consultations on Market Surveillance Intelligence and Experience

- Sharing of information and consulting with other countries which have a market surveillance and enforcement program in place.
- Countries within the same region, sharing a common language and perhaps common spectrum management and frequency assignments for services
- Heads-up notice, or advance warning from collaborative partners on compliance problems with technologies and products which may have early deployment in a particular country or region.

Consultations on Market Surveillance Intelligence and Experience (cont'd)

- Alert the collaborative partners to the potential for non-compliance of such products or technologies when they are deployed more broadly and therefore can be targeted for inspection and audit.
- The Administrative Cooperation Group on R&TTE (ADCO) is example of collaborative group in the European Community
- ADCO has MoU with the Federal Communication Commission (USA) and Industry Canada (Canada)



Import Monitoring

- Regulators need to have a method to track the equipment imported into their territories.
- "HS Code" is a standardized numerical method of classifying traded products developed and maintained by the World Customs Organization, but are free to adopt additional subcategories and notes
 - ➤ To ensure harmonization, the contracting parties must employ at least 4- and 6-digit provisions, international rules and notes, but are free to adopt additional subcategories and notes.

Import Monitoring

- A regulator through the appropriate department in its territory can assign the HS Code to the ICT equipment and through its customs department can monitor the ICT equipment which is imported into its territory.
- HS Codes can be used by the regulator to stop the equipment from entering its territory if the equipment is determined to be non-compliant

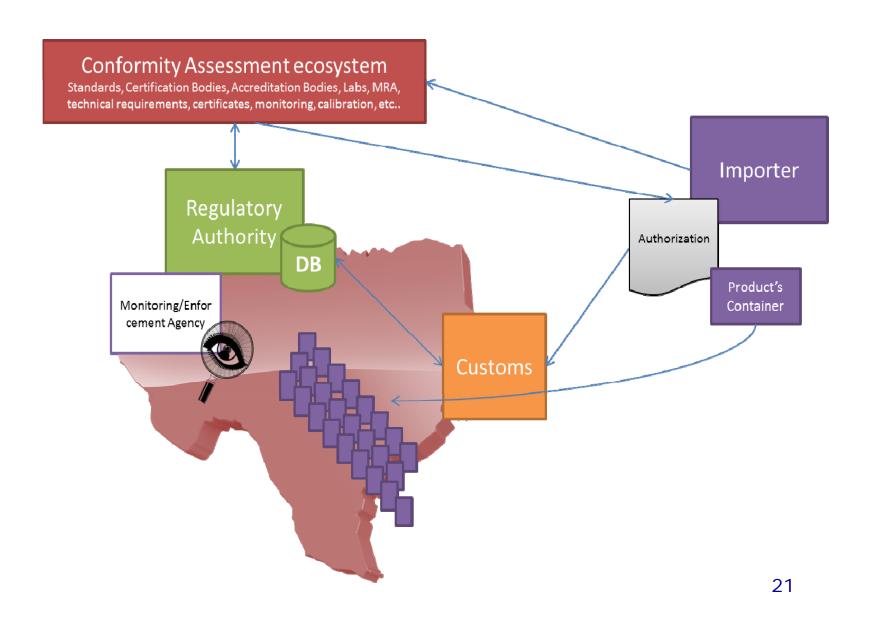


Enforcement

- Revocation of certification, registration
- Recall
- Monetary penalties
- Seize
- Border control



Blocking the entrance of Counterfeit Devices.

