![Bird logo]

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

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SPECIFICATION

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

AMPLITUDE

Measurement Range	DANL to +20 dBm
Input Attenuator Range	0 to 30 dB, 1 dB step
Max Safe Input Level **Preamp Off** **Preamp +20 dB** **Preamp +40 dB**	 +20 dBm 0 dBm -20 dBm
Reference Level Range	-140 dBm to +20 dBm -190 dBm to +70 dBm (Ref Level Offset: ON)
Amplitude Accuracy	±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.)
Switching Uncertainty	±0.3 dB
Input Attenuator Uncertainty	±0.6 dB
Reference Level Accuracy	≥ -60 dBm, ±0.8 dB
Display Average Noise Level (DANL) **Preamp Off** **Preamp +20 dB** **Preamp +40 dB**	 1 GHz, -131 dBm/Hz (typical -133 dBm/Hz) 1 GHz, -151 dBm/Hz (typical -153 dBm/Hz) 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)
Residual Responses	-75 dBm

Input Related Responses	
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
Second harmonic distortion	1.6 GHz -70 dBc

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

GENERAL SPECIFICATION

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

ACCESSORIES

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