TFN Handheld Spectrum Analyzer FAT130

Features Overview:

- Frequency range: 100K-3.2GHz (tuned to 9KHz) AC coupling
- Best sensitivity: -161dBm
- Resolution bandwidth: 1Hz~3MHz
- FM/AM audio demodulation, frequency counting
- The FAT130 series has the narrowest RBW among similar analyzers, making it easy to determine, resolve and measure two very close signals.
- Unique 5.6-inch high-brightness color display provides fine, bright and clear traces for indoor and outdoor use, no need to move to a shaded area to work
- Extremely fast scan time enables rapid data capture to help locate and identify irregular transient interference signals, optimizing your test time and accuracy.
- It adopts an advanced built-in battery management system and comes standard with an ultra-large capacity 7800mAh lithium battery, which can easily achieve more than 6 hours of continuous on-site measurement work.
- Adopting advanced IP-51 technology, in addition to a compact and sturdy mechanical structure, the chassis is also sealed with a tight rubber sleeve, making it suitable for harsh on-site working environments.
- Integrated USB Host & Device, supports U disk storage, WIFI/LAN optional, convenient for networking and remote control
- The provided PC main control software can realize the management and storage of test data.

Technical Specifications

Model	FAT130	
Frequency		
Frequency range	100K~3.2GHz (tuned to 9KHz) AC coupling	
Frequency resolution	1Hz	
Base frequency	10MHz	
Frequency reading accuracy	± (frequency standard reading × frequency reference accuracy + 1% × span + 20% × RBW + cursor resolution + 1Hz)	
Internal reference (10MHz)	Aging rate	± 1ppm/year (0℃ to 50℃, reference is 25℃)
	Temperature drift	± 1ppm/year
Cursor resolution	(frequency range)/(number of scanning points-1)	
ResolutionBandwidth (RBW)		
-3dB bandwidth	10Hz to 1MHz, 1-3-10 serial number	
Accuracy	± 5% RBW=10Hz~1MHz nominal value	
Resolution filter rectangular coefficient	< 5:1 nominal value	
Video bandwidth (VBW)	-3dB bandwidth	1Hz to 1MHz, 1-3-10 sequence
	Accuracy	± 10% VBM=1Hz~1MHz nominal value

Displays average noise level (1 normalized to 1Hz)		
100K~1MHz	Preamplifier off	-108dBm, typical value -127dBm
1MHz ~10MHz		-128dBm, typical value -146dBm
10MHz ~500MHz		-142dBm, typical value -146dBm
500MHz ~2.5GHz		-141dBm, typical value -145dBm
2.5GHz ~3GHz		-140dBm, typical value -144dBm
100K~1MHz	Preamplifier on	-131dBm, typical value -150dBm
1MHz ~10MHz		-148dBm, typical value -163dBm
10MHz ~500MHz		-161dBm, typical value -164dBm
500MHz ~2.5GHz		-159dBm, typical value -162dBm
2.5GHz ~3GHz		-158dBm, typical value -161dBm
SSB phase noise		
Carrier offset (20℃ to 30℃, center frequency of 500MHz)	10K	< -92 dBc/Hz, typical value -95 dBc/Hz
	30K	< -93 dBc/Hz, typical value -96 dBc/Hz
	100K	< -95 dBc/Hz, typical value -97 dBc/Hz
	1MHz	< -117 dBc/Hz, typical value -119 dBc/Hz
Scan time		
Range	Span>100Hz	2ms to 1000s
	Range=0Hz	600ns to 200s
Scan mode		Continuous, Single
Trigger source		Free run, video, external
Trigger slope		Positive edge or negative edge
Trigger delay	Span=0Hz	± 12ms to ± 12s standard value
Frequency counter		
Counter resolution		1Hz
Counter uncertainty		± (frequency reading × frequency reference uncertainty + counting resolution)
Level display range		
Logarithmic scale and units		Display 10 divisions, 1-2-5-10dB/div; support user 0.1-20dB/div.
Linear scale and units		0 to 100%, 10 divisions displayed
Scale unit		dBm, dBmV,dBuV,Watts, Volts
Scan (track) points		461
Number of trajectories		4
Detection mode		standard, positive peak value, negative peak value, sampling, RMS
Number of traces		4
Trace functions		clear/write, max hold, min hold, average, view, close
Level measurement error		± 1.5dB (excluding input VSWR mismatch) 20℃ to 30℃, peak detection, preamplifier off, input signal -50~0dBm
Reference Level		

Range		-100dBm to +20dBm, 1dB step
Resolution	Logarithmic scale	0.01dB
	Linear scale	Approximately log (2.236 μ V to 7.07V)
Amplitude		
Maximum safe input level	Average continuous power	+33dBm
	DC input voltage	50Vdc
Measurement range	100KHz~2MHz	Display average noise level (DANL) to +10dBm
	2MHz~3GHz	Displays average noise level (DANL) to +20dBm
	Input attenuator range	0 to 51Db, 1dB step
Spurious and Residual Responses		
Second harmonic cutoff point (SHI)		<65dBc, 50MHz to 3GHz (mixer level -30dBm, attenuator 0dB, preamplifier off, 20℃~30℃)
Third-order intermodulation cutoff point (TOI)	50~300MHz	+8dBm, third-order intermodulation product: 2 x -20dBm; frequency interval 100KHz: attenuator 0dB; preamplifier off, 20℃~30℃
	300MHz~3GHz	+8dBm
Input relative spurious		<-75dBc, (input mixer is -30dBm)
Intrinsic residual response		<-90dBm, typical -98dBm (input stopped, 0dBm RF attenuation, preamplifier off)
RF input VSWR (tuning)	10MHz to 3GHz	<1.5:1, nominal value, attenuation value setting 10~20dB
10MHz reference/external trigger input		
Reference input frequency		10MHz
Reference input amplitude		0~10dBm
Trigger voltage		5V TTL level
Connector and output impedance		Type N negative; (50 Ω)
General Features		
Screen interface language		English, Simplified Chinese, Traditional Chinese
Display type		5.7 inches, 600*480 resolution, 64M color LCD color LCD display
Temperature range	Operating temperature	-10℃ to +50℃, (battery: 0℃ to 50℃)
	Storage temperature	-40℃ to +70℃, (battery: -20℃ to 50℃)
Relative humidity		<95%
Weight		2.9kg (including battery), 2.6kg (without battery)
Dimensions		260m X 220m X 75m
Power supply	Input voltage range	DC: 12-17V, maximum 2.8A input 220VAC ± 15%
	AC frequency range	40Hz to 60Hz
	Power consumption	Max 60W