



E&E

**Eurofins MET Labs** 

# GLOBAL MARKET ACCESS OVERVIEW FOR WIRELESS EQUIPMENT

Your industry, our focus

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- Many countries globally regulate the wireless equipment (intentional transmitter) through certification (licensing/type approval/homologation) before these equipment can enter the country and transmit the radio waves.
- One of the primary reason for such regulation is to make sure that the
  equipment transmits according to each countries' frequency
  allocation and technical requirements of the applicable technology.





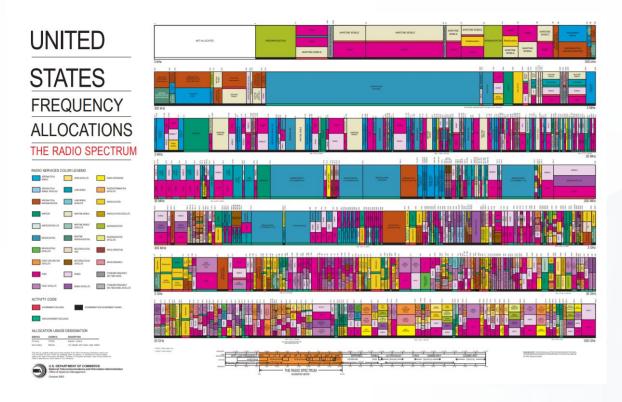






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Governments generally consider the RF spectrum as the government property and designate different frequency bands (usually 3kHz to 300 GHz) for specific purposes such as aeronatucial mobile, amateur, fixed, broadcasting, ISM, etc.









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There are three main methods to meet the technical requirements to obtain the necessary certification:

- 1) In-country testing method
- 2) MRA Phase 1 report (mutual acceptance of test reports) acceptance method
- 3) CE/FCC report acceptance method





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#### **In-Country testing method**

- -Argentina ENACOM: 1-2 conducted samples and/or 1-2 radiated samples depending on the operating frequency bands for RF testing.
- -Brazil ANATEL: 1-2 conducted samples for RF testing and 1-2 radiated samples for EMC testing.
- -China SRRC: 5 conducted samples for RF testing.
- -Indonesia SDPPI:1 conducted sample for RF testing and 1 radiated sample for EMC testing.
- -Malaysia SIRIM: 1 regular sample for construction review.
- -Mexico IFT: 1 radiated or conducted sample for RF testing







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-Conducted sample: the sample that can be connected to the spectrum analyzer for a measurement. Usually, the antenna is removed and RF cable such as SMA connector is attached to the transmitter.



Additionally, the sample need to be set on low/mid/high channel for testing and we would need test scripts/commands to run the testing.





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-Radiated sample: the sample that can transmits continuously for EMC testing and RF field strength measurement. Often times, the regular sample can be considered to be a radiated sample.

-Regular sample: production level sample





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# MRA Phase 1 report (mutual acceptance of test reports) acceptance method

- -Korea
- -Taiwan
- -Japan
- -Australia/New Zealand
- -Vietnam





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#### **CE/FCC** report acceptance method

Many other countries that do not require either the in-country testing method or MRA phase 1 report acceptance method would likely accept CE and/or FCC test reports.











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- -EN 300 330: Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz;
- -EN 300 328: Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques
- -EN 301 893: 5 GHz RLAN;
- -EN 301 489: ElectroMagnetic Compatibility (EMC) standard for radio equipment and services;
- -FCC Title 47, Part 15C, 15.225: Operation within the band 13.110-14.010 MHz.
- -FCC Title 47, Part 15C, 15.247: Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.







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#### System level approval VS modular approval

According to FCC, the module is a self-contained radio frequency transmitter which is designed to be integrated into a host/system.

Certain countries allow modular approval, similar to the FCC modular approval.

In other words, if the module is already certified for that particular country, the additional RF testing may not be necessary. However, depending on the technical requirements of specific countries, the EMC and/or Safety testing on the host/system may still be required even if the modular approval is allowed.





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#### Brief overview of certification program in following markets:

- -Brazil
- -Russia
- -India
- -China
- -South Korea
- -Japan
- -Taiwan
- -Mexico







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ANATEL (Agencia Nacional de Telecomunicacoes) is a national telecommunications agency for Brazil.



In-country testing is required for ANATEL.

Family grouping and modular approval are allowed for ANATEL.





