

# R&S®HX002H3/ R&S®HX002H3M HF DIPOLE WITH ATU

1.5 MHz to 30 MHz

For stationary use or for shipboard applications



The R&S®HX002H3 HF dipole with ATU permits optimum coverage of all distance ranges. It is particularly useful for radiocommunications over short and medium distances, since below 1000 km vertical rod antennas do not ensure sufficient transmission reliability because of the skip zone.

The fully automatic ATU integrated in the antenna provides perfect matching to the transmitting system so that full RF output power capabilities are available. The high efficiency of the antenna is obtained because the matching network is directly located at the feed point of the dipole.

Together with R&S®GX002, the R&S®HX002H3 can be seamlessly integrated into the R&S®Series4100 and R&S®M3TR radio systems. Furthermore, the R&S®HX002H3 can be controlled by a third-party system controller via LAN interface.

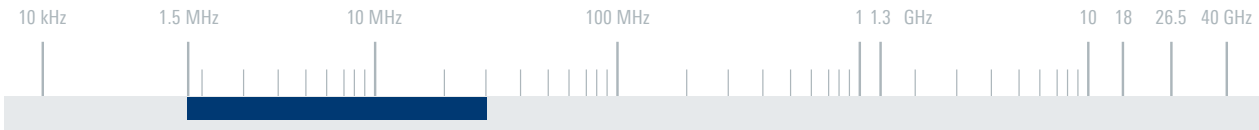
Lightning protection circuitry is provided at multiple locations inside the ATU.

The R&S®HX002H3M is especially optimized for naval applications.

## Key facts

- ▶ Suitable for transmitter powers up to 150 W
- ▶ Omnidirectional coverage with high-angle radiation (NVIS), no skip zone
- ▶ Integrated antenna tuning unit with support of fast frequency hopping in line with R&S®SECOM-H
- ▶ High efficiency (no resistive loading)
- ▶ Very compact dimensions, setup close to neighboring antennas possible
- ▶ RF-cable-only interface
- ▶ Single supporting mast
- ▶ Cosite robust, fast tuning with low or zero RF power
- ▶ Transceiver-independent control interface and power supply (via R&S®GX002)
- ▶ Fully automatic operation possible





**Specifications**

Frequency range	1.5 MHz to 30 MHz	
Maximum permissible RF input power	100 W (CW), 150 W (PEP)	
Input impedance	50 Ω	
VSWR	after tuning	≤ 1.8; ≤ 1.3 (typ.)
Tuning time	silent tune/bypass activation	< 50 ms
	active tune	< 14 s; < 2 s (typ.)
Tuning power	integrated antenna analyzer	≤ 1 W
Gain	depends on frequency, ground properties and mast height	-3.3 dBi to 7.8 dBi (typ.)
RF interface (with DC supply and control information)	to R&S®GX002	N female
Operating temperature range	-40°C to +65°C	
Protection class	IPx6, waterproof	
Maximum wind speed (survival)	without ice deposit	
	R&S®HX002H3	240 km/h
	R&S®HX002H3M	275 km/h
Dimensions (W × D × H)	R&S®HX002H3	approx. 9.5 m × 4 m × 1.8 m (31.2 ft × 13.1 ft × 5.9 ft)
	R&S®HX002H3M	approx. 4.5 m × 2.5 m × 1.8 m (14.8 ft × 8.2 ft × 5.9 ft)
Weight	R&S®HX002H3	approx. 50 kg (110.2 lb)
	R&S®HX002H3M	approx. 35 kg (77.2 lb)

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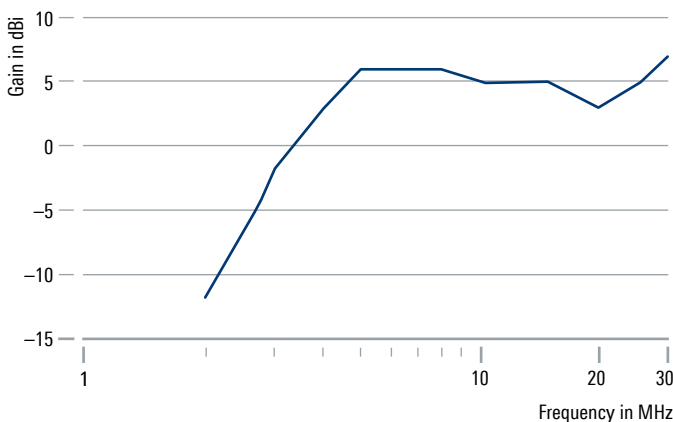
**Ordering information**

Ordering information	Type	Order No.
HF dipole with ATU	R&S®HX002H3	4105.6003.02
HF dipole with ATU	R&S®HX002H3M	4105.6003.12

**Recommended extras**

Junction unit	R&S®GX002	4106.0009.02
Tiltable mast, length: 5 m, for roof mounting	R&S®KM002Z4	4115.9740.03
Lattice mast, length: 10 m	R&S®KM451B1	4028.3351.02
Lattice mast, length: 15 m	R&S®KM451B2	4028.3400.05
Isolating rope set, for R&S®KM451B1/B2	R&S®KM002Z3	4115.9540.02
Mast adapter, for R&S®HX002A1/HX002H1 on R&S®KM451B1/B2/B3	R&S®KM451Z5	4039.8308.03

Typical gain on a 5 m mast above perfectly conducting ground



Typical vertical radiation patterns above perfectly conducting ground

