

**NIST-FCC MRA Workshop 2009**  
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# Approvals and Requirements for Marketing in Australia



**Chris Zombolas**  
Technical Director  
EMC Technologies  
Melbourne, Australia

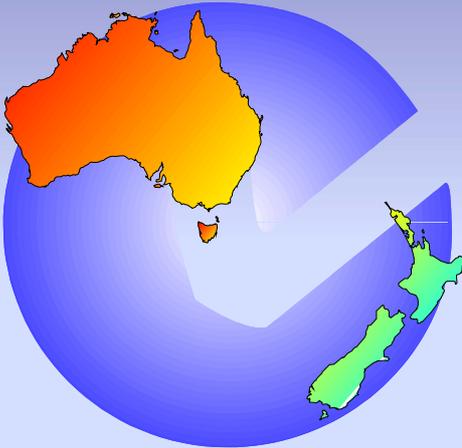


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## Requirements for Australia

### -Topics to be covered

- EMC
- EMR-SAR
- Short Range Devices
- Wireless Telecoms
- Electrical Safety
- MEPS



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## C-tick Requirements

### Contents

- Overview of Australian EMC Regulations
- Definitions
- Labelling regulations; C-tick, A-tick
- Applicable EMC Standards
- Applying labels
- Compliance levels
- Compliance records/Documentation
- Agency Agreements
- Enforcement



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## Who is EMC Technologies?

- Independent Australian owned EMC test house established in 1992
- NATA accredited ISO17025 facilities in Melbourne, Sydney, Brisbane and Auckland (IANZ)
- NATA accredited and EMI/EMC/EMR and SAR Testing
  - Calibration lab for EMC test equipment and devices
  - Automotive; VCA, AEMCLRP pending
  - MIL-STD, Aerospace, Medical
  - EMF/EMR Modelling for RF exposure
  - Electrical Safety testing; AS/NZS, IEC, EN, LVD.
  - FCC DoC lab, VCCI, iDT, BSMI, IC
- Tempest
- ACMA EMC Competent Body – NATA accredited to ISO 17020
- Consulting EMC/EMR/RFI engineers - Major infrastructure projects
- C-tick Agency Agreements via subsidiary, EMC Systems Pty Ltd



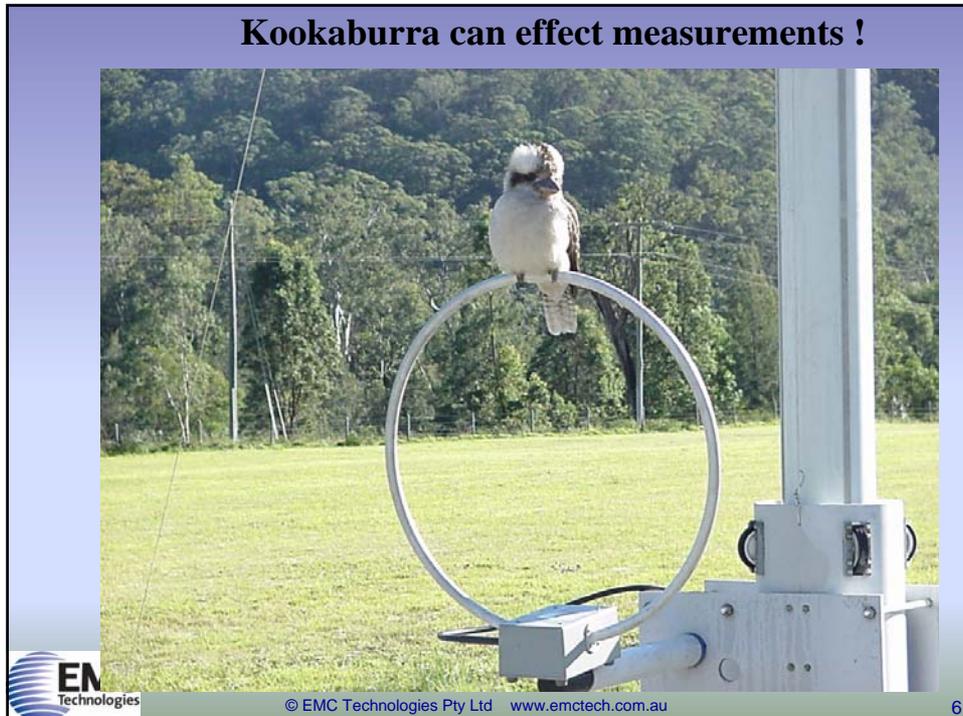
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### Kangaroos can effect measurements



