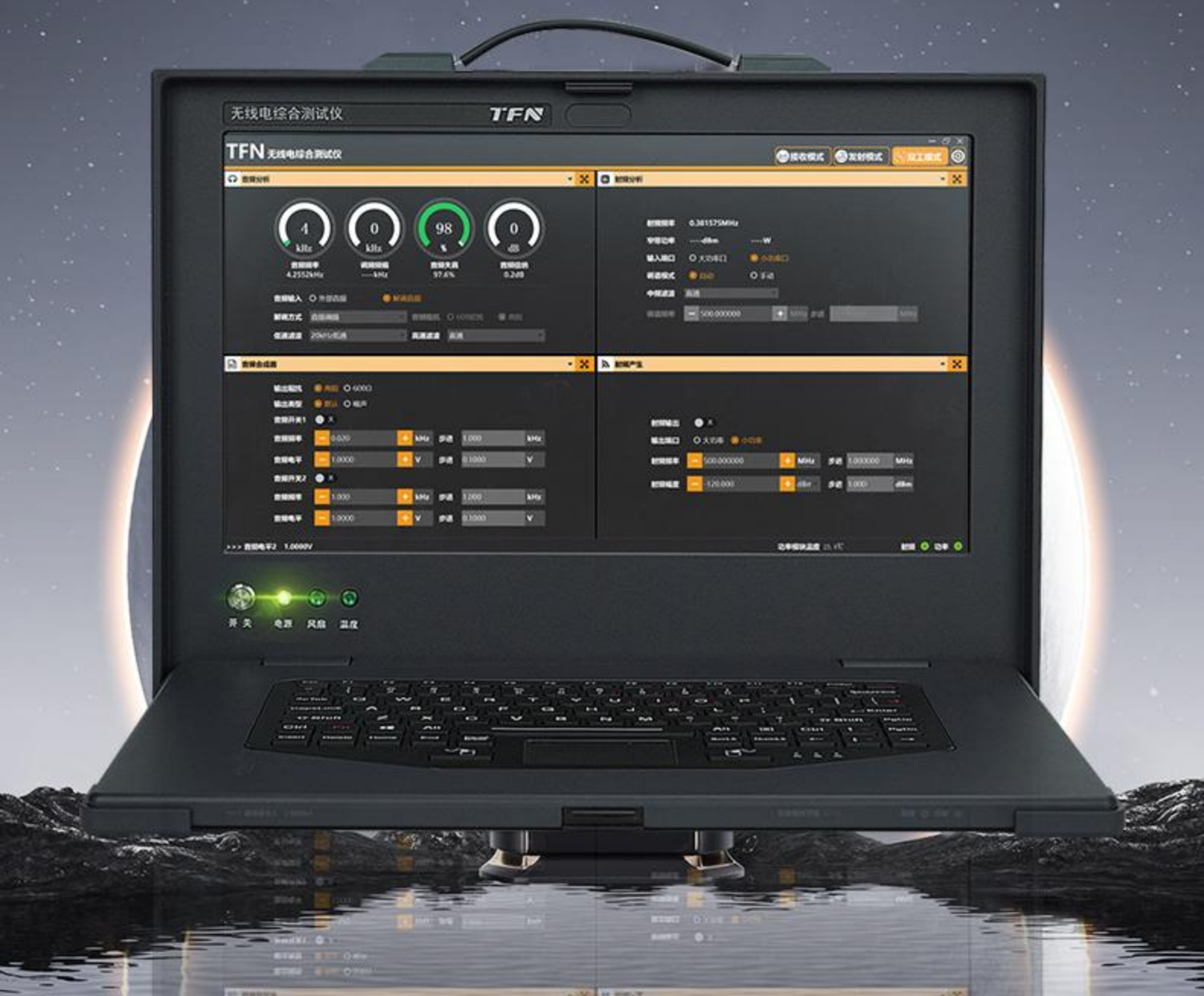
