

# R&S®HL410A3 LOG-PERIODIC HF ANTENNA

1.5 MHz to 30 MHz

For extremely high sensitivity radiomonitoring over short, medium and global distances



The R&S®HL410A3 log-periodic HF antenna is suitable for the reception of horizontally polarized waves and allows even very weak signals to be detected.

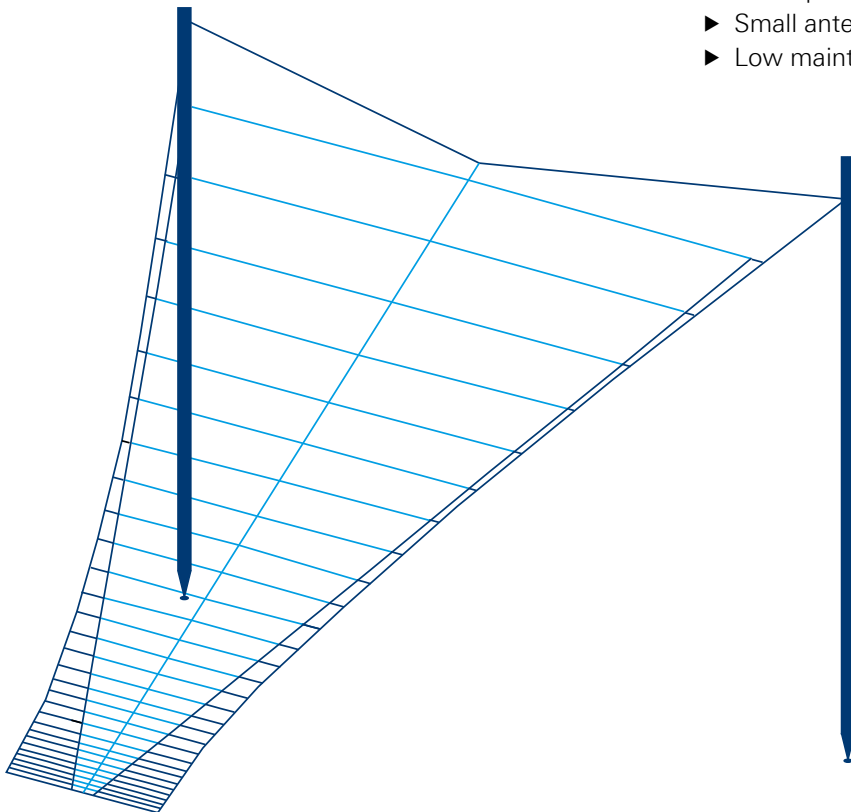
The vertical pattern is shaped taking into account the transmission characteristics in the ionosphere. In conjunction with the extremely wide frequency range from 1.5 MHz to 30 MHz, the antenna allows reception over short, medium and global distances.

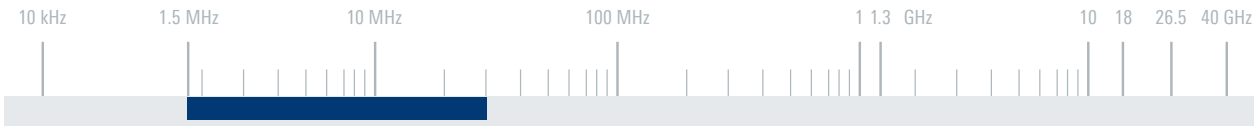
The antenna can be adapted to customer requirements regarding frequency range, vertical pattern, environmental data and size.

The half-power beamwidth of the horizontal radiation pattern of about 70° can be enhanced up to 360° by adding five further antennas. For the reception of vertically polarized waves, the antenna can be combined with the R&S®HL210A3 log-periodic HF antenna.

## Key facts

- ▶ Extremely wide frequency range
- ▶ Very high efficiency through dipole structure
- ▶ Reception of even very weak signals
- ▶ High directivity
- ▶ No skip zone
- ▶ Small antenna size for 1.5 MHz to 30 MHz range
- ▶ Low maintenance





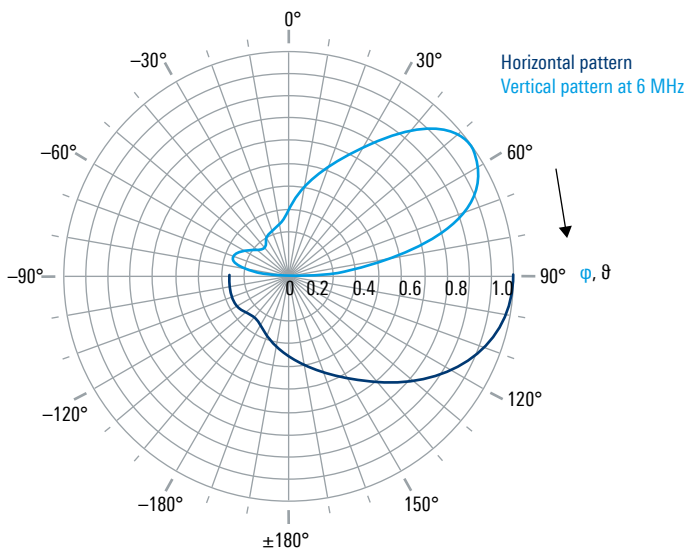
**Specifications (exemplary data only)**

Frequency range	1.5 MHz to 30 MHz	
Polarization	linear/horizontal	
Input impedance	50 Ω	
VSWR	1.5 MHz	< 6
	2 MHz to 30 MHz	< 2.5; < 2.0 (typ.)
Directivity	at 1.5 MHz	7.5 dBi
	1.6 MHz to 30 MHz	8 dBi to 12 dBi
Efficiency	> 90%	
Connector	N female	
MTBF	≥ 100000 h	
Operating temperature range	-40°C to +55°C	
Maximum wind speed	survival	225 km/h
	with ice deposit	135 km/h
	operational	130 km/h
Permissible ice deposit	20 mm radial	on wires with diameter > 7 mm
	2 × diameter	on wires with diameter < 7 mm
Dimensions of antenna array	W × L	approx. 88 m × 94 m (289 ft × 308 ft)
	height of supporting mast	approx. 66 m (217 ft)

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Ordering information	Type	Order No.
Log-periodic HF antenna	R&S®HL410A3	on request

**Typical vertical and horizontal radiation patterns (only half of the horizontal radiation pattern displayed)**



**Typical horizontal reception characteristic of a system with six R&S®HL410A3**

