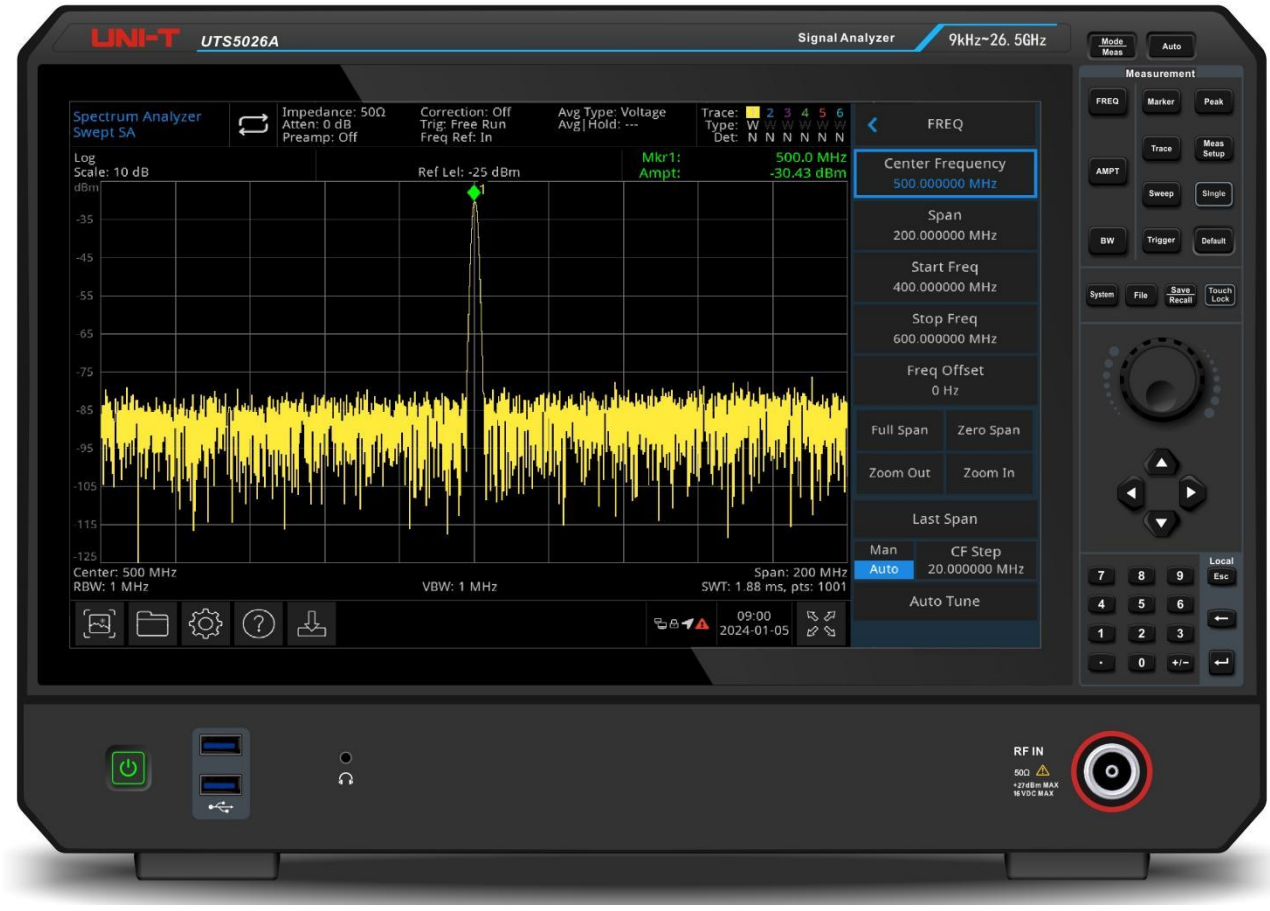
Instruments.uni-trend.com



UTS5000A Series Signal Analyzer

Data Sheet

V1.2

May 2025

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Product Features

- Frequency measurement range: 9 kHz ~ 13.6 GHz,9 kHz ~ 26.5 GHz
- Display average noise level can be as low as -163 dBm (typical)
- Phase noise <-107 dBc/Hz (offset 10 kHz, typical)
- Scanning points up to 100,001 scanning points
- Minimum resolution of bandwidth (RBW) is 1 Hz
- Support advanced function one-key measurement (optional)
- Support EMI Analysis (optional)
- Support Analog Demodulation Analysis (optional)
- Support Vector Signal Analysis (optional)
- Support Phase Noise Analysis (optional)
- Support standard communication signal analysis (5G NR, LTE) (optional)
- Support I/Q Analysis (optional)
- 15.6 inch 1920 x 1080 High definition capacitive touch display screen
- Rich peripheral interfaces:support keyboard, mouse, storage, upper computer, remote control, web control, multi-device synchronization, demonstration monitoring, 3.5mm headphone Jack