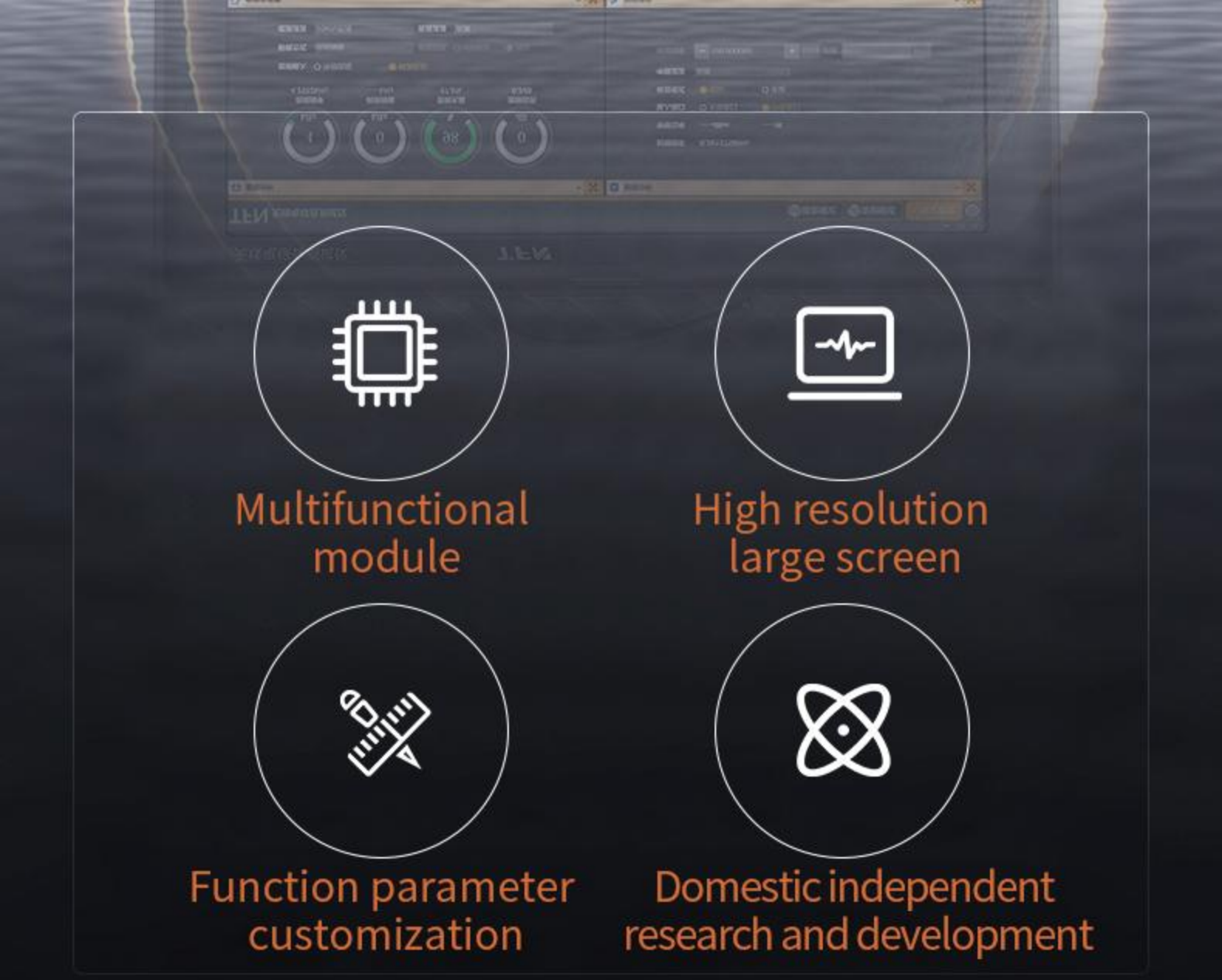
TFN