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- -Product category I (terminal equipment): 1 year validity
- -Product category II (wireless equipment): 2 year validity
- -Product category III (products outside category 1 & 2): permanent validity

#### Two certificates:

- 1) OCD Technical certificate that is issued by OCD after in-country testing is completed. Issued to the manufacturer.
- 2) ANATEL Homologation Certificate that is issued by ANATEL after OCD makes the submission. Issued to the local representative.





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FAC (Federal Agency of Communication) is a national telecommunications agency for Russia.



FAC is a voluntary certification program and regulates products that are connected to the CTN (Common Telecom Network).





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There are two certification schemes for FAC:

- -FAC Declaration of Conformity (DoC)
- -FAC Certification of Conformity (CoC)

CE test report is accepted for products that fall under the DoC scheme; however, in-country samples may require for products that fall under the CoC scheme.





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WPC (Wireless Planning & Coordination Wing) is a national telecommunications agency for India.



CE/FCC reports are accepted for ETA (Equipment Type Approval) certificate.





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WPC may issue multiple certificates for a product depending on the operating frequency band(s) per Gazette Notification.

As an example, WPC would issue two ETA certificates for wireless equipment which operate in 13.56 MHz and 2.4 GHz.

- -Gazette Notification GSR 884(E) covers 13.56 MHz.
- -Gazette Notification GSR 45(E) covers 2.4 GHz.





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SRRC (State Radio Regulation of China) is national telecommunications agency for China.



In-country testing is required for SRRC.

Family grouping is not allowed and each model requires its own SRRC certificate.





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SRRC allows modular approval:

- -FMA (full radio modular approval)
- -LMA (limited modular approval)

Some SRD (Short Range Distance) equipment has been de-regulated from the SRRC certification program.

SRRC certificate is typically valid for 5 years but may have different validity depending on the equipment types.





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South Korea RRA (National Radio Research Agency) is national telecommunications agency for South Korea.



RRA accepts MRA-Phase 1 test reports from foreign laboratory such as Eurofins MET Labs.

RRA allows family grouping and modular approval.





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There are two certification schemes for RRA:

- -KC Registration
- -KC Certification

The certificate validity is permanent for both KC Registration and KC Certification schemes unless modifications are made.

There are two permissive change options depending on the extent of the modifications:

- -Non technical permissive change
- -Technical permissive change







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MIC (Ministry of Internal Affairs and Communications) is national telecommunications agency for Japan.



MIC appoints RCB (Registered Certification Body)/MRA CAB (Conformity Assessment Body) to review and issue certificates for most frequency bands, similar to the FCC TCB program.

RCB/MRA CAB would accept the MRA reports.





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214	EUROFINS MET Laboratories, Inc.	Article 38-2-2(1) i) of Radio Law (License not required)	Address: 914 West Patapsco Avenue Baltimore, MD 21230-3432
			URL: http://www.metlabs.com/ [2]

Eurofins MET Laboratories, Inc. is a MRA CAB (#214) and can issue certificates for products under Article 38-2-2(1) i) of MIC Radio Law which covers most of the unlicensed frequency bands.

Certain short range frequency band such as 13.56 MHz (HF RFID) would need to be certified directly by the MIC.





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Certificate validity is permanent.

Family grouping and modular approval are not allowed as the MIC Radio Law does not define these methods.

- 25 -





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NCC (National Communications Commissions) is a national telecommunications agency for Taiwan.



NCC appoints local certification bodies (RCB) that can issue the NCC Type Approval certificate.

MRA Phase 1 test report is accepted by the RCBs in Taiwan.







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Family grouping is not allowed; however, NCC allows the modular approval method.

NCC Type Approval certificate remains permanent unless modifications are made on the EUT.





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IFT (Instituto Federal De Telecomunicationes) is a national a national telecommunications agency for Mexico.



In-country testing is required for IFT.

Family grouping and modular approval are allowed for IFT.





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Equipment operating in certain frequency bands do not require incountry testing and can be evaluated by the expert opinion (Perito).

There would be PEC certificate issued for equipment that is tested incountry before the submission is made to IFT for IFT Telecom certificate.

IFT certificate validity is initially one year (provisional). Upon the expiration, we can renew to convert the provisional certificate to Definitivo certificate which has permanent validity.





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#### **Questions?**

Please feel free to contact me for any questions or comments.

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- 30 -