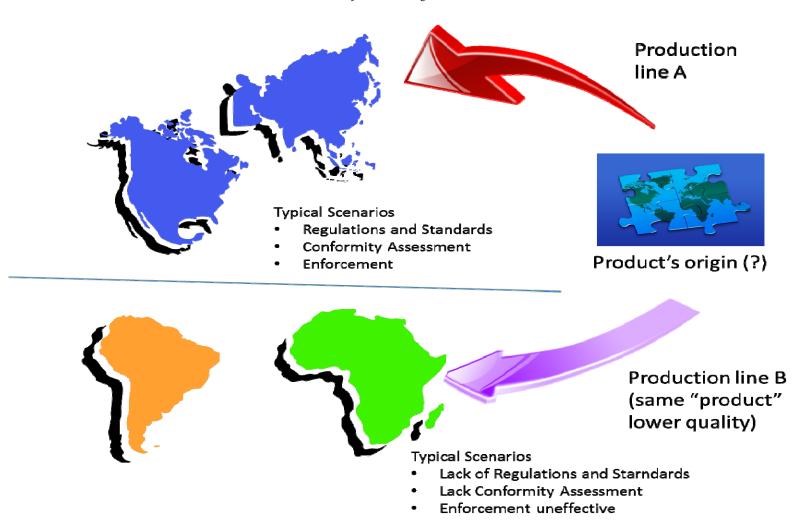




CA Policy Importance



Phenomenom of Tropicalização



CA Policy Importance

- Radiofrenquency Interference -> service disturbance -> market instability
- Safety
- Minimum Quality requirements oblivion

 Global, Regional and National Perspectives

Multi Layer Initiatives: a working case

- International—ITU Actions:
 - PP14 Resolution on Counterfeit and on C&I.
 - ITU-T SG11 (Q8/11) <u>Technical Report</u>.
 - ITU-D interaction with ITU-T to implement the necessary actions on developing countries.
- Cooperation with other organizations.
- Regional: CITEL CCPI Correspondence Group on Counterfeit terminals discussions.
- National: Brazil SIGA and Custom Integration.

What we should look for

- Multi Level Actions and Cooperation.
 - Bilateral and Regional cooperation.
 - International best-practices and recommendations.
- Reduce End-user impact (Good Faith user)
 - Good user communication is crucial.
 - Weave for legacy terminal (turnover).
- National multiple actions to combat Counterfeit
 - Structured CA Policy and Custom Integration.
 - Solution to Remove Counterfeit from the network.
- Reliable reference databases to our solutions
 - <u>Secure unique identifier (IMEI) PP14 Res. Counterfeit</u>

Regional Approach

Examples of joint measures on regional level

Inter-American Telecommunication Commission (CITEL)

- CITEL PCC.I recommended in 2009 member states to "consider creating databases as part of an overall anticounterfeit and fraud program".
- In May 2014, the group approved <u>Resolution 222</u> (XXIV-14) - "strengthening regional measures to combat the spread of counterfeit, substandard and unapproved mobile devices"
- Res. 222 created a correspondence group to:
 - develop definitions;
 - evaluate the scope and nature of the problems detected;
 - recommend technical and regulatory solutions;
 - document best practices from around the world;
 - and to promote the sharing of information and the exchange of experiences among Member States and associate members of CITFI

Regional Approach

Association of the Communications and Telecommunications Regulators of the Community of Portuguese Speaking Countries (ARCTEL-CPLP)

- At the ITU GSR 2012 proposed actions at the regional level consisting of:
 - Sharing of IMEI blacklist databases through bilateral or multilateral agreements
 - Establishment of regulatory fiscal + customs mechanisms to ensure greater on borders
 - ➤ Industry compliance with recommendations preventing IMEI changing or duplication
 - ➤ Campaigns to raise public awareness of the importance of reporting the theft and loss of mobile terminal devices.