PM3900
Radio comprehensive tester





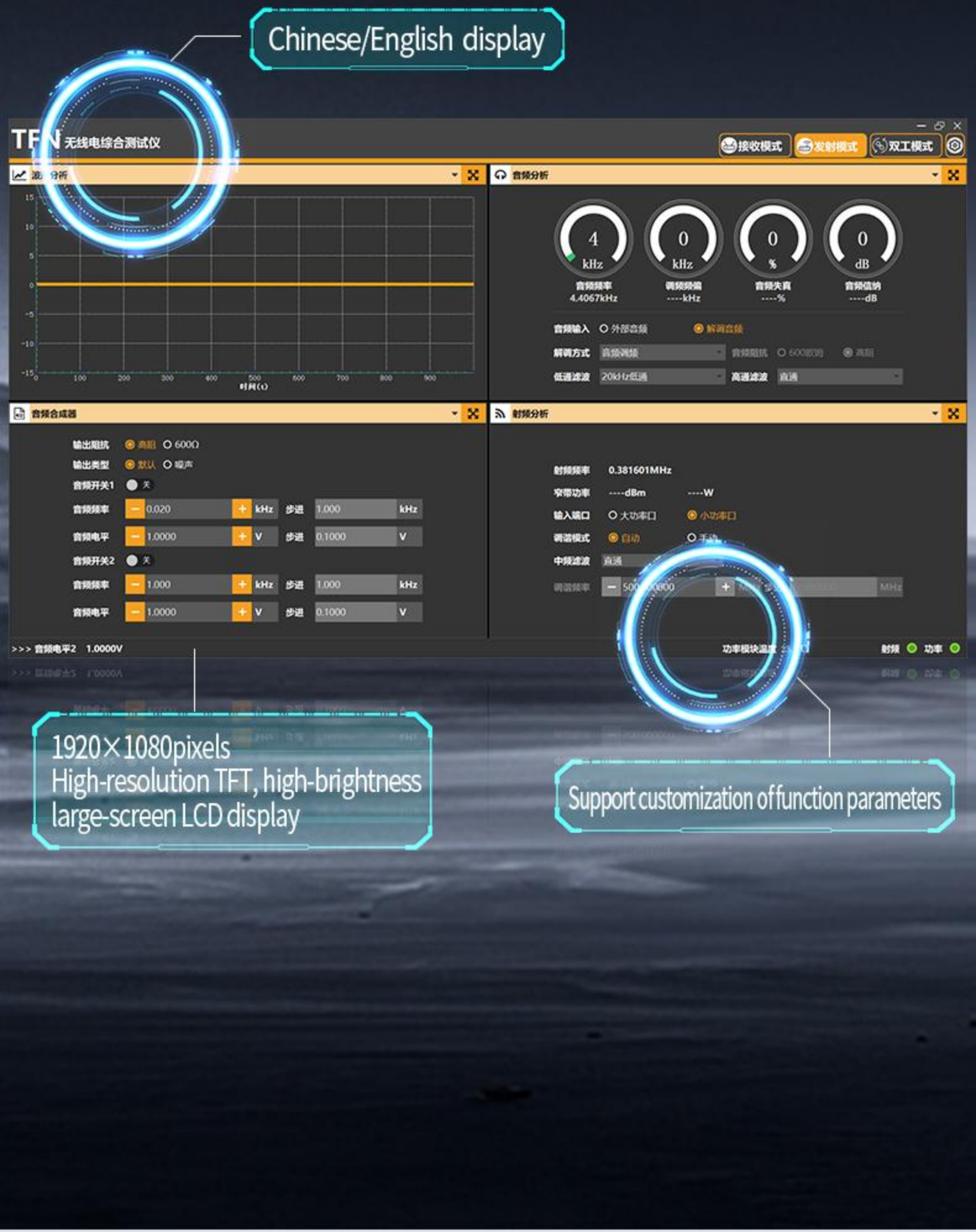
Multifunctional module

High resolution large screen

Function parameter customization

Domestic independent research and development

Features


Chinese/English display
TFN 无线电综合测试仪
接收模式
发射模式
双工模式
音频分析
音频频率
4.4067kHz
音频输入
外部音频
解调音频
解调方式
音频调频
低通滤波
20kHz低通
高通滤波
直通
音频合成器
输出阻抗
输出类型
音频开关1
音频频率
音频电平
音频开关2
步进
射频分析
射频频率
0.381601MHz
窄带功率
输入端口
大功率口
小功率口
调谐模式
自动
中频滤波
>>> 音频电平2 1.0000V
1920×1080pixels
High-resolution TFT, high-brightness large-screen LCD display
Support customization of function parameters

