# SHF Antennas

## Crossed Log-Periodic Antenna R&S®HL024S9

**1 GHz to 18 GHz**

**Log-periodic directional antenna consisting of R&S®HL024A1, two broadband preamplifiers and a switching network for linear or circular polarization**

### Features

- Wide frequency range
- Broadband preamplifiers
- Switching network for horizontal, vertical and circular polarization
- No reduction in S/N due to the use of a low-noise amplifier at the antenna output
- Can be used as a feed for the SHF Directional Antenna Systems R&S®AC090 to R&S®AC300

### Brief description

The directional R&S®HL024S9 consists of the Crossed Log-Periodic Antenna R&S®HL024A1 and two broadband preamplifiers. It is suitable for the reception of linearly polarized waves.

Due to the integrated switching network, horizontal, vertical or left-hand and right-hand circular polarization can be selected.

The preamplifiers prevent a significant reduction in S/N due to loss in RF cables connecting, for instance, the antenna to a receiver.

The antenna can also be used as a feed for the SHF Directional Antenna Systems R&S®AC090 to R&S®AC300.

## Specifications

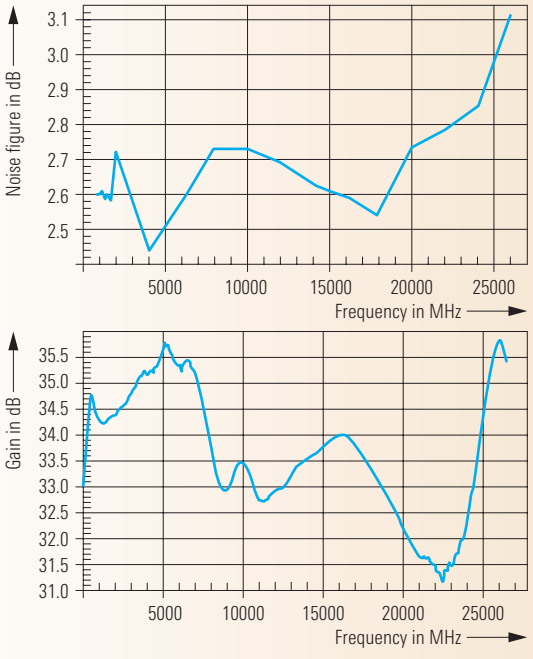
| | |
|---|---|
| Frequency range | 1 GHz to 18 GHz |
| Polarization | horizontal, vertical, left-hand or right-hand circular |
| Input impedance | 50 Ω |
| VSWR | <2.5 |
| Gain (without preamplifier and switching network) | >6 dBi |
| Circularity | typ. 3 dB |
| Noise figure | ≤3 dB |
| Gain (linear polarization) | 26 dB ±2 dB |
| Gain (circular polarization) | >22 dB ±2 dB |

| | |
|---|---|
| 1 dB compression point | approx. +8 dBm |
| Power supply | +15 V DC (max. 0.5 A) |
| Connector | SMA female |
| Control connector | 10-contact, round, male |
| MTBF | >55 000 h |
| Operating temperature range | –30 °C to +55 °C |
| Dimensions (diameter × height) | |
| With radome | approx. 210 mm × 390 mm |
| Weight | approx. 1.2 kg |

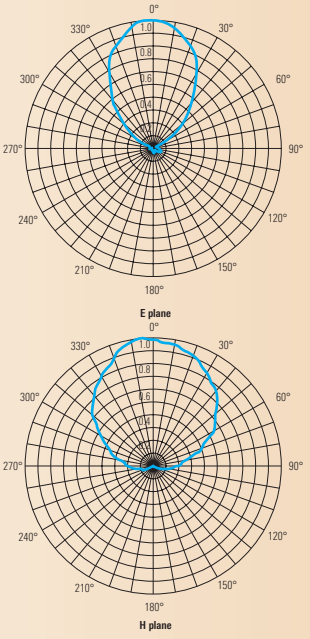
## Ordering information

| **Crossed** | | |
|---|---|---|
| **Log-Periodic Antenna** | R&S®HL024S9 | 4047.6252.02 |

| **Recommended extras** | | |
|---|---|---|
| Control Unit | R&S®GB016 | 4056.7006.02 |
| Control Cable, 10 m | R&S®GB016Z1 | 4056.7270.02 |
| Microwave Cable, 5 m | R&S®AC008W2 | 0751.6931.04 |
| Microwave Cable, 10 m | R&S®AC008W2 | 0751.6931.05 |




*Typical noise figure and gain of broadband preamplifier*




*Typical radiation patterns in the E and H planes*