

HF Antennas

Log-Periodic HF Antenna

R&S® HL210A3

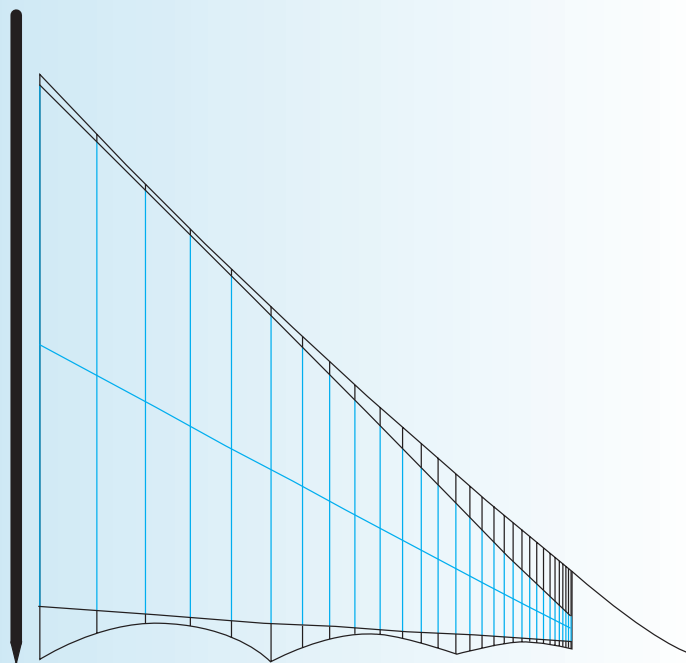


1.5 MHz to 30 MHz

**For high-sensitivity radiomonitoring
through reception of ground waves and
vertically polarized sky waves**

Features

- ◆ Extremely wide frequency range
- ◆ Very high efficiency through dipole structure
- ◆ Reception of even very weak signals
- ◆ High directivity
- ◆ Small antenna size for 1.5 MHz to 30 MHz range
- ◆ No ground net required
- ◆ Little maintenance required



Brief description

The R&S® HL210A3 is suitable for the reception of ground waves as well as vertically polarized sky waves and allows even very weak signals to be detected.

According to the physical characteristics of vertically polarized waves, maximum sensitivity is obtained at low and medium elevation angles. The radiation pattern of the R&S® HL210A3 is optimally suited for this purpose. The azimuth range of the R&S® HL210A3 of about 120° can be enhanced up to 360° by adding two further antennas.

For additional reception of horizontally polarized waves and high-angle radiation (predominantly horizontally polarized), the antenna can be combined with the Log-Periodic HF Antenna R&S® HL410A3.

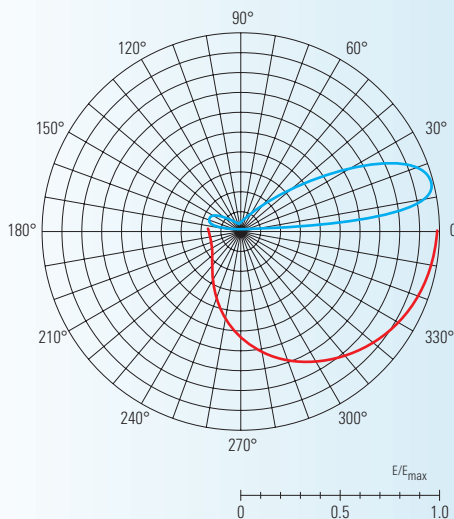


Specifications

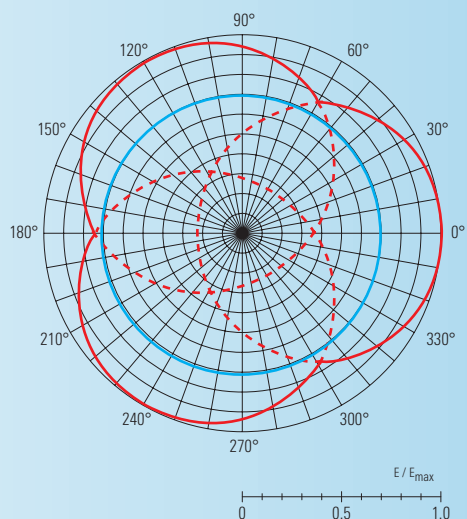
Frequency range	1.5 MHz to 30 MHz	Max. wind speed	
Polarization	linear/vertical	Without ice deposit	170 km/h (for survival)
Input impedance	50 Ω		145 km/h (to DIN EN 4131)
VSWR		With 20 mm radial ice deposit (rope diameter >7 mm)	135 km/h (to DIN EN 4131)
1.5 MHz to 2 MHz	<6	With radial ice deposit of 2 \times rope diameter (rope diameter \leq 7 mm)	135 km/h (to DIN EN 4131)
2 MHz to 30 MHz	<2.5, typ. <2.0	Dimensions	
Directivity		Length of antenna array	approx. 97 m
1.5 MHz to 2 MHz	8 dBi to 10.5 dBi	Height of supporting mast	approx. 90 m
2 MHz to 30 MHz	10.5 dBi to 12 dBi		
Efficiency	>90%		
Connector	N female		
MTBF	\geq 100 000 h		
Operating temperature range	-40 $^{\circ}$ C to +70 $^{\circ}$ C		

Ordering information

Log-Periodic HF Antenna R&S[®]HL210A3 on request



Typical vertical (blue) or horizontal (red, only half shown) radiation pattern



Typical horizontal omnidirectional reception characteristic (red = single patterns, blue = 3 dB reference) of a system comprising three R&S[®]HL210A3