



NIST

Global Standards Information



Mutual Recognition Agreements for Telecom Products



Global Trade of Telecommunications Products



Radio equipment



Telephone terminal equipment

Universal products



iPhone 3G

iPhone 3GS

iPhone 4

Shorter Product Life Cycles



Rapid Technological Changes

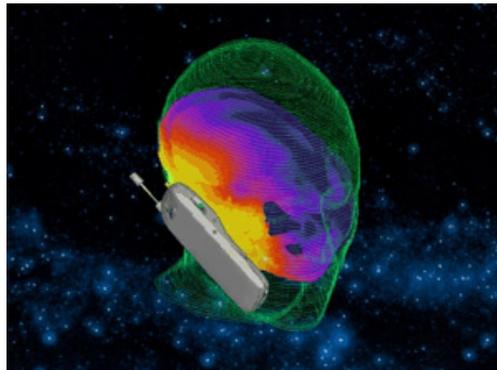




Telecom Regulators

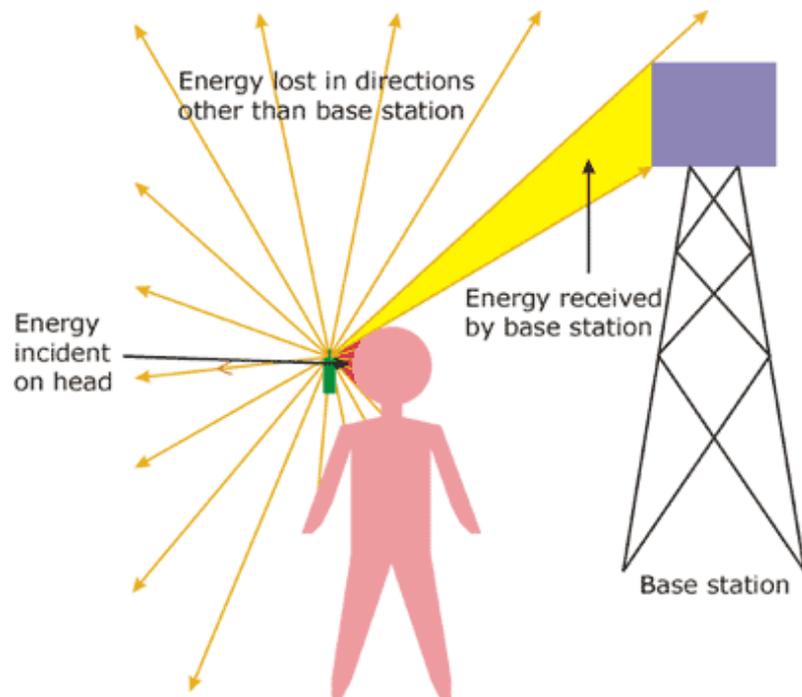
Maintain Product Approval/Authorization Programs to verify that telecom equipment being placed on the market

- Does not **harm** the telecommunications infrastructure/**network**
- Does not **interfere** with other equipment
- Is sufficiently robust to **withstand interference** from other equipment
- Does not pose a **health/safety hazards** for humans



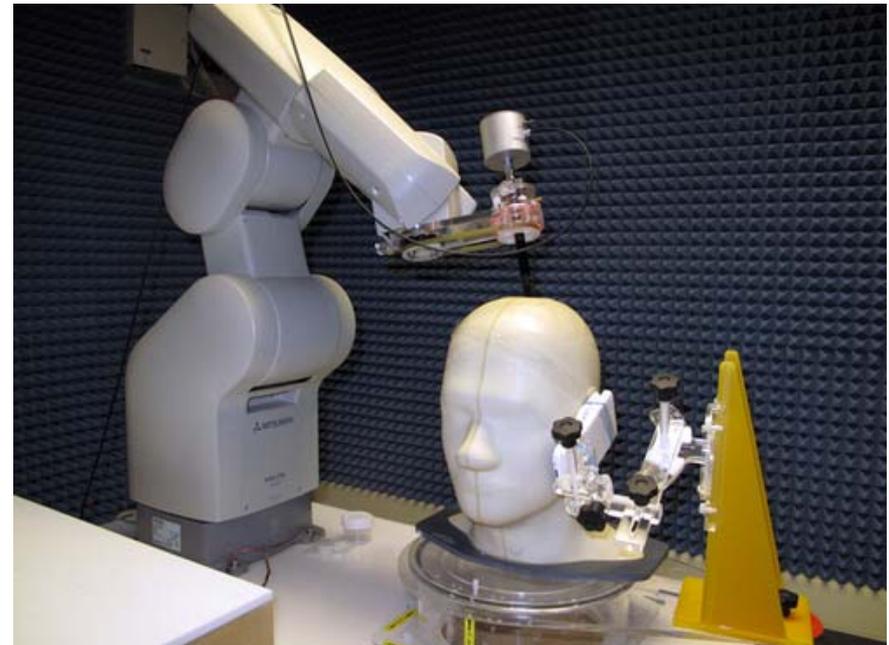


Specific Absorption Rate (SAR) Testing of Cell Phones



Governments have different safety limits for exposure to RF energy produced by mobile devices that mainly exposes the head or a limb for the RF energy.

