



Exposure to electromagnetic fields (EMF)

Description:

Exposure to electromagnetic fields (EMF or also named EMVU for short) refers to the compatibility of electromagnetic immissions on the environment. In particular, the protection of people from immissions of technical equipment and systems is achieved here by complying with certain limit values.

In the low-frequency range of less than 10 MHz, there is a possibility of nerve irritation in the tissue at very high immission levels. In the high-frequency (> 10 MHz) and highest-frequency (> 10 GHz) ranges, the volume or areal heating of tissue is the main mechanism of action.

- **Equipment manufacturers and also plant operators have the task of ensuring the protection of the general population during the operation of their systems.**
- **Employers have the task of protecting employees from harmful immissions from the equipment used.**

Specifications:

Measurement equipment Magnetic Fields

DC - 40 kHz	isotropic Hall probe
1 Hz - 400 kHz	isotropic probes 3 cm ² , 100 cm ²
0.3 - 60 MHz	isotropic field probe
30 - 1000 MHz	isotropic field probe

Measurement equipment electric fields

1 Hz - 400 kHz	isotropic probes 3 cm ² , 100 cm ²
100 kHz - 6 GHz	isotropic E-field probe



Regulations / standards, such as:

26. BImSchV	26. Bundesimmissionsschutz-Verordnung (Regulation on the German Federal Immission Control Act)
ICNIRP	Guidelines 2009 static fields, 2010 LF fields, 2020 RF fields
DGUV 15	Electromagnetic fields
2013/35/EU	on the minimum health and safety requirements regarding the exposure of workers [...]
1999/519/EU	limiting the exposure of the general public to electromagnetic fields
EN 62311	Assessment of electrical and electronic equipment in relation to limitations of the Exposure of persons to electromagnetic fields
EN 50413	Basic Standard on Methods of Measuring and Calculating the exposure of Persons to electrical, magnetic and electromagnetic fields

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EMF measurements on power distribution systems



Measurement with Narda ELT-400



Measurement with Wavecontrol SMP 2

EMF measurements on high-frequency transmitters