Performance indicators

Carrier parameters

RF carrier frequency range： 100kHz～1GHz

Carrier frequency resolution： 1Hz

Carrier frequency accuracy： ± （0.1ppm+0.5Hz）

Amplitude：

-120dBm～-40dBm （high power input and output port, maximum output during amplitude modulation: -47dBm）

-120dBm～+10dBm （low power output port, maximum output during amplitude modulation:+3dBm）

Carrier amplitude resolution： 0.1dB

Carrier amplitude error： ⩽±1.5dB(-30dBm～+10dBm)

⩽±2.0dB(-115dBm～-30dBm)

⩽±2.5dB(⩽-115dBm)

Relative harmonic content： ⩽-30dBc

Relative non-harmonic content：

<-40dBc (more than 20kHz away from the carrier)

AM parameters

AM frequency range： 20Hz～20kHz

AM depth range： 0～100%

AM depth error： ⩽±(5%+1.5% of preset value)

AM distortion： ⩽1% (modulation amplitude: 30%, modulation frequency: 1kHz; THD, demodulation bandwidth is 300Hz~3kHz)

FM parameters

FM frequency range： 20Hz~20KHz

Frequency deviation rangec： 1kHz~100kHz

Frequency deviation error： ⩽±(5% of pre-adjusted value + residual FM) (modulation frequency: 1kHz, demodulation bandwidth is 300Hz~3kHz)

FM distortion： ⩽1% (modulation frequency: 1kHz, demodulation bandwidth is 300Hz~3kHz)

Single sideband parameters

Lower sideband modulation frequency rangea： 100Hz～20kHz

Upper and lower sideband suppression： ⩾60dBc

Phase modulation parameters (option A)

FM frequency range： 50Hz～10kHz

Phase deviation range： 0.5rad～5rad

deviation error： ⩽±(preset value x7%+0.1rad) （(1kHz modulation frequency phase 300Hz～3kHz)

Phase modulation distortion： <1% (modulation frequency: 1kHz, demodulation bandwidth: 300Hz~3kHz)

RF frequency meter

Frequency range： 400kHz～1GHz

Level range： -30dBm～+20dBm(low power input port)
+10dBm～+47dBm(high power input and output)

Frequency measurement error： ⩽± （0.1ppm+0.5Hz）

Resolution： 1Hz

frequency error meter

Frequency range： 400kHz～1GHz

Level range： -80dBm~+20dBm (low power input port)
-40dBm~+47dBm (high power input and output port)

Frequency error measurement range： ±100kHz

Frequency error： ⩽± （0.1ppm+0.5Hz）

Broadband power meter

Frequency range： 400kHz～1GHz

Power range： 10dBm~+47dBm (high power input and output port)

(available to 0dBm)

Carrier power measurement error： ⩽±1dB

Narrowband power meter

Frequency range： 400kHz～1GHz

Level range： -80dBm~+20dBm (low power input port)

-20dBm~+47dBm (high power input and output port)

measurement error： ⩽±1.5dB

Resolution： 0.1dB

Modem measurements

RF carrier frequency range： 400kHz～1GHz

Level range： -60dBm～+20dBm(low power input port)

-20dBm～+47dBm (high power input and output port)

Demodulation bandwidth： 6.25kHz、8.33kHz、10kHz、12.5kHz、25kHz、30kHz、100kHz

IF bandwidth： 20MHz、230kHz

Demodulation measurement

Demodulation frequency range： 20Hz～20kHz

Demodulation depth range： 0～100%

Measurement error： ⩽ ±(5% of reading value + remaining amplitude modulation)

Demodulation sensitivity： <-90dBm (10dB signal sensitivity) (low power input port, IFBW: 15KHz, AFBW: 300Hz~3kHz)

Demodulation measurements

Demodulation frequency range： 20Hz～20kHz

Demodulation frequency deviation range： 100Hz～100kHz

Demodulation frequency deviation error： ⩽< ± (5% of the reading value + remaining frequency modulation)

Demodulation sensitivity： ⩽-100dBm (10dB signal sensitivity) (low power input port: IFBW:15kHz, AFBW:300Hz~3kHz)