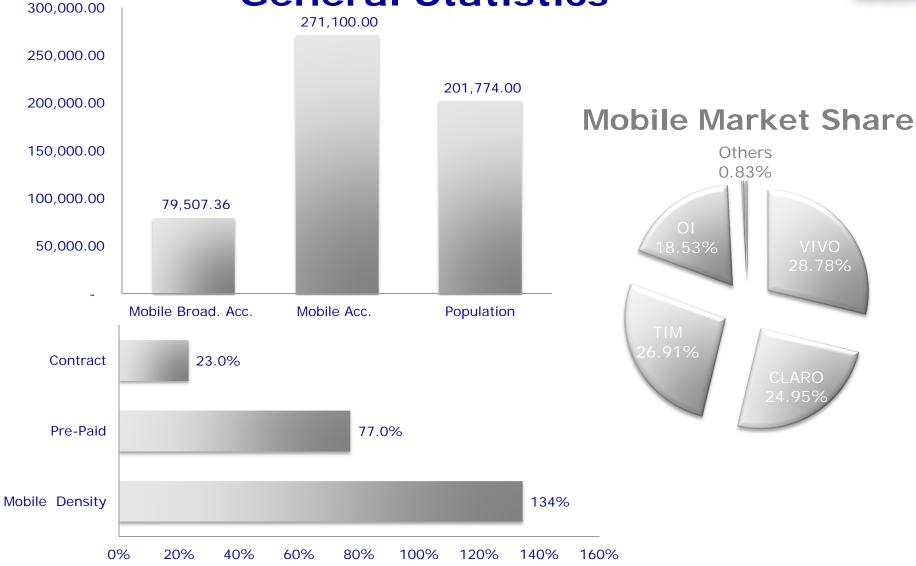
A National Perspective

An example form the Mobile market





General Statistics





SIGA - Sistema Integrado de Gestão de Aparelhos.



- O "Sistema Integrado de Gestão de Aparelhos SIGA" aims to control counterfeit, cloned and unauthorized mobile devices.
- The project is based on Anatel Regulatory framework that dictates that operators can only allow on the network authorized devices.
- The Project is lead by Anatel with the participation of all relevant actors (Anatel, Operators, ABR-Telecom, Manufactures, GSMA, among others).
- The system is operated by ABR-Telecom and is active since march 2014 collecting the relevant information from all mobile networks on Brazil.
- The system is generating the reports and alarms necessary to map the Brazilian scenario so that Anatel can define the next actions.





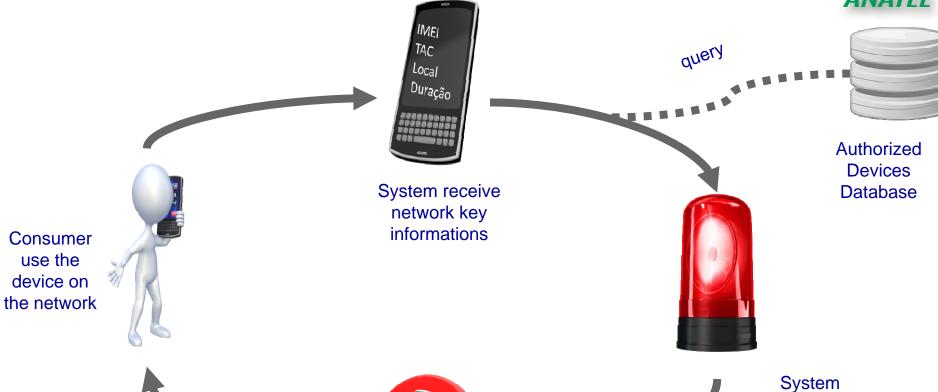
SIGA Premises

- Centralized solution: built jointly and integrated to all Brazilian mobile operators;
- Automated solution: allowing the input of information with low human intervention;
- Scalable, Dynamic and Flexible: expandable system, rules adjusted over time;
- Multiple sources of info: CDRs (call data record), operators systems, international databases;
- Reliable and secure: Minimize impacts on regular end users;



SIGA Workflow





Operator take the necessary actions

generate alarms to operator



Challenges Faced on SIGA

- Identification and definition of actions for for each scenario.
- Reduce end-user impact.
- Construct a reliable reference database.
- Define Legacy Terminal actions.
- Actions effective only on terminal already on the network.
 - How to control the entrance of Counterfeit?



Enforcement – A case study

Post Market Surveillance Current Regulation and perspectives

Objectives:

To identify if equipment in the market is the same as it was approval in the lab/CB.

When we should start the surveillance?

- months after approval or, if necessary, on demand.
- How? Agents might go to the market or manufacture`s factory to take samples.
- Which kind of equipment? In the beginning, users' equipment.
- Risk Assessment: Existence of enough working force and reliable CBs
- What tests should be repeated? In the beginning, EMC tests because it is the one which makes the equipment most expansive and safer.
- **©**A simple way to put a post marketing procedure in place would be to compare the internal pictures form circuitry to the collected sample.

