VSQ 2000
REFERENCE RADIATION SOURCE 1–18 GHZ

- **Frequency range 1–18 GHz**
- **Comb generator 100 MHz spectrum**
- **High stability**
- **Changeable accumulator set**

The VSQ 2000 is an RF radiation source covering the frequency range of 1–18 GHz. It can be used for checking the parameters of Open Area Test Sites (OATS), anechoic chambers or other alternative measuring environments. The VSQ 2000 consists of a high-stability comb generator RSG 2000, and a broadband horn antenna. The comb generator uses a temperature-stabilized quartz-oscillator (TCXO) and delivers spectral lines with a 100 MHz spacing. It can be powered from either four rechargeable batteries NiMH or an external power supply.

The condition of the batteries is monitored and with a LED indicated. The RSG 2000 will switch off automatically, if the battery voltage falls below a preset limit.

Included in the VSQ 2000 standard package is a broadband horn antenna (1–18 GHz) with tripod.

The VSQ 2000 can be used for a multitude of measuring tasks in the EMC area. It allows reference measurements to be made between OATS and anechoic chambers and other alternative measuring environments, such as GTEM cells. The VSQ 2000 is also suitable for daily validation of antennas and other measuring equipment.

Technical specifications

Frequency range:	1–18 GHz
Comb spacing:	100 MHz
Frequency stability (TCXO, 100 MHz):	< 1 ppm (-20° – +70°C)
Aging:	< 1 ppm/year
Fequenzy correction (internal):	< 5 ppm
Signal stability:	< 0.3 dB (20°C const.) < 0.5 dB (+5° – +40°C)
Output of generator (RSG 2000):	> 68 dBµV at 18 GHz, 50 Ω
Field strength:	> 65 dBµV/m at 1 m > 55 dBµV/m at 3 m
Temperature range for working:	+5° to +40°C
Battery power:	4 × 1.2 V NiMH, 3500 mAh, interchanged Condition indicated by LED Working time 4 h
Separate power unit:	100–240 VAC, 5 VDC, 2 A
Antenna:	Double-ridged waveguide horn, 1–18 GHz
Tripod:	800–1500 mm
Dimension of the generator (RSG 2000):	105 × 90 × 130 mm

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RSG 2000 with battery charger and power supply unit in suitcase

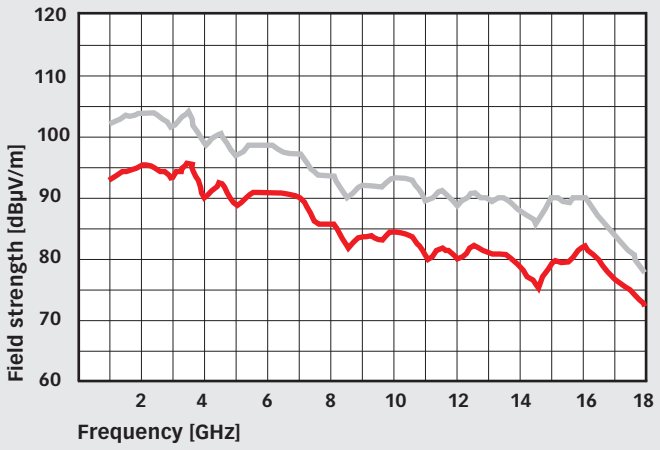
Attenuation measurement

The VSQ 2000 can be used to measure the attenuation of absorbing material or the shielding effectiveness of screening materials. A simple method, using the VSQ 2000, allows the measurement of the attenuation of coaxial cables or attenuators without using a network analyzer.

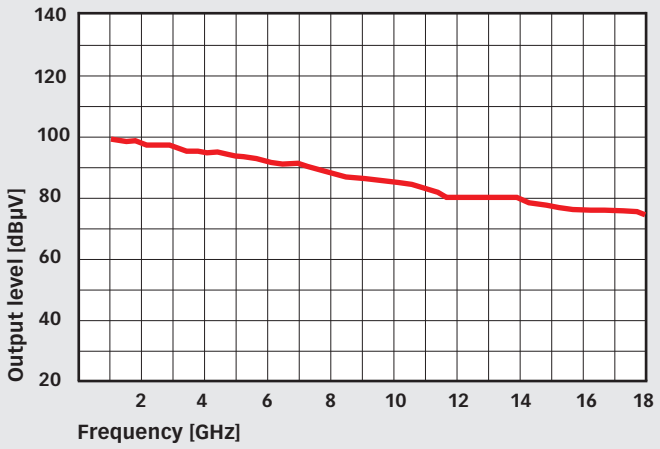
Simulated tracking generator

Both components of the VSQ 2000, the RSG and the antenna, can be used independently. The comb generator, being broadband, can give the same effect as a tracking generator when monitored by a test receiver or spectrum analyzer. With its high level stability, the generator is suitable for the fast calibration of measuring receivers level accuracy.

VSQ 2000 – typical field strength at — 1 m and — 3 m



RSG 2000 – typical output level at 50 Ω



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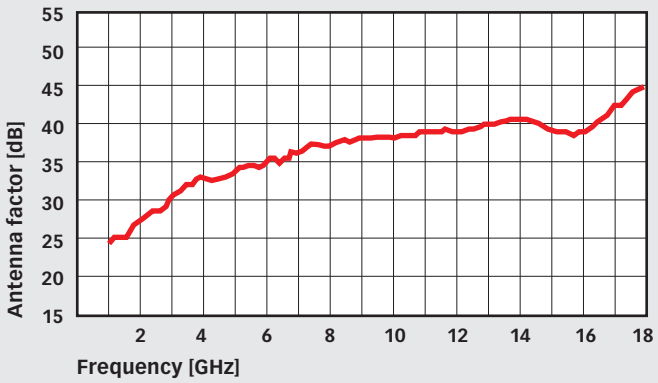
VSQ 2000 reference radiation source

Standalone antenna

The Teseq BHA 9118 is a cost-effective part of the VSQ and can be used separately in other EMC measuring set-ups such as emission or immunity testing at power up to 300 W.

BHA 9118 – typical antenna correction factor



Delivery information

Part number	Description
244500	VSQ 2000 Reference radiation source 1–18 GHz
246600	RSG 2000 Reference generator 1–18 GHz
97-246600	RSG 2000-TC Traceable calibration (ISO 17025) of RSG 2000, order only with the device

VSQ 2000

- **RSG 2000** Comb generator, Battery charger, Mains adapters, Attenuator, Suitcase
- **Tripod** (special type)
- **BHA 9118** Horn antenna, Calibration certificate, Suitcase
- **Mounting Equipment**
- **High Performance Cable** N/SMA connection

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