### Kookaburra can effect measurements !



## Disclaimer

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## Australian Government Regulator

- **Australian Communications and Media Authority (ACMA)**
  - formerly the **Australian Communications Authority (ACA)**
  - **Regulates Broadcasting, Telecoms, Radiocomms and Media**
  - **Regulates EMC and EMF (called EMR or EME)**



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## ACMA EMC and Telecoms Regulations



*Radiocommunications (Electromagnetic Compatibility) Standard 2008*

- Known as the EMC Standard
- Replaced 2001 Standard

*Radiocommunications Labelling (Electromagnetic Compatibility) Notice 2008*

- Known as the EMC Labelling Notice
- Replaced *Radiocommunications (Compliance Labelling – Incidental Emissions) Notice 2001*

*Telecommunications Labelling (Customer Equipment and Customer Cabling) Notice 2001 - as amended*

- Known as the Telecommunications Labelling Notice

*Radiocommunications Devices (Compliance Labelling) Notice 2003,*



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## ACMA EMF-RF EXPOSURE Regulations



*Radiocommunications (Electromagnetic Radiation – Human Exposure) Standard 2003 . Amdt (1) 2007*

- known as the EMR Standard

*Radiocommunications (Compliance Labelling – Electromagnetic Radiation) Notice 2003 . Amdt (1) 2007*

- known as the EMR Labelling Notice




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## Background: C-Tick

- Denotes compliance with ACMA EMC (or EMR) requirements
- Based on **mandatory** EMC emission standards
  - AS/NZS, IEC, EN, CISPR
- **No immunity** requirements except in other jurisdictions- medical, aviation, automotive etc
- **Protected symbol, need written ACMA permission to use it**

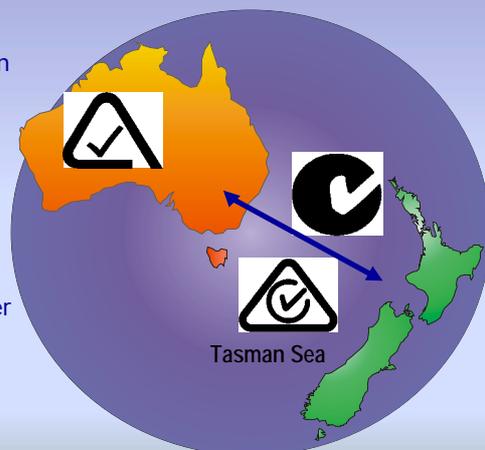


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## Trans-Tasman MRA Australia-New Zealand

- The C-tick harmonization between Australia and New Zealand commenced 2001
- Trans-Tasman EMC regulations apply to most products covered by CISPR/IEC/EN/AS/NZS emissions standards
- Gradually being extended to cover radio and other products
- **Does not include Telecoms**



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## Trans-Tasman MRA Australia-New Zealand

- Products meeting EMC regulations in Australia can be supplied to NZ without additional requirement - and vica-versa;
- C-tick compliance label distinguishes either Australian or NZ supplier:
  - For *NZ*: C-tick + **Z**999 ('Z' prefix)
  - For *Aust*: C-tick + **N**999 ('N' prefix)



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## Australia-New Zealand Use of A-tick



- **Not yet harmonised**
  - **In Australia:** denotes compliance with Telecommunications Labelling Notice **and** EMC **and** EMR (EMF).
  - **In New Zealand:** Denotes EMC Compliance only
    - C-tick label not necessary if A-tick labelled in Australia
    - C-tick label may be used for NZ only



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## Regulatory Compliance Mark (RCM)

- The **RCM** is a trademark mark owned by Australian and New Zealand regulators.
- It indicates an electrical product complies with all the requirements of the electrical and EMC regulations of Australia and New Zealand in accordance with **AS/NZS 4417** Parts 1, 2,3,4.
- Must register with Standards Australia and then with ACMA



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## List of “Applicable Standards”

- Standard is applicable if device falls within scope of a listed standard
- Generic or product/family standards
- Manufacturer can chose standard if device scope fits in more than one standard.
- The ACMA list of applicable standards contains remarks column to modify requirements of standard
  - Eg. 902-928 MHz ISM band modified for Australia to 915-928 MHz



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## Definitions

- **Applicable Standard,**
  - (a) a standard referenced for the device in the *Radiocommunications (Electromagnetic Compatibility) Standard 2008* ;
    - **"A device must comply with an applicable standard"**
  - (b) a standard mentioned in the table in Schedule 1 (of EMC Labelling Notice).