Post Market Surveillance

- ©Since 2001, the Certification Bureau could notice that the non-compliance of products in the market has been improved day-by-day, and it was necessary to change the applicable Regulation, because the status quo wasn't sufficient.
- In the beginning, the no approval equipment where essentially those which have no sample.
- But nowadays there are lots of different ways to break the law, such as:
 - No approval without label;
 - No approval with fake label;
 - ONo approval with other's label;
 - Approval with sample, but not in accordance with the requirements.

©Even and odds

- Short term enforcing rules; working force increase; consequently more products arrested in the market.
- Obligation Long term less working force acting in the field; more working force on the post market surveillance intelligence work.

Enforcement activities

Objectives

To Identify and combat defining preventive actions to protect the market;

To favor fair competiton between all equipment manufactures; Protect the internal market and the end-user;

Ways

1) Pre-Market Surveillance

(Type Approval):

- to grant access to market by compliance demonstration;

2) <u>Pós-market</u>:

- demanded;
- Continuos validation the equipment follows up-to-date regulations/standards;



Working Force on enforcement



16 Unidades Operacionais (incluindo DF)

ER 01 - SP

ER 02 – RJ UO 2.1 - ES ER 07 – GO UO 7.1 MT UO 7.2 MS UO 7.2 TO

ER 03 – PR UO 3.1 - SC

ER 08 – BA UO 8.1 SE

ER 09 - CE

UO 9.1 PI

UO 9.2 RN

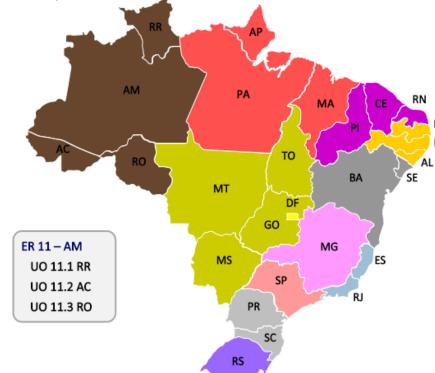
ER 04 - MG

ER 05 – RS

ER 06 – PE UO 6.1 PB UO 6.2 AL

ANATEL

ER 10 – PA UO 10.1 MA UO 10.2 AP



ER/UO	Numero de
LIVUU	Agentes
GR01-SP	91
GR02-RJ	46
U0021-ES	9
GR03-PR	29
U0031-SC	14
GR04-MG	41
GR05-RS	28
GR06-PE	18
UO061-AL	6
UO062-PB	8
GR07-GO	17
UO071-MT	10
UO072-MS	9
UO073-TO	3
GR08-BA	23
UO081-SE	5
GR09-CE	19
UO091-RN	7
UO092-PI	5
GR10-PA	19
UO101-MA	9
UO102-AP	3
GR11-AM	11
UO111-RO	5
UO112-AC	4
UO113-RR	5
UO001-DF	15
FIGF	3
TOTAL	462
	Fonte: DOE 2012

