

EMC requirements for power line communications (PLC) equipment

Powerline communications (PLC) equipment delivers voice and digital services over existing power lines using narrowband signals. PLC equipment that uses broadband signals is covered by the fact sheet on Broadband over Powerline equipment.

To manage the risk of unwanted emissions or interference by PLC equipment to radio-based services, the Australian Communications and Media Authority (the ACMA) has recognised European and international standards to cover this type of equipment under its electromagnetic compatibility (EMC) regulatory arrangements.

This fact sheet talks about mandatory standards for PLC equipment intended for low voltage installations only. The ACMA at present has no mandatory standard in its EMC regime for PLC equipment intended for high voltage distribution systems.

PLC equipment for low voltage installations—installations connected to the general electrical mains supply—is required to comply with one of the following standards mandated by the ACMA.

1. EN 50065–1 Signalling on low voltage electrical installations in the frequency range 3kHz to 148.5 kHz—Part 1: General requirements, frequency bands and electromagnetic disturbances.

EN 50065–1 applies to electrical equipment using signals in the frequency range 3 kHz to 148.5 kHz to transmit information on low voltage electrical systems, either on the public supply system or within installations in consumers' premises.

2. IEC 61000–3–8 Electromagnetic Compatibility (EMC) – Part 3: Limits—Section 8: Signalling on low-voltage electrical installations – Emission levels, frequency bands and electromagnetic disturbance levels.

IEC 61000–3–8 applies to equipment using signals in the frequency range from 3 kHz up to 525 kHz to transmit information on

low voltage electrical installations either on the public supply system or within customers' premises. It specifies disturbance limits in the frequency range from 3 kHz up to 400 GHz.

PLC equipment comes under Compliance Level 2—the compliance level for a medium risk device. To comply with Compliance Level 2, the supplier of the device must:

1. prepare a description of the device;
2. make a Supplier's Declaration of Conformity (DoC) for the device. (For compliance level 1 and 2, suppliers also have the option of holding a DoC supplied by an overseas supplier however the legal responsibility for the device complying with the applicable standard remains with the local supplier; and
3. hold a test report or technical construction file (TCF).

More information

For more information on [EMC C-Tick regulatory arrangements](#), contact comply.label@acma.gov.au

The ACMA has [fact sheets](#) on a range of topics.

Please note: this document is intended as a guide only and should not be relied on as legal advice or regarded as a substitute for legal advice in individual cases.

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