Measure of the rate of RF (radiofrequency) energy absorption by the body from the source being measured



Regulatory Product Approval/Authorization Programs

- Normally require some type of conformity assessment process (testing and/or certification) of the products before placement on the market.
- Process for product approval may:
 - Not be transparent
 - Take time
 - Be costly
- Net result
 - Drives up cost of the product
 - Delays entry of innovative products on to the market

Mutual Recognition Agreements (MRAs) for Conformity Assessment

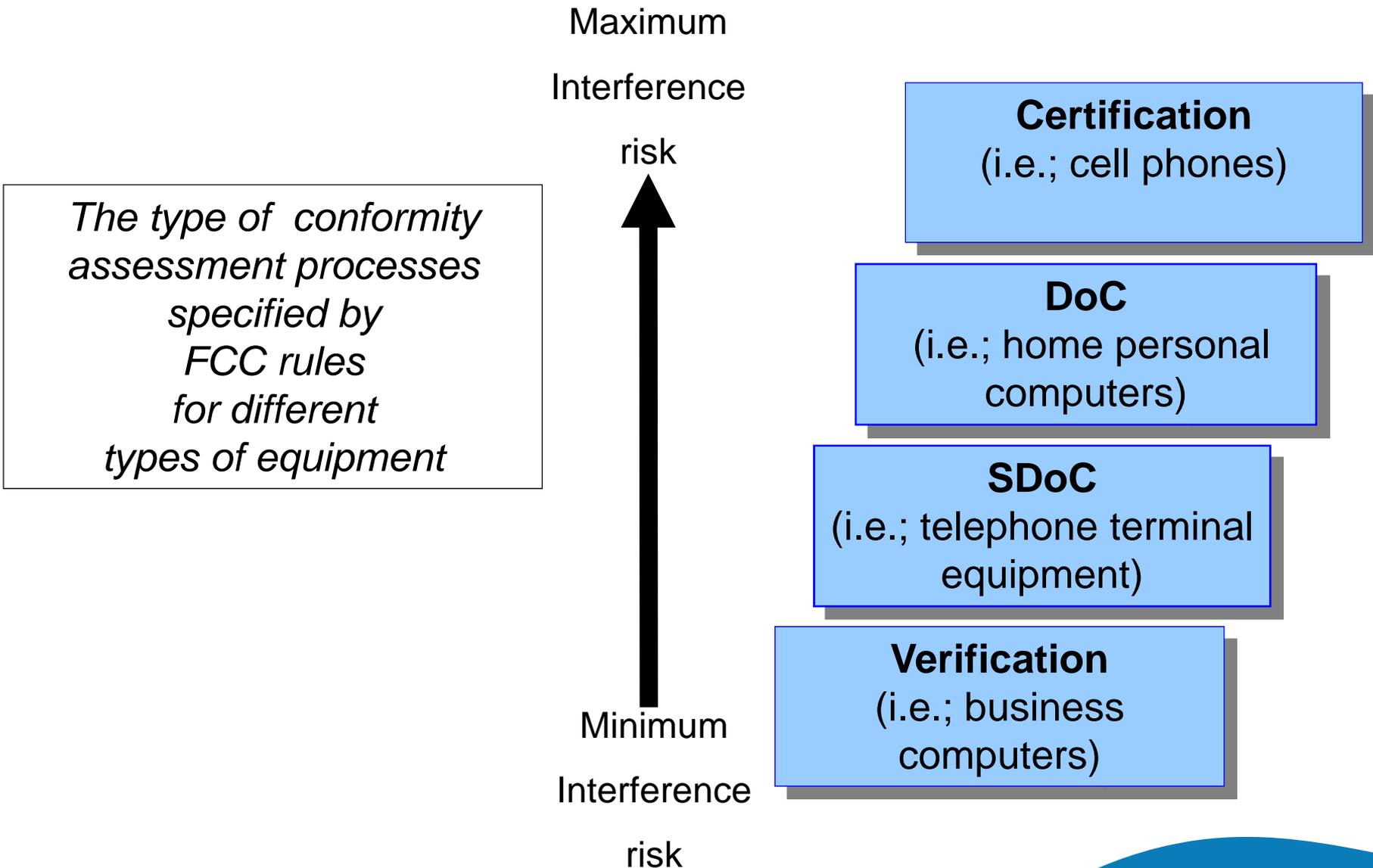
- Government to government agreements for regulated telecom products
 - Each country maintains its own regulatory requirements and technical standards
 - Process to recognize the test reports and/or certification/product approval reports generated in MRA partner country
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Before and After MRA

