



Australian
Communications
Authority



Electromagnetic Compatibility

Information for suppliers of electrical and electronic products in Australia and New Zealand

July 2003

Introduction

Effective radiocommunications contributes significantly to the operations of industry, commerce, safety-of-life organisations and the well-being of the community.

To deal with the problem of electromagnetic interference to radiocommunications, the Australian Communications Authority (ACA) and the Radio Spectrum Management Group (RSM) of the New Zealand Ministry of Economic Development have introduced the trans-Tasman electromagnetic compatibility (EMC) regulatory arrangements. The arrangements aim to protect the radiofrequency spectrum by introducing technical limits for emissions from electrical and electronic products.

The regulations are designed to minimise electromagnetic emissions from electrical or electronic products that could cause harmful interference to radiocommunications systems. This is becoming increasingly important with the rapid growth in the use of electronic systems and digital technology in commercial and domestic environments.

The trans-Tasman EMC arrangements consist of a set of technical standards and common regulatory processes for products supplied to the Australian and New Zealand markets. The EMC arrangements have the same legal standing in Australia and New Zealand and compliance in one country will be recognised in the other.

All products that come under the standards are subject to compliance and must be labelled appropriately. It is important that manufacturers and importers understand what is required for compliance. Accountability for compliance with the EMC regulatory arrangements lies with Australian and New Zealand suppliers and they must take responsibility for the products they place on the market.

The harmonised arrangements are an outcome of the Trans-Tasman Mutual Recognition Arrangement (TTMRA) which is an inter-Government arrangement between Australia and New Zealand. Its objective is to assist in the movement of goods and services between both countries.

Through mutual recognition and alignment of product standards, the arrangements deliver greater flexibility and lower business compliance costs to exporters on both sides of the Tasman Sea.

This booklet outlines requirements for suppliers of electrical and electronic products under the harmonised arrangements.

Contents

Introduction	3	Compliance through testing	
EMC standards		How do I arrange to have my product tested?	12
Are you affected?	5	Can I use an overseas test report?	12
What is an agency agreement?	5	Do I need the original test report?	12
What standards apply?	5	What products require accredited testing?	12
Compliance arrangements		Compliance through TCF	
What are the EMC		What is a TCF?	13
compliance arrangements?	6	What does the competent body provide?	13
How do I know which level		What should a TCF contain?	13
applies to my product?	6	Enforcement	
What are the requirements of each level?	6	Will the ACA or RSM inspect	
What is a Declaration of Conformity?	7	the compliance records?	14
Does every product require a		How does the ACA or RSM decide	
new Declaration of Conformity?	7	who is to be audited?	14
Exemptions		What penalties apply?	14
Are there any exemptions?	8	Who do I contact if I have	
Compliance records		further enquiries?	14
What are compliance records?	9	Appendixes	
Can I store my compliance		A:EMC standards concordance	15
records electronically?	9	B:Standards Australia and	
Where do I keep the compliance records?	9	Standards New Zealand	18
How long should I keep the		C:New Zealand and Australian	
compliance records?	9	state and territory electrical regulators	19
Labelling requirements		D:Other regulatory agencies (Australia)	20
What is the purpose of the label?	10	E:National Association of Testing	
Should my products be labelled?	10	Authorities,Australia and International	
What are the acceptable methods		Accreditation New Zealand	21
for supplier identification?	10	F:ACA regional offices	22
What if my product needs the A-Tick for		Forms	
telecommunications standards?	11	Application to use the C-Tick mark	24
What is the Regulatory Compliance Mark?	11	Supplier's Declaration of Conformity	26

EMC standards

Are you affected?

The EMC regulations apply to suppliers of a wide range of electrical and electronic products in Australia and New Zealand.

A supplier is:

- an Australian or New Zealand manufacturer who makes products for supply to the Australian or New Zealand market;or
- an importer of products intended for supply in Australia or New Zealand;or
- the authorised agent, resident in Australia or New Zealand,acting on behalf of a supplier of products to either country.

What is an agency agreement?

Where an Australian or New Zealand based manufacturer or importer or an overseas manufacturer engages the services of an agent, a written agency agreement should exist between the two parties. The ACA and RSM require that the regulatory compliance arrangements be met by either the manufacturer (or importer) or by the agent acting on their behalf.

Agency agreements help to establish a legal framework and outline the rights and responsibilities of the parties involved. A copy of this agreement should be kept with the compliance records. Further information is available on the ACA website (www.aca.gov.au/standards_compliance.htm).

What standards apply?

All electrical and electronic products that fall within the scope of the mandated standards listed in Appendix A must comply with the EMC regulatory arrangements.

The standards listed in Appendix A cover a wide range of products and deal with various technical matters associated with product performance including EMC.

The ACA and RSM have only mandated the following EMC aspects of the listed standards:

1. EMC phenomenon of emitted disturbance associated with:
 - conducted (continuous and intermittent) radiofrequency disturbance
 - radiated radiofrequency disturbance
2. test procedures and requirements associated with the EMC phenomenon.