*Note* The list of applicable standards available at:

<http://www.acma.gov.au/standards/emc>.



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Part 2 Product family and equipment standards									
1	2	3	4	5	6	7	8	9	10
Serial	Applicable Standard	Full Title of Standard	Source of Std	Publication Date	Variation Y/N	Brief description of equipment to which standard should apply	Standard being replaced	Expiry Date of replaced standard	Remarks
20	AS/NZS CISPR 22:2004	Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement	AS/NZS	06/07/2004	N	Information technology equipment, modems, fax machines, BPL modems	AS/NZS 3548	21/12/2007	
21	AS/NZS CISPR 22:2006	Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement	AS/NZS	02/06/2006	N	Information technology equipment, modems, fax machines, BPL modems	AS/NZS CISPR 22:2004	02/06/2008	Testing radiated emissions above 1 GHz is not yet required in Australia.

**Example:**

A new laptop computer is imported into Australia on 20/08/2007. The supplier can use a test report to either AS/NZS CISPR 22:2004 or AS/NZS CISPR 22:2006 to show compliance. The supplier then imports a different new laptop computer on 3/06/2008. The supplier can now only use a test report to AS/NZS CISPR 22:2006. A test report to the earlier version is no longer acceptable.

**Why?**

From the table (extract below) we can see that AS/NZS CISPR 22:2006 was published on 2/06/2006 (column 5) and replaces AS/NZS CISPR 22:2004 (column 8). Until 2/06/2008 which is the expiry date of the replaced standard (column 9), a supplier may use either AS/NZS CISPR 22:2004 or AS/NZS CISPR 22:2006 to show compliance.

From 2/06/2008 (column 9), only AS/NZS CISPR 22:2006 can be used.

Note that the remarks in column 10 state that testing above 1 GHz is not yet required in Australia. Therefore the supplier of the laptop computer would not be required to prove compliance of the laptop above 1 GHz.

1	2	3	4	5	6	7	8	9	10
Serial	Applicable Standard	Full Title of Standard	Source of Std	Publication Date	Variation Y/N	Brief description of equipment to which standard should apply	Standard being replaced	Expiry Date of replaced standard	Remarks
21	AS/NZS CISPR 22:2006	Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement	AS/NZS	02/06/2006	N	Information technology equipment, modems, fax machines, BPL modems	AS/NZS CISPR 22:2004	02/06/2008	Testing radiated emissions above 1 GHz is not yet required in Australia

## Changes to Applicable Standard

- **no retesting is required**
  - If a device was compliant and labelled before the standard was amended or replaced;
  - If a new standard becomes an applicable standard on or after the date of manufacture or importation into Australia
- **Same standard for life!!**
  - Different from CE Marking approach
- A supplier may within a period of 2 years after the old standard is amended or replaced, choose the **old or the new** standard as the applicable standard



## Definitions

- **Supplier** in relation to a device, means a person **in Australia** who is:
  - (a) the manufacturer or the importer of the device; or
  - (b) an agent of the manufacturer or importer of the device.
- **Supplier code number (SCN)** is issued by ACMA to a person **in Australia** in accordance with:
  - (a) Telecommunications Labelling Notice; or
  - (b) The EMC Labelling Notice ; or
  - (c) AS/NZS 4417.1 by Standards Australia



## Australia-New Zealand Use of A-tick



- **Not yet harmonised**
  - **In Australia:** denotes compliance with telecommunications labelling notice **and** EMC.
  - **In New Zealand:** Denotes EMC Compliance only. NZ Telecom Permit required.



## Definitions

- **Agent** of manufacturer or importer means a person who is authorised in writing by the manufacturer or importer to act **in Australia** as an agent of the manufacturer or importer
  - Mechanism for use of C-tick Supplier Code Number by overseas manufacturer,



## Definitions

- **Fixed Installation** means a particular combination of one or more devices that is assembled, installed and intended to be used permanently at a predetermined location.
  - Essentially same as in EMC Directive guidelines
  - This is intended to refer to customised equipment that is intended to be installed at a unique location by the supplier. This term refers to a predetermined location rather than a fixed location for consistency with European regulatory arrangements.
  - Individual components available on the market must comply



## Definitions

- **accredited testing body** means a test laboratory that is:
  - (a) accredited by **NATA** to conduct testing against an applicable standard; or
  - (b) accredited by a body that has entered into a **MRA with NATA**, to conduct testing against an applicable standard; or
  - (c) designated, notified or recognised, under an **MRA** on conformity assessment



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## Who is NATA ?