Multi-touch HD screen

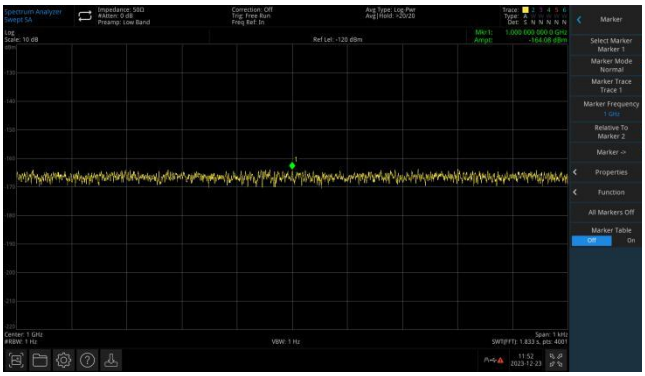
for quick operation

15.6-inch multi-touch HD capacitive screen for quick menu settings. It supports multiple gesture operations, such as dragging, expanding, and zoom-out on the trace. Convenient human-computer interaction solves the problem of cumbersome and difficult operation.

Excellent sensitivity

to test weaker signals

The weak signal test is easily affected by the noise floor of the spectrum analyzer. DANL of UTS5000A series can as low as -163dBm, it has excellent sensitivity which can effectively test weak signals.

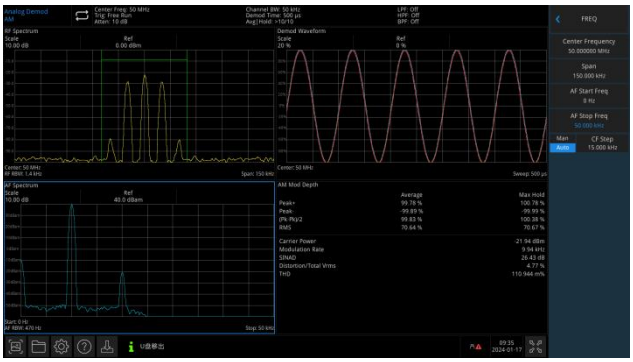


Removable dust mesh

With a detachable dust filter, after the instrument is used for a period of time, the user can remove the dust from the air inlet. To ensure the reliability of the whole machine, it can avoid short-circuit, burn or fire caused by dust.

