Data sheet

GPS Antenna R&S®HV 3003

GPS Antenna with High Gain and Low Noise Amplifier

R&S®HV 3003 is a L1 band GPS antenna for tactical applications. It can be connected directly to the GPS antenna input of R&S®MR 3000 transceivers. R&S®HV 3003 features both a magnetic holder as well as a belt for fixing the antenna e.g. at the carrying bag for the radio. R&S®HV 3003 integrates a high performance GPS patch antenna and a low noise amplifier. The antenna is of low profile design, it is compact and fully waterproof.

Main features

- Compact construction
- Fully weather proof
- Low weight

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Specifications

Antenna Element	
Center frequency	1575.42 MHz ±1.023 MHz
Polarization	R.H.C.P (right handed circular polarization)
Absolute gain at zenith	typ. +5 dBi
Gain at 10° elevation	typ.–1 dBi
Axial ratio	3 dB max.
Output VSWR	1.5 : 1 max.
Output impedance	50 Ω
Center frequency	1575.42 MHz ±1.023 MHz
Gain	typ. 27 dB
Noise figure	2.0 max.
Axial ratio	3 dB max
Bandwidth	2 MHz min.
VSWR	2 : 1 max.
Output impedance	50 Ω
Environmental data	
Temperature range (in line with MIL-STD-810E method 501.3 proc I + II and method 502.3 proc I + II)	
Operational	–40 °C to + 85 °C
Storage	–50 °C to + 90 °C
Temperature shock	in line with MIL-STD-810E method 503.3, cat. A1
Shock	in line with MIL-STD-810E method 516.4, proc. I, functional shock for ground equipment, crossover frequency 45 Hz, 40 g, 6 ms to 9 ms.
Vibration	in line with MIL-STD-810E method 514.4, category 8, ground mobile, +5 Hz to 500 Hz (20 Hz to 350 Hz, 0.02 g^2/Hz, 20 Hz to 5 Hz, –6 dB/octave, 350 Hz to 500 Hz, –6 dB/octave)
Leakage (immersion)	1 m during 2 hours, in line with MIL-STD-810E method 512.3, proc. I
Humidity	in line with MIL-STD-810E method 507.3, proc. III, 95 %, non-condensing
Salt fog	in line with MIL-STD-810E method 509.3, proc. I
Sand and dust	in line with MIL-STD-810E method 510.3, proc. I, Blowing Dust
Low pressure (altitude)	in line with MIL-STD-810E method 500.3, proc. I+II 5 000m above sea-level at < +35°C
Solar radiation	in line with MIL-STD-810E method 505.3, proc. II,
Icing / freezing rain	in line with MIL-STD-810E method 521.1, proc. I
Fungus	in line with MIL-STD-810E method 508.4
EMI	RE 102, RS103
MTBF	50000 Std.
Mechanical data GPS antenna	
Dimensions (W x H x L)	48 mm × 18 mm × 58 mm
Construction	polycarbonate radome enclosure and die-cast-shell at the bottom
Standard mounting	2 magnet mount, alternative mount with two M3 tapped holes on the base (depth of M3 thread are 3 mm)
Color of random	black RAL 9005
Weight	160 g max.

Ordering information

Designation	Type	Order No.
GPS Antenna	R&S®HV3003	6118.2004.02

More information at
www.rohde-schwarz.com
(search term: M3TR)

Certified Quality System ISO 9001 DQS REG. NO 1954 QM

Certified Environmental System ISO 14001 DQS REG. NO 1954 UM

Certified Quality System AS 9100 DQS REG. NO 1954 AS

Certified Quality System AQAP-110 Audit report GP Q2-NO 96.07

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