National Association of Testing Authorities (NATA) of Australia

- Not for profit organization operating under government charter
- The sole accreditation body in Australia
- ILAC MRA partner
- Accredits organisations to;
  - ISO 17025 Testing
  - ISO 17020 Inspection (**ACMA EMC Competent Body**)



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## Definitions

- **test report** means a report in English produced by a testing body assessing a device against the requirements of an applicable standard, that:
  - (a) identifies the device tested; and
  - (b) identifies the applicable standard against which the assessment was made; and
  - (c) includes a statement by the testing body stating that the device complies with each relevant requirement of the applicable standard.



## Definitions

- **competent body** means a body accredited by NATA under subsection 183 (3) of the Act.
  - Must be accredited as an Inspection Body to ISO 17020
  - May assess TCF and issue a statement of compliance with applicable standard.

\*Note: Competent Body rarely used.



## Definition

- **technical construction file (TCF)**  
documentary material in English that includes a report produced by a competent body assessing a device against the requirements of an applicable standard, in which the report:
  - (a) identifies the device assessed; and
  - (b) identifies the applicable standard against which the device was assessed; and
  - (c) includes a statement by the competent body stating that, in the opinion of the competent body, the device complies with the applicable standard.



## Definitions

- **low risk device** means a device:
  - (a) the operation of which has a low interference impact on other devices using the radiofrequency spectrum; and
  - (b) that is made from only the following components:
    - (i) manually operated switches;
    - (ii) simple relays;
    - (iii) brushless squirrel cage induction motors;
    - (iv) conventional AC/AC transformers;
    - (v) resistive elements (for instance, heating elements).

### **Examples of devices that are not low risk devices**

- 1 A switched mode power supply.
- 2 An electronic transformer.
- 3 A lighting ballast or an electronic lighting ballast.
- 4 A microprocessor or other clocked digital device.
- 5 A commutator or slip ring motor.
- 6 A motor speed controller.



## Definition

- **high risk device** means a device described as 'Group 2 ISM equipment' in AS/NZS CISPR 11:2004 (2nd Edition).
  - level 3 compliance
  - no others at this stage
- **medium risk device** means a device that is not a high risk device; nor a low risk device.
  - level 2 compliance
  - most devices are considered medium risk



## Compliance Records

- **Low Risk Device**
  - (a) a description of the device; and
  - (b) a declaration of conformity

\*Note that no test report is expected **BUT** the device must still comply!!



## Compliance Records

- **Medium risk or high risk device**
  - (a) a description of the device; and
  - (b) a declaration of conformity; and
  - (c) a test report or a TCF; and
  - (d) a copy of any explanatory documentation to prevent users from operating or installing in a way that would make it non-compliant.



## Compliance Records

- **a variant**
  - (a) a description of the variant; and
  - (b) a declaration of conformity that relates to the variant; and
  - (c) a test report (or TCF) for the original device; and
  - (d) a statement by the supplier that;
    - Identifies the device and the variant
    - Describes the difference between the device and the variant
    - Provides a technical rationale for the conformity of the variant
  - (e) No testing required



## Meaning - *description of the device*

- **must contain sufficient information to determine whether it is the same as a device for which a DoC, test report or statement by a competent body was prepared, and:**
  - (a) must include the model number for the device and, if relevant, any related model numbers; and
  - (b) must include software or firmware version where changes could effect compliance;
  - (c) may include internal and external photographs (including the printed circuit boards).



## Exemptions

- Radiocomms transmitter
- Other jurisdictions
- Prototypes
- Military/defence/approved foreign defence equipment
- **Device where power < 6nW**
- Research/educational; study of EMC
- Spare part
  - Identical specifications and RF emissions
- Component
- A device not for end use intended for direct supply to manufacturer
- Exhibition/demonstration
- **Fixed installation**
  - **But note over-arching requirement not to cause interference.**
- **Power supply >600 VAC or >1000 VDC**
- Vehicles approved under FCAI or Trucking Industry Council.
  - Must comply with NB and BB standards per voluntary codes of practice
- Usual Law enforcement agencies.
- Personal computers assembled **in Australia** from individually compliant component
  - Components must each be C-ticked



## Who Applies Label?

- **If manufactured in Australia**, the compliance label must be applied by;
  - (a) the manufacturer; or
  - (b) an agent of the manufacturer; or
  - (c) a person who is authorised by the manufacturer or agent to apply the label or mark on behalf of the manufacturer or agent.
- **Liability still rests with manufacturer**



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## Who Applies Label?