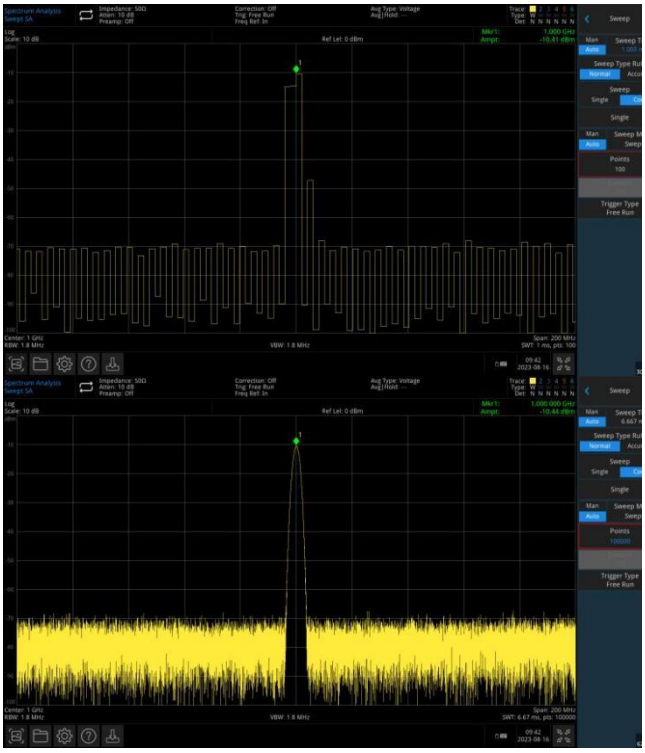
Analog demodulation

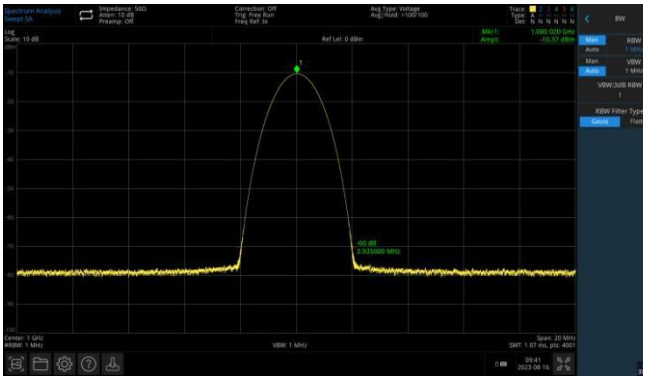
Provide demodulation analysis of AM, FM and PM modulation signals



100,001 Scan points

The UTS5000A series provides sweep points up to 100,001, providing higher frequency resolution, making it easier to capture signals that are difficult to detect.



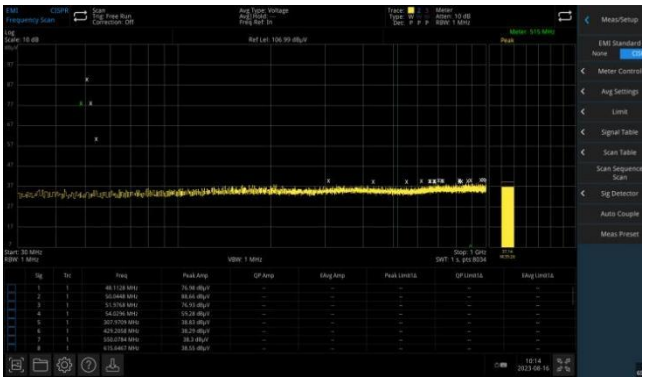


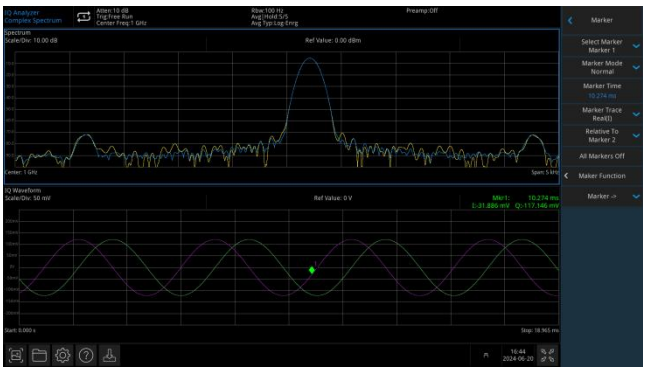
Outstanding selectivity

It has stronger signal resolution capability of adjacent unequal amplitudes.

EMI pre-compliance

UTS5000A series has optional components and near-field probes, it can help the user find and improve EMI defects in advance. Thereby shortening the development cycle.





IQ Analyzer

Efficient acquisition and analysis of IQ data.

Definitions and Conditions

"Specifications" describe the performance of the parameters covered by the product warranty in detail. Unless otherwise noted, these specifications apply to the temperature range of 20°C to 30°C.
"Typical" refers to additional product performance information that is not covered by the product warranty. When performance exceeds specifications, 80% of units can be demonstrated with a 95% confidence level over a temperature range of 20 °C to 30 °C. Typical performance does not include measurement uncertainty.
"Nominal Value" means expected performance, or describes product performance that is useful in product applications but not covered by the product warranty.

The analyzer can meet its specifications under the following conditions.
The instrument should in a calibration cycle and has warmed up for at least 30 minutes. If the analyzer is stored within the allowable storage temperature range but exceed the allowable operating temperature range, it must be placed within the allowable operating temperature range for at least two hours before starting the analyzer.