Fonte: POF 2013

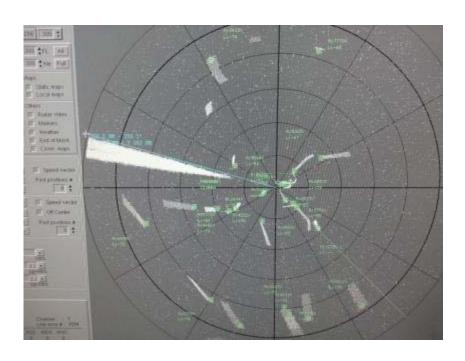
Working Force

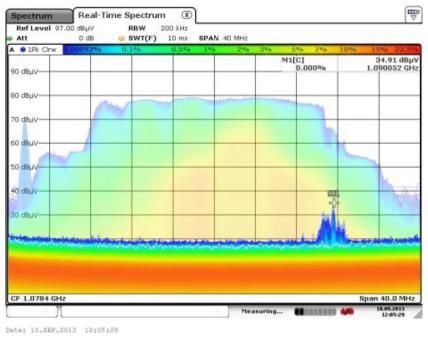
Área de Atuação	Horas	Percentuais
STFC	192.258,00	29,63%
SMP	73.829,08	11,38%
TVA	11.420,00	1,76%
SCM	31.101,96	4,79%
Demais Serviços	0,00	0,00%
Redes	14.308,54	2,21%
Certificação	10.706,09	1,65%
Uso de Recursos de Espectro	220.119,37	33,92%
Uso de Recursos de Órbita	648,85	0,10%
Uso de Recursos de Numeração	6.488,54	1,00%
Recolhimento e Aplicação de Tributos	54.882,02	8,46%
Ordem Econômica	0,00	0,00%
Fiscalização de Conteúdo	29.198,43	4,50%
Outros	3.893,12	0,60%
Total	648.854,00	100,00%

Mês	Planejadas	Pontuais	Total	
Janeiro	146	247	393	
Fevereiro	278	247	525	
Março	425	247	672	
Abril	443	247	690	
Maio	586	247	833	
Junho	285	247	532	
Julho	3.193	247	3.440	
Agosto	442	247	689	
Setembro	533	247	780	
Outubro	520	247	767	
Novembro	789	247	1.036	
Dezembro	942	248	1.190	
Total	8.582	2.965	11.547	

16 Actions/ mounth on Pos-market surveillance

Interference case in the field: aeronautical navigation system disturbance

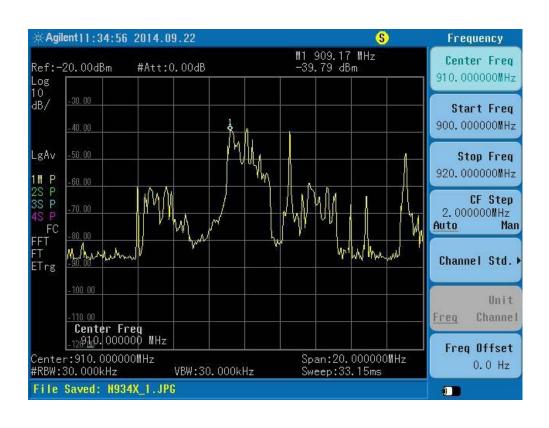




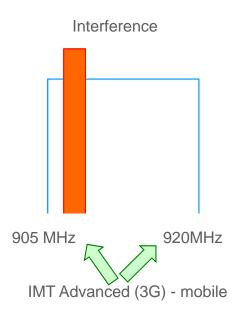


Wireless Camera

Interference case in the field: interruption on mobile communications



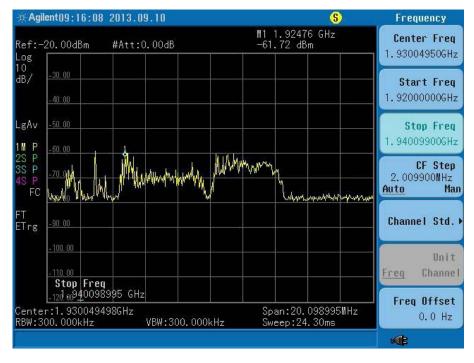
Electronic baby sitter

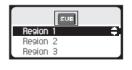


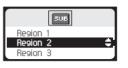


Unlicensed RF equip

Interference case in the field Try to asses the impact to communications in your country having the possible configurations below?











Europe band: 1880 MHz - 1900 MHz

US/Canada band: 1920 MHz - 1930 MHz

South America band: 1910 MHz - 1930 MHz

Asia band: 1900 MHz - 1920 MHz

Wireless Phone DECT (European Standard)



ICT PRODUCTS IMPORTANTION Typical motivations

Personal Use

Market

Demonstration



CUSTOMS`Inspection

- 90 % from the incoming products to Brazil are inspected:
 - FEDEX, DHL, UPS, TNT, others.
- Postal inspections in SP, PR and RJ
- Shipping inspections under demand