The ACA and RSM have mandated the standards as 'in force from time to time'. This means that any changes made to the standards by the relevant standards-making bodies are automatically recognised under the EMC arrangements. However, before any changes become automatically mandatory, transitional arrangements will apply. The transitional arrangements are detailed in Appendix A.

The standards can be purchased from Standards Australia or Standards New Zealand—contact details are listed in Appendix B.

Immunity standards are not mandatory under the Australian–New Zealand regulatory arrangements. However, manufacturers are encouraged to consider immunity during their product design,especially if planning to export products,as there may be a requirement in overseas countries.

Electrical products sold in Australia and New Zealand are also required to comply with electrical safety requirements administered by other regulatory authorities. Appendix C provides contact details of the electrical regulators in New Zealand and in Australian States and Territories.

Compliance arrangements

What are the EMC compliance arrangements?

To ensure compliance with the EMC regulatory arrangements, suppliers must satisfy four basic requirements. They must:

- establish sound technical grounds for product compliance;
- make and hold a Declaration of Conformity;
- prepare and keep compliance records; and
- label the product as directed.

Under the EMC regulatory arrangements, before a product can be first supplied to the Australian or New Zealand market, the supplier must register an application with the ACA or RSM to use the C-Tick label. One application only is required, as the label and associated identification from one country will be recognised in the other.

A copy of the form is inside the back cover of this booklet and can also be downloaded from the ACA website at www.aca.gov.au/standards_compliance.htm or the RSM website at www.med.govt.nz/rsm/standards/index.html. All other documents, the Declaration of Conformity and the supporting evidence, should be made available by the supplier for audit purposes on request in writing from either the ACA or RSM.

Once these basic requirements have been satisfied, a product may be supplied in Australia or New Zealand without further approval by the ACA or RSM.

The EMC scheme defines three levels of evidence for demonstrating compliance. These levels are based on the risk of interference that may be expected from the product.

How do I know which level applies to my product?

Level 1 applies to products whose interfering emissions would have a low impact on devices using the radiofrequency spectrum. This level covers

products that only contain:

- manually operated switches or simple relays;
- brushless squirrel cage induction motors;
- conventional AC/AC transformers; or
- resistive elements.

For example, an electronic transformer, a lighting ballast or electronic lighting ballast are not low risk devices.

Level 2 applies to products whose interfering emissions would have a higher impact on devices using the radiofrequency spectrum. Examples of these products are:

- a microprocessor or other clocked digital device;
- a commutator or slip ring motor;
- arc welding equipment; or
- switched mode power supplies, lighting dimmers and motor speed controllers.

Level 3 applies to products whose interfering emissions have the highest risk of serious impact on devices using the radiofrequency spectrum. This level covers products in the industrial scientific and medical group 2 (CISPR 11). EMC compliance requirements for telecommunications terminal equipment under information technology (CISPR 22) will change from compliance level 3 to compliance level 2 from 7 November 2003.

What are the requirements of each level?

Level 1 (voluntary)

For this level, the Australian or New Zealand supplier may:

- hold a completed Declaration of Conformity; and
- hold a product description.

For Level 1 products, the requirement to obtain the above documents and label with the C-Tick compliance mark (see under Labelling requirements below) is voluntary. However, if suppliers choose to use the C-Tick mark on Level 1 products, they must comply with the arrangements by holding a Declaration of Conformity and a description of the

product. The voluntary nature of the arrangements does not exclude the products from having to meet the relevant EMC standard. Products must still meet the relevant EMC standard regardless of whether they are labelled.

Level 2

For this level, the Australian or New Zealand supplier must ensure the product complies with an applicable standard and hold compliance records containing:

- a completed Declaration of Conformity;
- a product description; and
- a test report or technical construction file (TCF).

Level 3

For this level, the Australian or New Zealand supplier must ensure the product complies with an applicable standard and hold compliance records containing:

- a completed Declaration of Conformity;
- a product description; and
- an accredited test report or TCF.

What is a Declaration of Conformity?

The Declaration of Conformity is the document signed by the Australian supplier or overseas manufacturer to certify that the product meets applicable standards. It must be signed by a person who holds a senior position in the company or organisation. The signatory should have sighted the evidence that supports the declaration and be satisfied of the grounds for compliance. The signed declaration must be made available if requested by the ACA or RSM.

A copy of the Declaration of Conformity is inside the back cover of this booklet and can also be downloaded from either the ACA website www.aca.gov.au/standards_compliance.htm or the RSM website (www.med.govt.nz/rsm/standards/index.html).

Does every product require a new Declaration of Conformity?

Each new model or product requires a Declaration of Conformity.

Where changes to a basic compliant model are not technically significant (for example, the changes are cosmetic only or do not alter the radiofrequency emission characteristics established for the basic model), then the supplier may presume compliance.

In these cases the supplier may place variants of a basic device on the market under one Declaration of Conformity. The compliance records must include a signed statement that identifies the variants, describes the changes made to the basic model and the rationale for marketing the device and variants under a single Declaration of Conformity.

