



# Hand-Held Spectrum Analyzer

## SignalHawk SH-42S-TC



The RF Experts

### Hand-held Spectrum Analyzer

The SignalHawk™ SH-42S-TC is a new generation of Spectrum Analyzer that offers superb functionality in a small, very affordable package. This highly portable unit fits easily in one hand and offers the user an amazing intuitive user interface. Built upon an Android platform, users will find a high-resolution touch screen with familiar, easy to use, methods for setting up and using the spectrum analyzer. Field engineers, technicians, wireless equipment manufacturers, service providers, contractors, tower erectors and military field personnel alike have come to trust the efficiency and precision results of SignalHawk.

### PROBLEM AND SOLUTIONS

Need to equip your workforce

- Priced so that you can buy one of these for each of your technicians.

Varying field tech skill levels

- Easy-to-use, intuitive menus to simplify operation for the occasional or seasoned user.

Need faster sweeps

- More than 2x faster sweep times than the competition.

Poor lighting or bright light

- High-resolution, full-color display for indoor or outdoor viewing.

Require Power Measurement

- Includes the Bird RF Meter App that allows interoperability with a wide range of Bird Field sensors.

Lack of access to AC

- 10% longer battery life (6 hours per charge), with Lithium Ion battery.

### MEASUREMENTS AND FEATURES

Measurement on Channel Power

Occupied Bandwidth

Adjacent channel power ratio

Phase Noise

N dB bandwidth

Two level Internal Preamplifier standard

Android operation system

Fully touch screen - support multi-touch operation

Light Weight & Small size

Long battery life - 6 hours battery operation time



# Hand-Held Spectrum Analyzer

## SH-42S-TC

### SPECIFICATION

<b>Frequency Range</b>	10 MHz to 4.2 GHz
<b>Frequency Span Accuracy</b>	±1%
<b>Aging</b>	±1 ppm
<b>Sweep Time</b>	1.1 ms to 1600 s Full Span 2.69 ms to 1600 s Settable Zero Span
<b>Resolution Bandwidth</b>	10 Hz to 5 MHz in 1, 2, 3, 5, 10 Steps
<b>RBW Accuracy</b>	≥1 MHz, ±10% <1 MHz, ±2%

### AMPLITUDE

<b>Measurement Range</b>	DANL to +20 dBm
<b>Input Attenuator Range</b>	0 to 30 dB, 1 dB step
<b>Max Safe Input Level</b>	
<b>Preamp Off</b>	+20 dBm
<b>Preamp +20 dB</b>	0 dBm
<b>Preamp +40 dB</b>	-20 dBm
<b>Reference Level Range</b>	-140 dBm to +20 dBm -190 dBm to +70 dBm (Ref Level Offset: ON)
<b>Amplitude Accuracy</b>	±1.5 dB (ATT set to 0 dB, input signal -5 to -30 dBm, Detector set to Positive, Sensitivity set to Low, RBW auto-coupled, all other settings auto-coupled, 23±5 °C. Half hour warm-up required.)
<b>Switching Uncertainty</b>	±0.3 dB
<b>Input Attenuator Uncertainty</b>	±0.6 dB
<b>Reference Level Accuracy</b>	≥ -60 dBm, ±0.8 dB
<b>Display Average Noise Level (DANL)</b>	
<b>Preamp Off</b>	1 GHz, -131 dBm/Hz (typical -133 dBm/Hz)
<b>Preamp +20 dB</b>	1 GHz, -151 dBm/Hz (typical -153 dBm/Hz)
<b>Preamp +40 dB</b>	1 GHz, -168 dBm/Hz (typical -169 dBm/Hz) (Input terminated, Detector set to Positive, Trace Average set to 1000, Span set to 50 kHz, Reference level of -100 dBm, all other settings auto-coupled, 23±5 °C normalized to 1 Hz RBW)
<b>Residual Responses</b>	-75 dBm
<b>Input Related Responses</b>	
10 MHz - 1.285 GHz	-70 dBc
1.285 GHz - 1.625 GHz	-42 dBc
1.625 GHz - 1.775 GHz	-55 dBc
1.775 GHz - 2.35 GHz	-42 dBc
2.35 GHz - 2.71 GHz	-25 dBc
2.71 GHz - 3.22 GHz	-42 dBc
3.22 GHz - 3.7 GHz	-70 dBc
3.7 GHz - 4.2 GHz	-35 dBc
<b>Second harmonic distortion</b>	1.6 GHz -70 dBc

<b>Third-Order Intercept (TOI)</b>	+15 dBm (-10 dBm tones, 1 MHz apart, Sensitivity LOW, Reference Level -10 dBm)
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<b>P1dB</b>	+5 dBm Nominal
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<b>Phase Noise (1GHz)</b>	-96 dBc/Hz,@10 kHz (typical -98 dBc/Hz) -118 dBc/Hz,@1 MHz (typical -120 dBc/Hz)
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<b>Compatible With</b>	For a complete list of compatible sensors see Bird's Rf Meter Page <a href="http://bit.ly/rfmeterrapp">http://bit.ly/rfmeterrapp</a>
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### GENERAL SPECIFICATION

<b>Connectors</b>	
<b>RF In</b>	N (f)
<b>USB</b>	USB type C
<b>Power Interface</b>	Slim Tip, DC20V
<b>Display</b>	5.5 inch, 1280 *720p
<b>OS</b>	Android
<b>Languages</b>	English, Chinese
<b>Battery Type</b>	Li-ion
<b>Battery Operating Time</b>	6 hours typical
<b>Battery Charge Time</b>	2.5 hours typical
<b>Operating Temperature</b>	0°C to 50°C
<b>Storage Temperature</b>	-20°C to 70°C
<b>Size</b>	7.8 x 3.9 x 2.6 inches (200 x 99 x 67 mm)
<b>Weight</b>	2.8 lb (1.25 kg)

### ACCESSORIES

<b>Hard Carrying Case</b>	SPM-AS007
<b>Soft Carrying Case</b>	SPM-AS008
<b>AC Power Adapter</b>	SPM-AS001
<b>AC Power cable (US standard)</b>	SPM-AS003
<b>USB Cable</b>	SPM-AS004
<b>USB OTG Cable</b>	SPM-AS005
<b>Touch Pen</b>	SPM-AS006
<b>USB Drive</b>	SPM-AS009
<b>Manual</b>	920-SH-42S
<b>Battery</b>	SPM-021

