

# R&S®HE400DC HANDHELD DIRECTIONAL ANTENNA WITH DOWNCONVERTER

20 MHz to 20 GHz

For locating transmitters and interference sources



R&S®HE400VHF



R&S®HE400CEL



R&S®HE400LP



R&S®HE400UWB



R&S®HE400SCB



R&S®HE400SHF

The R&S®HE400DC handheld directional antenna with downconverter extends the frequency range of the R&S®PR200 portable monitoring receiver from 8 GHz to 20 GHz. The antenna together with the R&S®PR200 is used to locate transmitters and interference sources. Bearings are found by manually pointing the antenna in the direction where the signal is strongest.

The antenna consists of an antenna handle, a receiver-customized cable set and different antenna modules that can easily be attached using a locking ring. Six different antenna modules are available, allowing the reception of vertically or horizontally polarized signals. The antenna handle detects the type of module and its orientation.

The integrated downconverter separates the frequency range from 8 GHz to 20 GHz into two bands (bands 1 and 2). Frequencies below 8 GHz (band 0) are bypassed.

A built-in low-noise amplifier (LNA) can be activated in order to increase system sensitivity. In passive mode, the amplifier is bypassed and the antenna can also be used in the vicinity of strong transmitters.

The integrated electronic compass delivers exact azimuth and elevation data. Together with the sensitive GNSS receiver in the antenna handle, precise location accuracy is provided by triangulation. The integrated trigger button can be used to externally trigger a receiver-configurable action.

#### Key facts

- ▶ Distinct directional pattern
- ▶ Wide dynamic range due to switchable active and passive mode (LNA on/off)
- ▶ Very wide frequency range in a compact size
- ▶ Automatic antenna module and polarization detection
- ▶ Trigger button for external triggering of the receiver
- ▶ Fatigue-free operation due to antenna design and materials used, which keep weight to a minimum
- ▶ GNSS receiver and electronic compass included
- ▶ Tripod thread and adapter thread for smartphone/tablet cradle
- ▶ Exchangeable cable set between antenna and receiver

Flyer | Version 01.00

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## Specifications

### RF specification of antenna handle

Frequency range		20 MHz to 20 GHz
Input frequency range	<ul style="list-style-type: none"> <li>▶ band 0</li> <li>▶ band 1</li> <li>▶ band 2</li> </ul>	<ul style="list-style-type: none"> <li>▶ 20 MHz to 8 GHz</li> <li>▶ 8 GHz to 13.5 GHz</li> <li>▶ 13.5 GHz to 20 GHz</li> </ul>
Intermediate frequency range	<ul style="list-style-type: none"> <li>▶ band 0 (bypass)</li> <li>▶ band 1</li> <li>▶ band 2</li> </ul>	<ul style="list-style-type: none"> <li>▶ 20 MHz to 8 GHz</li> <li>▶ 6.4 GHz to 0.9 GHz</li> <li>▶ 7.3 GHz to 0.8 GHz</li> </ul>
Nominal impedance		50 Ω
VSWR		2.5 (typ.)

### RF specification of antenna modules

Frequency range	<ul style="list-style-type: none"> <li>▶ R&amp;S®HE400VHF</li> <li>▶ R&amp;S®HE400UWB</li> <li>▶ R&amp;S®HE400LP</li> <li>▶ R&amp;S®HE400CEL</li> <li>▶ R&amp;S®HE400SCB</li> <li>▶ R&amp;S®HE400SHF</li> </ul>	<ul style="list-style-type: none"> <li>▶ 20 MHz to 200 MHz</li> <li>▶ 30 MHz to 6 GHz</li> <li>▶ 450 MHz to 8 GHz</li> <li>▶ 700 MHz to 2500 MHz</li> <li>▶ 1.7 GHz to 6 GHz</li> <li>▶ 5 GHz to 20 GHz</li> </ul>
Polarization		adjustable, linear horizontal or vertical
Nominal impedance		50 Ω
VSWR		< 3.5; 2.0 (typ.)
Dimensions	with R&S®HE400SHF antenna module	approx. 500 × 255 × 235 mm (20 × 10 × 9 in)
Weight		approx. 1.5 kg (3 lb)

### Ordering information

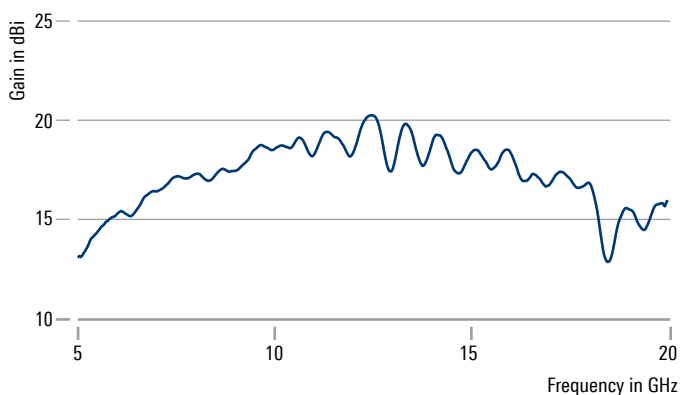
Ordering information	Type	Order No.
Handheld directional antenna with downconverter (antenna handle)	R&S®HE400DC	4104.6000.05
VHF antenna module, 20 MHz to 200 MHz	R&S®HE400VHF	4104.8202.02
UWB antenna module, 30 MHz to 6 GHz	R&S®HE400UWB	4104.6900.02
Log-periodic antenna module, 450 MHz to 8 GHz	R&S®HE400LP	4104.8402.02
Cellular antenna module, 700 MHz to 2500 MHz	R&S®HE400CEL	4104.7306.02
S/C band antenna module, 1.7 GHz to 6 GHz	R&S®HE400SCB	4104.7606.02
SHF antenna module, 5 GHz to 20 GHz	R&S®HE400SHF	4104.8602.02
Cable set, for connecting R&S®HE400DC to R&S®PR200	R&S®HE400-K	4104.7770.05

### Recommended extras

Transport bags/cases are available for different configurations.

Tripod, for R&S®HE400 antenna family	R&S®HE400Z4	4104.9109.02
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### Measured realized gain of the R&S®HE400SHF



### Measured field patterns of the R&S®HE400SHF in the H plane

