

EMC-Shielding Systems

Absorption Values in Decibels (dB)

In order to compare two highly differing values one logarithmic functions expressed in decibels (dB) are often used.

$$\text{Absorbion } a = 20 \log \frac{\text{Field strength outside}}{\text{Field strength inside}}$$

Example 1

The field strength outside a shielding room is 2 mV/m.

$$a = 20 \log \frac{2 \text{ mV/m}}{1 \text{ mV/m}} = 6 \text{ dB}$$

Example 2

Field strength outside: 10 μ V/m
Field strength inside: 1 μ V/m

$$a = 20 \log \frac{10 \mu\text{V/m}}{1 \mu\text{V/m}} = 20 \text{ dB}$$

Example 3

Field strength outside: 50 μ V/m
Field strength inside: 0.5 μ V/m

$$a = 20 \log \frac{50 \mu\text{V/m}}{0.5 \mu\text{V/m}} = 40 \text{ dB}$$