

# **Technical Information**

**Measurements of magnetic fields  
outside ENERCON wind turbines**

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## 1 Summary

Measurements of magnetic field emissions in the low frequency range have been performed on various types of ENERCON wind turbines. Outside the wind turbines, close to the tower base, the measured magnetic flux density did not exceed values of 5  $\mu\text{T}$  for all types of wind turbines.

## 2 Procedure of measurement

The following photos demonstrate how the measurements were performed. The position of the magnetic field sensor was varied around the tower base and in height from the bottom of the tower base up to 2 m in order to find the spot where the maximum value of magnetic flux density was measured. The wind turbines were running at nominal power to measure at “worst case” - conditions. If not, the measured values were extrapolated. The most significant values were measured at a frequency of 50 Hz.



Fig. 1: Magnetic field measurement on E-53



Fig. 2: Magnetic field measurement on E-82 E2



Fig. 3: Magnetic field measurement on E-101 (using a different sensor)

### 3 Example

The measurement plot below shows the measured magnetic field values as a frequency scan in relation to the boundary value lines described in the following relevant German standards:

- BGV B11 (VBG 25)/2001
- 26. BImSchV/1996
- E DIN VDE 0848-3-1/2002 (persons with medical implants)

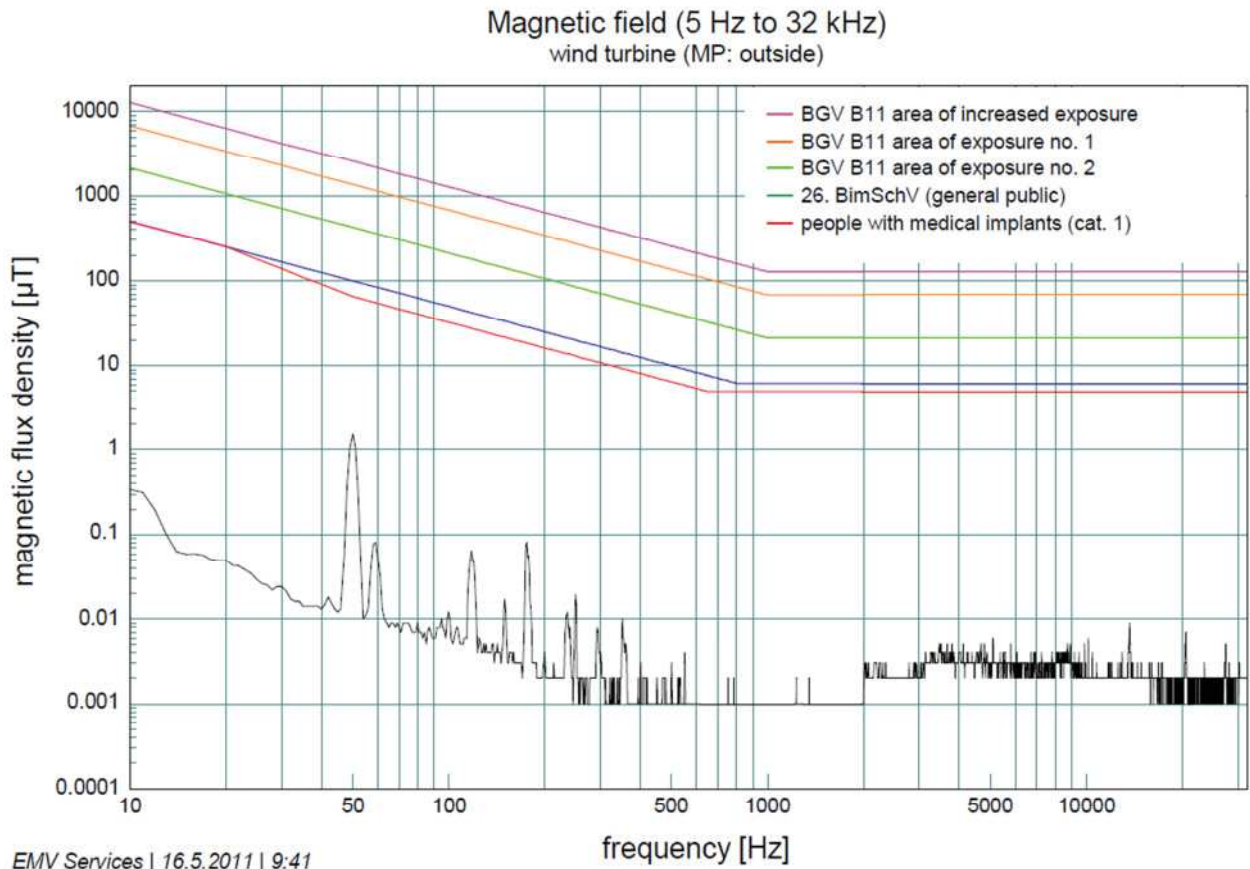


Fig. 4: Example plot of measured magnetic field values outside of E-82 E2

The plot is taken from the measurement report No. 10/1064-1-4e: “Measurement of exposure to magnetic fields” at the E-82 E2 wind turbine (S/N: 822041).