



Gain reference

Gain is one of the main parameters of an antenna. Normally gain is stated in the main direction of the antenna, and is measured as the difference in field strength between 2 antennas. Ie. the gain of an antenna is a figure stating how much energy this antenna transmits in the main direction, compared with a reference antenna. As a reference antenna you normally use a halfwave dipole or an isotropic antenna. Gain is normally stated in dB which is calculated as follows:

$$\text{Gain} = 10 \log \frac{\text{ant}}{\text{reference ant.}}$$

If the reference antenna is a dipole, gain is stated in dBd, and if the reference antenna is an isotropic antenna, gain is stated in dBi. If for instance the gain in dBi is known, the gain of the antenna in dBd can be calculated as follow:

$$\text{dBd} = \text{dBi} - 2.15$$

For marine use in most countries the gain is mentioned in "marine" dB which is non-existing. However, as the competition is using "marine" dB, Samlex Europe B.V. has decided to indicate gain in dBd and "marine" dB.

Below please find a table of relationship between dBd, dBi and "marine" dB.

dBd	dBi	Marine dB
0	2.1	3
3	5.1	6
4.5	6.6	9
5	7.1	10