- **If manufactured outside Australia**, the compliance label must be applied by;
  - (a) the importer; or
  - (b) an agent of the importer; or
  - (c) a person who is authorised by the importer or agent to apply the label or mark on behalf of the importer or agent.
    - May be the overseas manufacturer
- **Liability still rests with importer or supplier**



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## Permission to use marks

- Compliance marks are protected by copyright under the Act.
- Supplier must have written permission from ACMA to use the C-Tick mark; and must have been issued a supplier code number.
- RCM must not be applied unless supplier has registered in accordance with the requirements in AS/NZS 4417.1, 
- Other acceptable permissions are:
  - Registration under **A-tick** (*Telecommunications Labelling (Customer Equipment and Customer Cabling) Notice 2001*) 
  - Registration under the *Radiocommunications Devices (Compliance Labelling) Notice 2003*, as in force from time to time; or 
  - Registration under the *Radiocommunications (Compliance Labelling — Electromagnetic Radiation) Notice 2003*, as in force from time to time. 



## Requirements: Compliance **Level 1**

- **Low Risk device**
  - Test report not essential but product must still comply with applicable standard.
  - Keep a description of the device
  - Sign a Declaration of Conformity
  - Labelling is voluntary but compliance records must be kept



## Requirements: Compliance **Level 2**

- **Medium Risk Device**

- the supplier must establish that the device complies with an applicable standard by:

- (a) obtaining a test report from a testing body;

- Accredited test report not mandatory but will be requested if compliance is questioned

- or, (b) obtaining a TCF

- Must be labelled



## Requirements: Compliance **Level 3**

- **High Risk Device**

- CIPSR11 Group 2 ISM equipment

- the supplier must establish that the device complies with an applicable standard by:

- (a) obtaining an **accredited** test report from an **accredited testing body**; or

- (b) obtaining a TCF

- Must be labelled



## Additional Requirements for Variants

- Prepare a written statement in the compliance record that:
  - (a) identifies the device and its variant; and
  - (b) describes the differences between the original device and its variant; and
  - (c) provides a technical rationale for the conformity of the variant; and
  - (d) includes a declaration of conformity for the variant.
- A variant is not required to be tested if original device complies



## Compliance Records

- A compliance record:
  - (a) must be in English; and
  - (b) may be a copy of an original record; and
  - (c) may be kept in electronic form.
- The description of a device;
  - must be able to identify the device as being the same as in reports, DoC, TCF.
  - must include model number(s)
  - must include software/firmware versions that might effect emission levels
  - may include photograph(s) of internal/external aspects including printed circuit board.
- The authorised agent of manufacturer or importer must also keep a copy of its Agency Agreement with the manufacturer or importer for the same period as the compliance records are kept.



## Direct Marketing into Australia

- Importer (person or company) in Australia has full liability for C-tick/A-tick compliance
- Importer may use their own registered Supplier Code Number (**SCN**)
- Competitive issues result in importer/distributor in Australia not permitting other distributor (competitor) to use their SCN for the same product.
  - Not best outcome for manufacturer
- ACMA allows **“Agency Agreement”**
  - Agent authorises use of agent’s SCN to manufacturer who exports to multiple distributors in Australia/New Zealand
  - One SCN and same set of compliance documentation is used by multiple distributors



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## What is an Agency Agreement?

- A written agreement (contract) between a person/company (“Agent”) in Australia, that authorizes another manufacturer (in Australia or overseas) the use of the Agent’s **SCN**.
- The “Agent” based in Australia, is acting as the representative of an overseas manufacturer and all Australian based importers/distributors of that product in relation to C-tick/A-tick compliance
- The “Agent” takes full responsibility with the use of a SCN and regulatory compliance mark in their name.
  - Agent must be fully aware of products being imported and bearing their SCN
- Importers/distributors do not have to ensure the compliance of the product in their own right
- Agency Agreement aids in establishing a legal operational framework and it outlines the rights and responsibilities of parties involved.



