

# EMC Regulatory Instruction - Site Attenuation Requirement

## ***Introduction***

All EMC relevant products must comply with the local requirements, internationally with the CISPR 11, in the European Union with the EMC Directive 89/336/EEC including 93/68/EEC, in Canada with the ICES/NMB-001, in Australia with the AS/NZS 2064.1.

For the PCI Exerciser and Analyzer tools, the derived standards as well as the classes are noted in the Declaration of Conformity in this Guide.

## ***EU-Conformity from a Competent Body***

For products that do not fulfill the requirements the EU EMC Directive (§ 10.2) requires a Technical Construction File (TCF) with a Declaration of Conformity or a Certificate issued by a Competent Body (CB). For the Site Attenuation Requirements and the methods stated herein a review by a CB is mandatory.

## ***Technical Rational***

The systems concerned meet all requirements with the exception of Radiated Emissions of CISPR11 class A or the corresponding local standard. The measurement environment with specified high-speed test data traffic through open connections causes radiated electromagnetic emission above the required limits.

In order to meet the requirements appropriate preventive measures for the site must be considered and established before the systems will be switched on for its intended application. The methods described herein are sufficient to keep the system within the required limits of the standard.

## **Site Attenuation:**

This document describes the methods for a Site Attenuation to meet the requirements of Class A.

Product: E2920 Platform, PCI Exerciser & Analyzer Tools

**Required Target Site Attenuation: 24 dB**

## ***Installation Instruction***

If your site received permission from a local (PTT) agency to exceed the levels of radiation, this exceeded level has to be considered. In case of e.g. +10 dB, subtract this ratio from the Required Target Site Attenuation.

Based on the location where the system is to be installed, obtain the Available Site Attenuation. The calculating method is described in the section *Calculating Method*. Preventive measures might be necessary by optimization of the equipment and/or additional walls to be installed.

## EMC Regulatory Instruction - Site Attenuation Requirement

**Note:** After installation of the preventive measures the Available Site Attenuation must be calculated.

The Available Site Attenuation must be higher than the Required Target Site Attenuation value! If not, additional measures as a shielded Cabin with specified shielding performance must be considered. Other shielding methods as conductive wallpaper, metal walls etc. require an approval test ("in situ") by a local (PTT) agency. Appropriate arrangements have to be organized. Install the system as described in the Installation Sheet.

The product installation will then meet the requirements for radiation levels of Class A of CISPR 11 or the corresponding local standard.

### Calculating Method

To obtain the **Required Target Site Attenuation** at the customer site:

#### 1. Available Site Attenuation:

$$A = n * W + X$$

A = Available Site Attenuation in dB

n = number of concrete walls within distance D

W = 10 dB (attenuation of a concrete wall without openings)

X = attenuation reached by distance between equipment and exterior Wall plus 30 m to estate border

#### 2. Attenuation X

$$X = 20 * \log (D/30) \quad D = \text{real estate border distance in m}$$

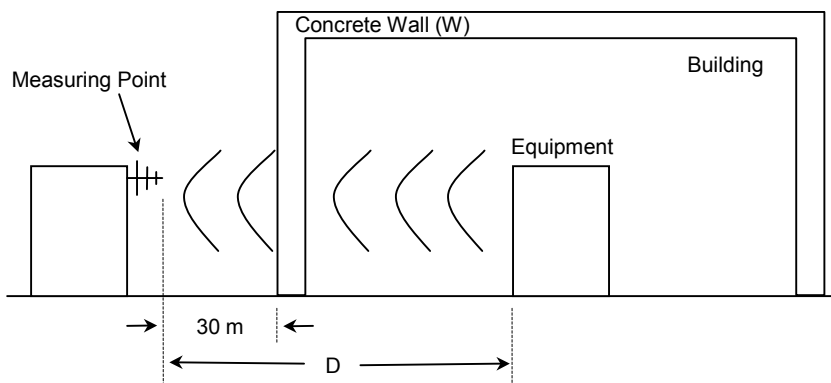


Figure 1: Site attenuation calculation

Calculation for these products:

Req. Target Site Attenuation in dB	Walls/n	X in dB	D in m
24	0	24	475
24	1	14	150
24	2	4	48
24	3	-6	-