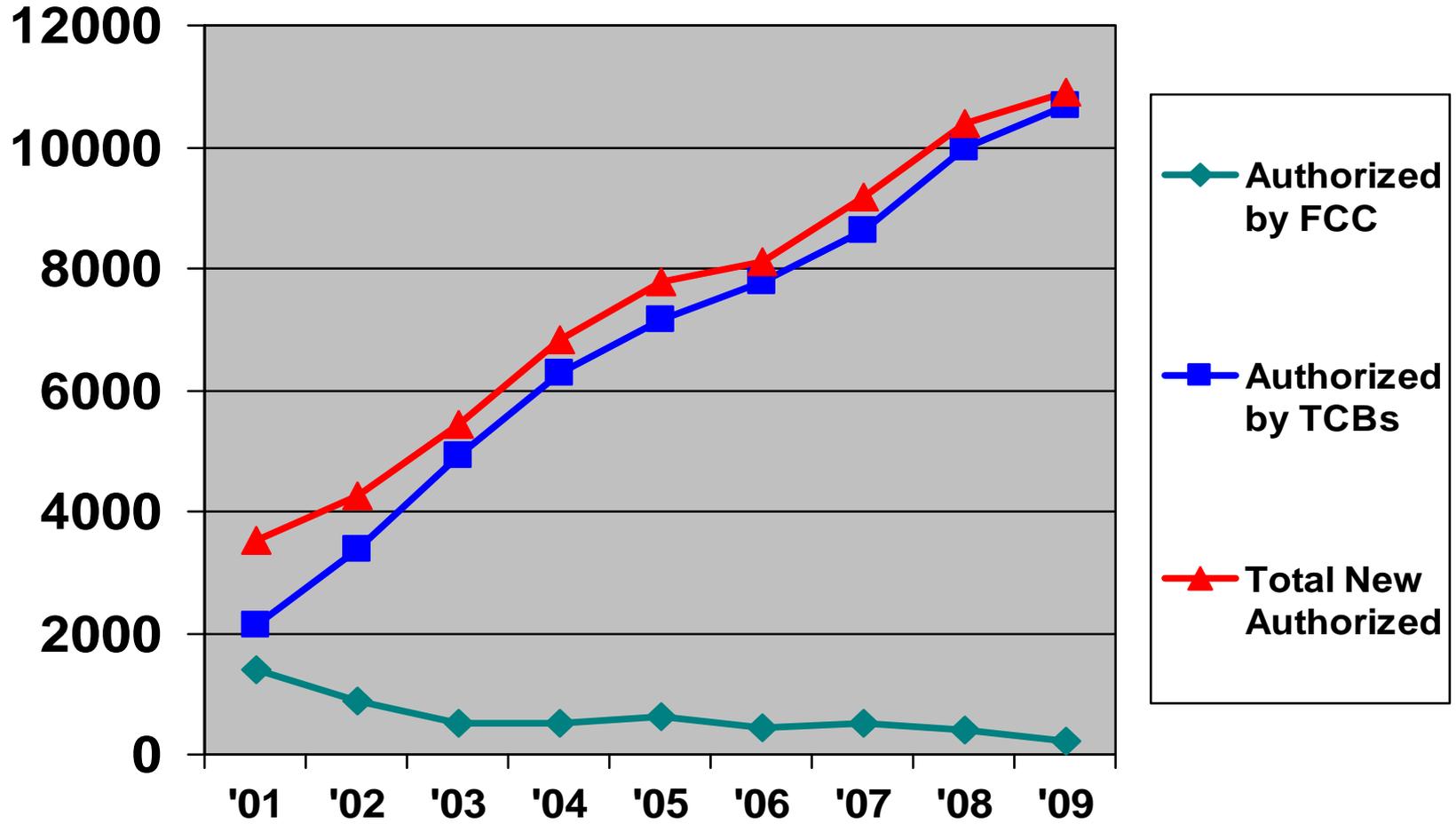
Before the MRA	Make	Export	Test	Certify/ Product approval	Place on Market
MRA for testing	Make	Test locally	Export	Certify/ Product approval	Place on Market
MRA for testing and certification	Make	Test locally	Certify/ Product approval	Export	Place on Market