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## What is an Agency Agreement ? (2)

- Form of Agency Agreement must cover all issues relating to compliance.
- Where is the Agreement held?
  - Each party mentioned in the agency agreement should hold a copy of that agreement.
  - Compliance documentation for an item should always contain a copy of any Agency Agreement that applies to that item.
  - ACMA investigators may request importers to hold compliance documentation or an agency agreement for those items.
- The supplier identified on the compliance label may be:
  - the Australian manufacturer or
  - the importer based in Australia of an item manufactured overseas or
  - a person acting as an agent of an Australian manufacturer or
  - an importer based in Australia of the item manufactured overseas.



## What is an Agency Agreement ? (3)

- The Agent's (holder of SCN) responsibilities are:
  - Maintenance of compliance records for 5 years
  - Ensuring that the compliance records are accurate, complete and current.
  - Ensure that location details for compliance documentation is provide to ACMA when requested.
  - Must have qualified personnel and the requisite skills and expertise to properly execute its duties
- Who signs a suppliers **DoC**?
  - Must only be signed by a responsible person who has been given the authority to sign on behalf of the manufacturer/importer/supplier.



## Is CE acceptable?



**CE**





**C-Tick**


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## Comparison Australia - European Union

 <p><b>Australia</b></p> <p>(1) Radiated/Conducted EMI Phenomena</p> <p>(2) Registered C-Tick users</p> <p>(3) Supplier's declaration + test + report + description</p>	 <p><b>Europe (EN)</b></p> <p>Several EMC + immunity</p> <p>No CE label registration</p> <p>Supplier's declaration + report</p>
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## Is FCC acceptable?


≠


**FCC**



**C-Tick**

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## Comparison Australia - USA




- FCC Part 15 and C-tick are very similar but not equivalent : **115VAC/60 Hz or 240VAC 50 Hz?**
- ACMA **does not** recognise FCC Parts 15 and 18
  - FCC Part 15: Information Technology products and most other products
  - FCC Part 18: Industrial, Scientific & medical equipment
- Supplier must have test report against applicable EMC standard



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## Is VCCI acceptable?

Does VCCI = C-tick??



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## Is VCCI acceptable for C-tick?

- Australian EMC regulations are based on International EMC Standards
- VCCI report is acceptable if **230VAC 50Hz** mains is used **and** report states compliance with:
  - **AS/NZS CISPR 22** **or**
  - **CISPR 22** **or**
  - **EN55022**



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## Enforcement

- **Compliance audit triggered by;**
  - Random selection from database
  - Receipt of written complaint
  - Products identified at retail outlets or advertising material
  - Interference to communications and broadcast services
  - **Competitor testing and checking**
- ACMA currently auditing mobile phones Compliance Records
- Compliance Records must be available within 10 days of written request



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## Request for Accredited Test Reports

- **If ACMA officer believes supplier records to be inadequate, ACMA may request supplier to:**
  - (a) obtain 3 or more samples of the device and have the samples tested, in Australia, by an accredited testing body **at the supplier's expense**; and
  - (b) provide to ACMA certified true copies of the accredited test report for each sample showing that the device complies with the applicable standard
- **Device is considered to comply;**
  - (a) if 3 or 4 samples were tested — all samples must be compliant according to the accredited test reports .
  - (b) if more than 4 samples were tested — at least 80% of the samples tested must be compliant according to the test reports.



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## Penalties

- Prohibition of supply
- Seizure and forfeiture of stock (Aust), or compulsory recall (NZ)
- On the spot fines
- Prosecution
- Embarrassment & bad publicity
- Imprisonment (extreme embarrassment!!)



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## Examples of Penalties

- **Supply of Non-standard equipment**
  - Individual : \$13,000
  - Corporate : \$160,000
- **False Statement:**
  - Individual: \$11,000
  - Corporate: \$ 55,000
- **Sale without label, label without compliance**
  - Individual: \$11,000
  - Corporate: \$55,000
- **Knowingly causing interference**
  - **12 months jail** + fines



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**Thank you for your attention**  
**Chris Zombolas**  
**[chris@emctech.com.au](mailto:chris@emctech.com.au)**



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**Contact: Chris Zombolas**  
**EMC Technologies Pty Ltd**  
**&**  
**EMC Systems Pty Ltd**  
**(C-tick Agency Agreement Company)**  
**Email : [chris@emctech.com.au](mailto:chris@emctech.com.au)**  
**<http://www.emctech.com.au>**



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