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Application Note Number43....

Product : MVP series
Application Overview:

EMC compatibility of the MVP series

Originator: G. Fry

Location: Merry Hill

Date: 23/9/98

Description

The EMC Directive **89/336/EEC**, requires that end user equipment meets prescribed electromagnetic compatibility requirements. In the majority of cases, conformity to the EMC Directive can be demonstrated by compliance with **EN50081** for emissions and **EN50082** for susceptibility. These are known as the “**Generic EMC standards**”.

These standards apply to end user equipment, referred to as “**apparatus**” in the directives. The MVP Series of power supplies are classified as “**components**”, as discussed in the EC *Guidelines on the Application of Council Directive 89/336/EEC of 3rd May, 1989 on the Approximation of the Laws of the Member States Relating to Electromagnetic Compatibility*. As such, they are not within the scope of the EMC Directive and, therefore, the CE mark applied to these units must not be taken as indicating conformity with the EMC Directive. Having stated this, it must be noted that Astec have taken design measures to ensure that the EMC performance of the MVP series is within appropriate performance limits for component power supplies of this type, as stated in the data sheet for this model series.

This can be demonstrated by testing the power supplies to the standards listed in the Generic standards **EN50081** and **EN50082**.

The **MVP series** has been demonstrated to pass the following:

IEC801-2 level 3 - Electrostatic Discharge
(EN61000-4-2) 8kV air discharge

6kV contact discharge

IEC801-3 level 3 - Electromagnetic Interference

(EN61000-4-3) Radiated susceptibility 3V/m, 27-500MHz, plane wave, unmodulated

IEC801-4 level 3 - AC line transients

(EN61000-4-4) Electrical fast transient/ burst susceptibility
2kV @ 5Hz repetition frequency

IEC801-5 level 3 - AC line surge

(EN61000-4-5) Differential mode 1kV 1.2 x 50us
Common Mode 2kV 1.2 x 50us

EN55022 level B - conducted emissions with resistive load mounted on earth plane
radiated emissions when mounted in suitable end equipment enclosure

EN61000-3-2 - mains harmonic distortion requirements. (Not currently included in the Generic standards, **IEC 555-2** is used, this does apply to professional equipment, see Application Note 10 for further information).

Care must be taken during the system design stage and during installation to ensure that the EMC performance of the system is not compromised by inappropriate installation and interconnections of the PSU. (This is further illustrated in Application Note 8).