U.S. FCC Equipment Authorization Program



of Device Approvals at FCC





U.S. MRA Partners

U.S. MRA Partners	Details
(1) European Union US-EU MRA	1998 – all EU member states Electromagnetic Compatibility (EMC) Radio & Telecom Terminal Equipment (R&TTE) Notified Bodies
(2) European Free Trade Association US-EFTA MRA	2005 Extension of US-EU MRA to include Iceland, Liechtenstein, Norway
(3) Asia Pacific Economic Cooperation APEC TEL MRA	1998 – framework MRA Option for testing and/or certification MRA Implementation bilaterally via exchange letters 7 APEC economies
(4) Japan US-JAPAN MRA	2007 Certification Only Implementation in 2010
(5) Inter-America Telecom Commission CITEL MRA	Framework MRA Not yet implemented with any countries

Key US Players – MRA Negotiations

- USTR
 - FCC – Regulatory Authority
 - Domestic regulatory expertise
 - NIST – Designating Authority
 - Conformity assessment expertise
 - NIST programs to evaluate accreditation bodies of CBs and Labs
 - ITA
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Key US Players – MRA Implementation

- FCC
- NIST
- U.S. Lab Accreditation Bodies
 - NIST-Listed: A2LA, NVLAP, ACLASS
- U.S. CB Accreditation Bodies
 - NIST-Recognized: A2LA, ANSI

Who Benefits?

Consumers

- Increased access to variety of technologies
- Lower cost for telecom products
- Take advantage of rapid development of telecom and Internet infrastructure

Regulators

- Maintain regulatory authority
 - Reduce regulatory resources
 - Move towards harmonizing of technical requirements
 - Gain insights into global trends in conformity assessment and other regulatory systems
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Who Benefits?

Manufacturers

- Test/certify products one time to requirements of multiple markets
- Ship products without further conformity assessment
- Reduces time to place products on the market
- Export opportunities for small and medium-sized enterprises

Conformity Assessment Bodies (CABs)

- Increase the value of their service by offering clients testing and certification of products for multiple markets

Typical Process for US CAB Initial Recognition by MRA Partners

1. CAB obtains accreditation for specific technical standards
 2. CAB submits designation application and technical competency information to NIST.
 3. NIST conducts technical review of the application. If acceptable, NIST designates the U.S. CAB to the MRA Partner.
 4. MRA Partner reviews the designation package. If acceptable, the MRA Partner grants recognition to the U.S. CAB.
 5. MRA Partner notifies NIST of recognition.
 6. NIST notifies CAB and publishes/lists recognition of CAB on web site.
 7. MRA Partner accepts test reports/certification reports from the U.S. CAB.
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Accreditation Scope: Competency for Specific Standards

Examples of specific standards

Radiated and Conducted Emissions

FCC Part 15 Subpart B; ANSI C63.4 (2003); ANSI C63.10;
FCC Part 18 (using MP-5); CISPR11; AS/NZS CISPR 11;
CISPR 13; EN 55013; CISPR 14-1; CISPR-14-2; EN 55014;
CISPR 20; EN 55020; EN 50083-1; EN 50083-2; CISPR 22 - 2005;
AS/NZS CISPR 22; EN 55103-1; EN 55103-2; ICES-005;
CNS 13803 (CISPR 11); CNS 13438

U.S. CAB Participation in Telecom MRAs

U.S. organizations	79
Locations with one or more recognitions	116
Recognitions	341

Examples of U.S. Recognized Labs and CBs

- DELL Regulatory Test Lab
- Intertek Testing Services NA Inc. (ITS)
- Oracle America, Inc.
- Product Safety Engineering, Inc.
- Southwest Research Institute
- Underwriters Laboratories, Inc. (UL)
- Xerox Corporation EMC Laboratory

U.S. – APEC TEL MRA

Recognized U.S. Testing Laboratories (locations)

Australia	22
Canada	33
Chinese Taipei	99
Hong Kong	9
Korea	71
Singapore	32
Vietnam	8

U.S. – APEC TEL MRA – Phase II

Recognized U.S Certification Bodies - Locations

Canada	17
Hong Kong	1
Singapore	5



U.S. – EU MRA

US CABs with Notified Body Status

Electromagnetic Compatibility (EMC) Directive	40
Radio & Telecommunications Terminal Equipment (R&TTE Directive)	27



What's New?

- Implementation of the US-Japan MRA
- Mexico – Possible CITELE MRA for Testing



Summary

- The U.S. Government is a signatory to five Mutual Recognition Agreements/Arrangements (MRAs) for the conformity assessment of telecommunication equipment.
 - The MRAs all are intended to facilitate the international trade of telecommunications equipment.
 - MRAs benefit consumers worldwide by giving faster access to the latest technologies and products, while ensuring that they comply with regulatory safety and performance requirements of the importing country.
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Thank You

MRAs for Telecom Products

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