

Handheld Satcom Test Source



The Handheld Test Source is an easy to use all-in-one test instrument that eliminates the need for several independent test sources. It is the ideal solution for the following applications:

- Signal source for measurement of different parameters of satellite upconverters, including intermodulation, 1 dB compression point, and conversion gain
- Ordinary low phase noise dual carrier signal generator
- Combined source for block upconverters (L-band, 10 MHz and 24 V DC)

Key Features

- Single and two tone output
- 50 MHz to 180 MHz and 950 MHz to 2150 MHz output frequency
- Step size 0.5 MHz
- -45 dBm to -5 dBm output power / 0.5 dB step size
- Both synthesizers independently adjustable in frequency and power
- Low system intermodulation
- 10 MHz reference output with adjustable power
- Remote control via USB using PC software (GUI) supplied together with the device
- Power supply options: internal battery, USB or external SMPS

Product Design

The Test Source consists of a single main module, which contains the RF section, the reference section and the power supply. The internal lithium ion battery is directly connected to the main module.

RF and reference section

The main parts of the RF section are the two low spurious PLL synthesizers. The synthesizers use a high stable internal reference of 10 MHz to generate a frequency from 50 MHz to 180 MHz and from 950 MHz to 2150 MHz with a step size of 0.5 MHz. Each signal is filtered by a frequency depended low pass filter before it is amplified and attenuated by a high dynamic attenuator to reach the desired output level in the range of -45 dBm to -5 dBm (step size: 0.5 dB).

To create a two tone signal at the RF output, the two single tone signals are combined by a wideband power combiner. The output signal can be muted as well as each synthesizer. In addition to a two tone signal, a 10 MHz reference, adjustable in power (-10 dBm to 10 dBm, 0.5 dB steps) and a 24 V DC signal can be switched to the RF out port.

Open questions, demo units

If you need more information about the Handheld Satcom Test from WORK Microwave or if you would like to have demo unit, please contact us via e-mail: sales@work-microwave.com or call us on +49 8024 6408 0. We are glad to assist you.

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Frequency Range:	50 MHz to 180 MHz and 950 MHz to 2150 MHz			
Frequency Resolution:	0.5 MHz			
Output level:	-45 dBm to -5 dBm			
Output level resolution:	0.5 dB			
Level tolerance:	±1 dB			
Output impedance:	50 Ohm			
Output mute:	< -60 dBc			
Phase Noise:	50 MHz	180 MHz	950 MHz	2150 MHz
100 Hz	< -103 dBc/Hz	< -93 dBc/Hz	< -80 dBc/Hz	< -73 dBc/Hz
1 kHz	< -110 dBc/Hz	< -100 dBc/Hz	< -87 dBc/Hz	< -80 dBc/Hz
10 kHz	< -113 dBc/Hz	< -103 dBc/Hz	< -90 dBc/Hz	< -83 dBc/Hz
100 kHz	< -130 dBc/Hz	< -120 dBc/Hz	< -107 dBc/Hz	< -100 dBc/Hz
1 MHz	< -137 dBc/Hz	< -135 dBc/Hz	< -135 dBc/Hz	< -128 dBc/Hz
Spurious (single tone): < 1 MHz offset elsewhere	50 MHz to 180 MHz < -75 dBc < -75 dBc		950 MHz to 2150 MHz < -70 dBc < -70 dBc	
Harmonics (single tone):	< -30 dBc			
System Intermodulation:	50 MHz	180 MHz	950 MHz	2150 MHz
Pout < -5 dBm	< -65 dBc	< -65 dBc	< -65 dBc	< -65 dBc
Pout < -18 dBm	< -80 dBc	< -80 dBc	< -80 dBc	< -70 dBc
Pout < -25 dBm	< -90 dBc	< -90 dBc	< -80 dBc	< -70 dBc
Reference Output:	10 MHz, -10 dBm to +10 dBm, 0.5 dB steps			
Reference Frequency stability:	± 1 x 10 ⁻⁷ , 0 °C to 50 °C ± 2 x 10 ⁻⁹ per day			
Temperature range:	charging battery 0 °C to +40 °C operating 0 °C to +50 °C storage -20 °C to 50 °C			
Interface:	USB 2.0			
Power supply:	ext. 24 V DC SMPS, USB, internal Li-Poly-Battery			
Power consumption:	charging battery max. 12 W else max. 6 W			
Connectors:	RF out: 50 Ohm SMA female REF out: 50 Ohm BNC female USB 2.0 USB Standard type B			
Weight:	approx. 1.5 kg			
Dimensions (L x W x H):	250 x 125 x 74 mm			

Specifications are subject to change

Order Information: HTS-VL