Comparison Table of Product Function and Mode

	UTS5013A	UTS5026A
Spectrum analysis	●	●
EMI Analysis	○	○
Analog Demodulation	○	○
Advanced measurement	○	○
Vector Signal Analysis	○	○
I/Q Analysis	○	○
Phase Noise Analysis	○	○
FDD-LTE Demodulation Analysis	○	○
NR Demodulation Analysis	○	○
TDD-LTE Demodulation Analysis	○	○
Preamplifier	○	○

Note: ● standard ○ option

Frequency and Time

Frequency		
Model	UTS5013A	UTS5026A
Frequency range	9 kHz to 13.6 GHz	9 kHz to 26.5 GHz
Frequency band	LO multiple(N)	
0	1	100 kHz to 3.05 GHz
1	2	2.95 GHz to 7.55 GHz
2	2	7.45 GHz to 9.25 GHz
3	2	9.15 GHz to 11.05 GHz
4	2	10.95 GHz to 12.75 GHz
5	4	12.65 GHz to 14.55 GHz
6	4	14.45 GHz to 16.55 GHz
7	4	16.45 GHz to 18.55 GHz
8	4	18.45 GHz to 20.55 GHz
9	4	20.45 GHz to 24.55 GHz
10	4	24.45 GHz to 26.5 GHz
10MHz Internal Frequency Reference		
Frequency reference	10.000000 MHz	
Accuracy	±[(time since last adjustment x aging rate) + temperature stability +calibration accuracy]	
Temperature stability	20 to 30 °C	$\pm 3\times10^{-8}$
	Full temperature range	$\pm 3\times10^{-8}$
Frequency aging rate	$\pm 3\times10^{-7}$/ year(First year)	
Achievable initial calibration accuracy	$\pm 8\times10^{-8}$	
Sampling frequency reference accuracy	$\pm(3\times10^{-7}+3\times10^{-8}+8\times10^{-8})$	
1 year since the last calibration	$\pm 4.1\times10^{-7}$	
Residual FM	≤ 1 Hz p-p,20 ms,nominal	
Frequency Readout Accuracy (Start, Stop, Center, Marker)		
Marker resolution	Span / (Sweep point - 1)	
Marker frequency uncertainty	± (marker frequency x frequency reference accuracy + 1% x span + 10% x RBW+marker resolution)	
Marker mode	Normal,Delta△,Fixed	
Marker function	Marker Noise,Band Power,Band Density,N dB,Counter	

Counter resolution	0.001 Hz	
Uncertainty of frequency counter	±[marker frequency x frequency reference accuracy + Counter resolution]	
ΔCounter accuracy	± [Δ Frequency reading × Reference frequency accuracy+ 0.141 Hz]	
Frequency Span (FFT and Swept mode)		
Range	0 Hz,10 Hz to 13.6 GHz	0Hz,10 Hz to 26.5 GHz
Resolution	Span / (Sweep point - 1)	
Accuracy	Swept	±[0.25% × span + Resolution]
	FFT	±[0.10% × span + Resolution]
Sweep Time and Triggering		
Sweep Time	Span = 0 Hz	1 μs to 6000 s
	Span ⩾ 10 Hz	1 ms to 4000 s
Sweep Accuracy	Span ⩾ 10 Hz,swept	± 0.01% nominal
	Span ⩾ 10 Hz,FFT	± 40% nominal
	Span = 0 Hz	± 1% nominal
Sweep	Single,Cont	
Trigger Type	Free Run,External 1,External 2,Video,Periodic Timer	
Trigger Delay	0 to +500 ms	
	resolution	0.1 μs
Resolution Bandwidth (RBW)		
Range (−3dB bandwidth)	1 Hz to 3 MHz (10% Steps),4,5,6,8 MHz	
Selectivity (−60 dB/−3 dB)	<4.1 : 1 (nominal)	-60 dB : -3 dB
Bandwidth Accuracy (power)	1 Hz to 750 kHz	±1.0% (±0.044 dB) nominal
	820 kHz to 1.2 MHz	±2.0% (±0.088 dB) nominal
	1.3 MHz to 2.0 MHz	±0.13 dB nominal
	2.2 MHz to 3.0 MHz	±0.22 dB nominal
	4.0 MHz to 8.0 MHz	±0.45 dB nominal
Bandwidth Accuracy (−3.01 dB) (Sweep Time Rules=Accuracy)	1 Hz to 1.3 MHz	±2.0% nominal
	1.5 MHz to 3.0 MHz	±7.0% nominal
	4 MHz to 8 MHz	±15% nominal
Video Bandwidth (VBW)		
Range	1 Hz to 3 MHz (10% Steps),4,5,6,8 MHz	
Uncertainty of video bandwidth	±6.0% nominal	
Sweep (trace) Point Range		