Single Sideband AM Demodulation Measurements

Upper and lower sideband demodulation bandwidth:

20Hz～20kHz （3dB）

Upper and lower sideband demodulation distortion： ⩽3% (modulation frequency is 1kHz, filter is 300Hz~3kHz)

Demodulated phase measurement (option A)

Measuring range： 0.1rad～5rad

Demodulation frequency range： 20Hz～20kHz

Measurement error： ⩽±(reading value 5%+0.1rad)

RF Spectrum Analysis Measurements

Input frequency range： 400kHz～1GHz

Frequency bandwidth： 10kHz～999.6MHz

Frequency readout error： frequency indication x internal reference oscillator operating error +0.5%RBW

level range： -60dBm～+20dBm(low power input port)
-20dBm～+47dBm(High power input/output port)

Reference level error： ⩽±2.5dB

Residual response： ⩽-70dBm(no input signal)

Display average noise leve： ⩽-120dBm （10kHz bandwidth）

Audio source parameters

Frequency range： 20Hz～100kHz

Frequency resolution： 1Hz

Frequency error： ⩽±1Hz

Amplitude range： 1mVrms～5Vrms(single audio source)
2mVrms～5Vrms(two internal audio sources superposed output)

Amplitude resolution： 0.1mVrms (amplitude <100mVrms); 1mVrms (Amplitude>100mVrms)

Amplitude error (single audio source)： ⩽± （3%x setting value + 1mVrms)

Distortion： ⩽1% (output amplitude >200mVrms)

Output impedance： 600Ω， high impedance

Audio frequency measurement

Frequency range： 20Hz～100kHz

Frequency resolution： 0.1Hz

Frequency error： ⩽±1Hz

Input voltage range： 10mVrms～30Vrms

Audio voltage measurement

Frequency range of measuring voltage：20Hz～100kHz

Voltage measurement range：1mVrms～30Vrms

Amplitude resolution：0.1mVrms (input voltage ⩽ 100mV); 1mVrms (input voltage>100mV)

Amplitude error：⩽±（3%xset value+1mVrms）

Input coupling and impedance：AC coupling, 600Q or high impedance

Distortion measurement

Input voltage range：50mVrms～30Vrms

Distortion measurement frequency range：20Hz～20kHz

Distortion measurement range Total distortion：0.5%～70%

Distortion measurement error：⩽±(5%xset value+0.2%) (distortion: ⩽20%)

<±(5%xset value+0.5%)(distortion:>20%)

Satisfaction measurement

Input voltage range：50mVrms～30Vrms

Satisfactory measurement frequency range：20Hz～20kHz

Satisfactory measurement range：3dB～50dB

Satisfied measurement error：⩽±1.5dB

Audio filter

Low pass： 300Hz、3kHz、5kHz、15kHz、20kHz、100kHz、Low pass

Qualcomm： 50Hz、300Hz、Low pass

Audio time domain analysis (oscilloscope)

Input frequency range： 20Hz～100kHz

Input voltage range： 0～90VP-P

Voltage scale： 10mV/div～20V/div，in steps of 1, 2, and 5.

Time base scale： 1μs～100ms/div，in steps of 1, 2, and 5.

Voltage measurement error： ≤±(reading value x2%+0.1div)

Audio Frequency Domain Analysis (FFT)

Signal frequency range： 20Hz～100kHz

FFT window： rectangular, Hamming window, Hanning window

External reference input

External reference clock frequency： 10MHz

External reference clock amplitude： -10dBm～5dBm

Input impedance： 50Ω（nominal value）

Port name： 10MHz input

Overall dimensions (width x height x depth):

406mm×293mm×255mm

Chassis type: Flip-down PXle portable all-in-one chassis

Weight: ⩽15kg

Power input: 220V

Power consumption: ⩽150W

Environmental adaptability

environmental adaptability: 0℃～+50℃

Storage temperature: -40℃～+70℃

OTHER

Touch screen: 15.6 hours 16:9 widescreen

Resolution: 1920×1080

Brush frequency: 60Hz

Backlight type: LED