Where a supplier is in any doubt as to the likely impact of proposed modifications to a device, the supplier should have the new model tested or establish a TCF for the product.

Examples of products marketed with a number of variants include lighting or personal computers, which are sold in various configurations.

All products under a single declaration must be identical to the basic device in terms of EMC. The declaration must contain the following information:

- variants identification and their similarities;
- description of changes made to the basic model; and
- explanation of rationale for marketing the products under one declaration.

Exemptions

Are there any exemptions?

In **Australia**, the EMC regulations do not apply in the following circumstances.

- Test or educational electronic equipment—any product designed or adapted for the purpose of conducting any test, measurement or study of electromagnetic phenomena in an educational, training or research establishment.
- A fixed installation comprising a combination of types of devices, components and hardware that are assembled and installed in such a way that the combination cannot be moved without a part of the combination being at least partially disassembled.
- A prototype or product to be used for exhibition and demonstration purposes, for example, at trade fairs.
- Spare parts—a component or combination of components intended for use in replacing parts of electrical or electronic products.
- Second-hand products, previously supplied either in Australia or New Zealand, but not including modified products.
- Devices that have a power consumption which does not exceed six nanowatts.
- Radiocommunications products—these are intentional radiators and are generally excluded from the EMC regulations. These products are covered by a different set of standards and compliance arrangements administered by the ACA. Some radiocommunications products have other electronic functions, and may be included on this basis. If there is any doubt contact your nearest ACA office—see Appendix F.
- Devices that are used solely for law enforcement activities by the following criminal law-enforcement agencies:
 - the Australian Federal Police;
 - a police force or service of a state or territory;
 - the National Crime Authority;
 - the New South Wales Crime Commission;
 - the Independent Commission Against Corruption of New South Wales;
 - the Criminal Justice Commission of Queensland;
 - a prescribed authority established by or under a law of the Commonwealth, a state or a territory; or
 - a body or organisation responsible to the Australasian Police Ministers' Council for the facilitation of national law enforcement support.

- Civil Aviation Safety Authority—avionics and aviation ground facilities.
- Department of Defence—devices used by the Australian Defence Force for military operations.
- Department of Transport and Regional Services—road-registered vehicles.
- Therapeutic Goods Administration—devices that fall within the jurisdiction of the Therapeutic Goods Act.

Suppliers of products regulated by these agencies should ensure that they are familiar with existing or proposed regulations for dealing with EMC. Appendix D of this booklet provides contact details for these agencies.

In **New Zealand**, the administrative components of the EMC regulations do not apply in the following circumstances.

- A product with a power consumption that does not exceed six nanowatts.
- A spare part intended for use in replacing parts of a product.
- A vehicle that is registered or capable of being registered for use on a public road.
- Military equipment or weapons systems of the New Zealand Defence Force.
- Military equipment or weapons systems of the defence force of another country operating in cooperation with the New Zealand Defence Force.
- For products under compliance Level 2:
 - a prototype for demonstration purposes;
 - a fixed installation;
 - a part that will only perform its function when incorporated in a finished product;
 - products supplied in a total quantity of less than 10 per year; and
 - battery-powered products.
- Radiocommunications products—these are intentional radiators and are generally excluded from the EMC regulations. They are covered by a different set of standards and compliance arrangements administered by the RSM (some radiocommunications products have other electronic functions and may be included on this basis, but if there is any doubt contact RSM).

Compliance records

What are compliance records?

Compliance records are a collection of documents assembled by the supplier to support the declaration that the product placed on the Australian or New Zealand market complies with the relevant standard. These records are often referred to as the 'compliance folder'.

The documents included will depend on the compliance level. They may include some or all of the following:

- test reports or TCF;
- a description of the marketed product that positively identifies it (for example, brand name or model number), possibly including a photograph and/or block diagram;
- drawings and/or circuit diagram(s); and
- a signed Declaration of Conformity.

Can I store my compliance records electronically?

Yes, providing a hard copy, in English, is produced for inspection at audit.

Where do I keep the compliance records?

All records may be held either in Australia, New Zealand or overseas once they have been examined by the supplier to establish compliance. However, the records must be made available to the ACA or RSM, for audit or investigation purposes, within 10 working days of written advice being issued by the ACA or RSM. At that time the compliance records must be available for inspection at the Australian or New Zealand business address nominated on the C-Tick application form.

How long should I keep the compliance records?

The records must be kept for five (5) years after the product ceases to be supplied in Australia or New Zealand.

What is a product description?

A product description can be any one of the following:

- ✓ a clear photograph of the product
- ✓ block diagram
- ✓ circuit diagram
- ✓ promotional material
- ✓ service manual
- ✓ operating manual or user guide
- ✓ a list of modular pieces or accessories packaged with the product
- ✓ installation manual.

A technical description can be:

- ✓ performance specifications
- ✓ other information such as PCB revision, software revision or hardware revision.