All spans	11 to 100,001

Amplitude Accuracy and Range

Amplitude Range		
Measurement range	Displayed average noise level (DANL) to +27 dBm	
Input attenuator range	0 to 50 dB,2 dB Steps	
Reference Level		
Log scale	-170 dBm to +30 dBm,0.01 dB Steps	
Linear scale	Same as Log (707 pV to 7.07 V)	
Accuracy	0 dB	
Preamplifier (Option)		
Frequency range	100 kHz to 7.5 GHz (Low frequency band)	
	100 kHz to 26.5 GHz (High frequency band)	
Noise figure	10 MHz to 26.5 GHz	Displayed average noise level (DANL) +174dBm nominal
Maximum Safe Input Level		
Average total power	+27 dBm (0.5W)	Input attenuation ≥ 10 dB,Preamp Off
	+27 dBm (0.5W)	Input attenuation ≥ 20 dB,Preamp On
Peak pulse power	+47 dBm (50W)	< 10 μs pulse width, < 1 % duty cycle and input attenuation ≥ 30 dB
DC volts	AC coupling	+16VDC
Display Range		
Log scale	0.1 to 1 dB/division,in 0.1 steps	
	1 to 20 dB/division,in 1 dB steps (10 display divisions)	
Linear scale	10 division	
Scale units	dBm,dBmV,dBμV,V,W	
Display Scale Switching Uncertainty		
Switching between linear and log	0 dB	
Log scale/grid switching	0 dB	
Display Scale Fidelity		
Between −10 dBm and −80 dBm input mixer level		±0.15 dB total
Trace detectors	Normal, peak, sample, negative peak, log power average, RMS average, and voltage average	

Trace Type	Clear/Write,Average,Max Hold,Min Hold

Frequency Response

20 °C ~30 °C,30% ~ 70% relative humidity,Input attenuation 10 dB,be relative to 50 MHz,σ = Nominal standard deviation。

		Specifications	95% (≈2σ)
Preamp Off	9 kHz to 10 MHz	±0.50 dB	±0.40 dB
	10 MHz to 3 GHz	±0.65 dB	±0.65 dB
	3 GHz to 13.6 GHz	±1.30 dB	±0.80 dB
	13.6 GHz to 19.3 GHz	±1.50 dB	±1.00 dB
	19.3 GHz to 24.2 GHz	±2.20 dB	±1.30 dB
	24.2 GHz to 26.5 GHz	±2.50 dB	±1.40 dB
Preamp On	100 kHz to 10 MHz	±0.60dB	±0.50 dB
	10 MHz to 3 GHz	±1.10dB	±1.00 dB
	3 GHz to 7.5 GHz	±1.40dB	±1.20 dB
	7.5 GHz to 13.6 GHz	±1.20dB	±1.00 dB
	13.6 GHz to 21 GHz	±1.40dB	±1.20 dB
	21 GHz to 24.2 GHz	±2.00dB	±1.80 dB
	24.2 GHz to 26.5 GHz	±2.80dB	±2.40 dB

Input Attenuation Switching Uncertainty

		Specifications	Additional information
Preamp off	50 MHz (reference frequency)	±0.30 dB	±0.15 dB typical
Relative to 10 dB (reference setting)	100 kHz to 3.0 GHz		±0.30 dB nominal
	3.0 GHz to 7.5 GHz		±0.50 dB nominal
	7.5 GHz to 26.5 GHz		±0.70 dB nominal

Total Absolute Amplitude Accuracy

(10 dB attenuation, 20 to 30 °C, 1 Hz ≤ RBW ≤ 1 MHz, input signal −10 to −50 dBm, all settings auto-coupled except Auto Swp Time = Accy, any reference level, any scale)

50MHz	±0.40 dB
At all frequencies	±(0.40 dB+frequency response)
Preamp On	±(0.36 dB+frequency response) nominal

Input Voltage Standing Wave Ratio (VSWR) (0 dB input attenuation)

10 MHz to 26.5 GHz	<2.4 nominal

Resolution Bandwidth Switching Uncertainty (Relative to reference RBW of 30 kHz)