ENFORCEMENT typical workflow

ORIGIN – failure recognition

DENUNCIATION

REGULAR INSPECTION



TIMELENESS

Suspicion



NOTIFICATION

PLANNING



IRREGULARITIES

ARREST



REPORT

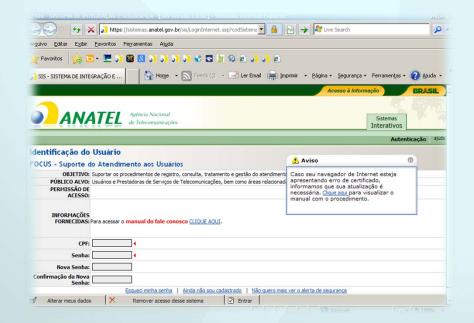
DEFENSE

SANCTION

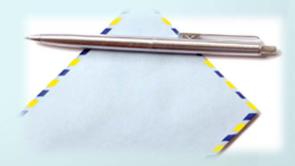


DENUNCIATION









Search in the Homologation and Certification Management System (SGCH)

					Acesso a l	ntormação	BRASIL
ANATEL	Agência Nacional de Telecomunicações					Sistemas Interativos	
→ Menu Principal ▼					SGCH »» Consultar Produtos F	Homologados/Certificad	dos menu ajuda
Consultar Produtos Homol	ogados e (ou) Certificados						
Essa consulta é limitada a 300) registros. Para consultas mais e	specificas, selecione	os critérios abaixo.				
Tipo de Consulta:	Certificados e Homologados 🔻		Consulta pelo Modelo de Produto				
Nº Certificado:							
Nº Homologação:							
Solicitante:	Todos os Solicitantes		•				
Nome Solicitante:		€ Iniciando com C Cont	endo				
Fabricante:	Todos Fabricantes	<u>.</u>]				
Nome Fabricante:		€ Iniciando com C Cont	endo				
Serviço/Aplicação:	Todos os Serviços	▼					
Tipo do Produto:	Todos os Tipos		•				
Palavra-chave Modelo:							
Faixa de Frequências (MHz):		a					
Tecnologia:	Nenhum						

DILIGENCE



IRREGULARITIES

■ EQUIPMENT NOT AUTHORIZED

- Homologation process has not started;
- Processing;
- Suspending;
- Divergent model;
- Not trackable;





IRREGULARITIES

- NOT HOMOLOGATED EQUIPMENT FOUND OPERATING
 - No label
 - counterfeited label (Crime)





IRREGULARITIES

■ HOMOLOGATED (Authorized)

FAUTLS BEARED BY

- Supplier
- Factory
- Label



TECHNICAL ISSUES

- Configurations, parameters, etc.
- Markings (e.g. Resolution506, cables etc);
- Declarations;
- Requirements (e.g. Espectrum allocation);

NOTIFICATION - Agent

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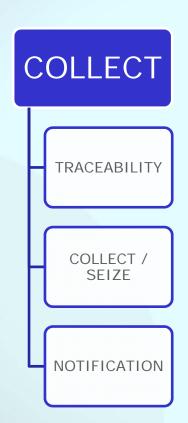
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SEIZE



Seal







PRODUCT ANALYSIS

- Marking
- MODEL
- PARAMETERS

CABINET

SOURCE

TESTS

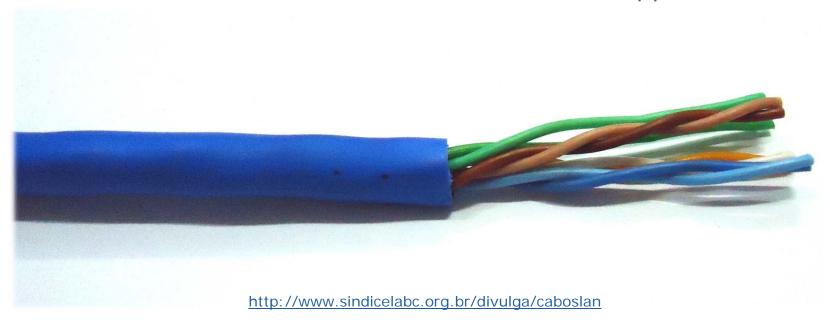






Date: 30.NOV.2012 10:35:54

LAN CABLE – Aluminum instead of Copper



TABLET



MIDIA coverage

ROUTER



CERTIFIED/HOMOLOGATED



MARKETED

7 errors game; SHIELD? EMC, Safety requirements?