RBW 1 Hz to 3 MHz	±0.15 dB
RBW 4,5,6,8 MHz	±1.0 dB

Dynamic Range

1 dB Gain Compression Point (two-tone)		
		Total power at input mixer
Preamp Off	10 MHz to 7.5 GHz	+6 dBm nominal
	7.5 GHz to 13.5 GHz	+4 dBm nominal
	13.5 GHz to 26.5 GHz	+2 dBm nominal
Preamp On	10 MHz to 7.5 GHz	- 15 dBm nominal
	7.5 GHz to 26.5 GHz	- 19 dBm nominal

Displayed Average Noise Level (DANL)		
Input terminated, sample or average detector, averaging type = Log, 0 dB input attenuation, IF Gain = High, 1 Hz RBW, 20 to 30 °C.		
	Preamp Off	Preamp On
100 kHz to 1 MHz	-125 dBm typical	---
1 MHz to 20 MHz	-130 dBm, -135 dBm typical	-154 dBm, -158 dBm typical
20 MHz to 1.5 GHz	-145 dBm, -150 dBm typical	-160 dBm, -163 dBm typical
1.5 GHz to 4.5 GHz	-144 dBm, -149 dBm typical	-160 dBm, -163 dBm typical
4.5 GHz to 7.6 GHz	-140 dBm, -145 dBm typical	-156 dBm, -161 dBm typical
7.6 GHz to 9.5 GHz	-141 dBm, -147 dBm typical	-158 dBm, -160 dBm typical
9.5 GHz to 13 GHz	-136 dBm, -140 dBm typical	-156 dBm, -160 dBm typical
13 GHz to 14.5 GHz	-138 dBm, -145 dBm typical	-153 dBm, -161 dBm typical
14.5 GHz to 19.3 GHz	-132 dBm, -138 dBm typical	-153 dBm, -157 dBm typical
19.3 GHz to 23 GHz	-134 dBm, -139 dBm typical	-150 dBm, -157 dBm typical
23 GHz to 24 GHz	-128 dBm, -137 dBm typical	-146 dBm, -155 dBm typical
24 GHz to 26.5 GHz	-128 dBm, -133 dBm typical	-144 dBm, -149 dBm typical

Spurious Response				
Residual responses (Input terminated and 0 dB attenuation)	200 kHz to 26.5 GHz (swept)		-90 dBm	
	Zero span or FFT or other frequencies		-100 dBm nominal	
Mirror response (primary mixer)	Tuning frequency (f)	Mixer level		Response
	10 MHz to 26.5 GHz	-10 dBm		-70dBc,-80dBc nominal
Mirror response (secondary mixer)	Tuning frequency (f)	Excitation frequency	Mixer level	Response
	10 MHz to 20.5 GHz	f+1470MHz	-10 dBm	-70dBc,-80dBc nominal

	20.5GHz to 26.5GHz	f-1470MHz	-10 dBm	-70dBc,-80dBc nominal
LO related spurious	10MHz to 26.5GHz	---	-10 dBm	-64dB nominal
Other Spurious				
Intermediate frequency feedthrough	Mixer level		Response	
	-10 dBm		-75 dBc,-80 dBc nominal	
First order RF (f ≥ 10 MHz from carrier)	-10 dBm		-70 dBc,-80 dBc nominal	
Higher order RF (f ≥ 10 MHz from carrier)	-10 dBm		-70 dBc,-80 dBc nominal	
Second Harmonic Distortion (SHI)				
Source frequency	SHI(nominal)			
10MHz to 3.75GHz	+45 dBm			
3.75GHz to 13.25GHz	+62 dBm			
Third Order Intermodulation (TOI)				
Preamp off (mixer input -20dBm, 100kHz frequency interval dual tone signal, 0dB attenuation, 20 °C to 30 °C)	10 MHz to 2 GHz		+12 dBm, +16 dBm Typical	
	2 GHz to 3 GHz		+12 dBm, +17 dBm Typical	
	3 GHz to 7.5 GHz		+12 dBm, +16 dBm Typical	
	7.5 GHz to 13.6 GHz		+11 dBm, +15 dBm Typical	
	13.6 GHz to 26.5 GHz		+8 dBm, +12 dBm Typical	
Preamp on (mixer input -45dBm, 100kHz frequency interval dual tone signal, 0dB attenuation, 20 °C to 30 °C)	10 MHz to 26.5 GHz		-8 dBm nominal	

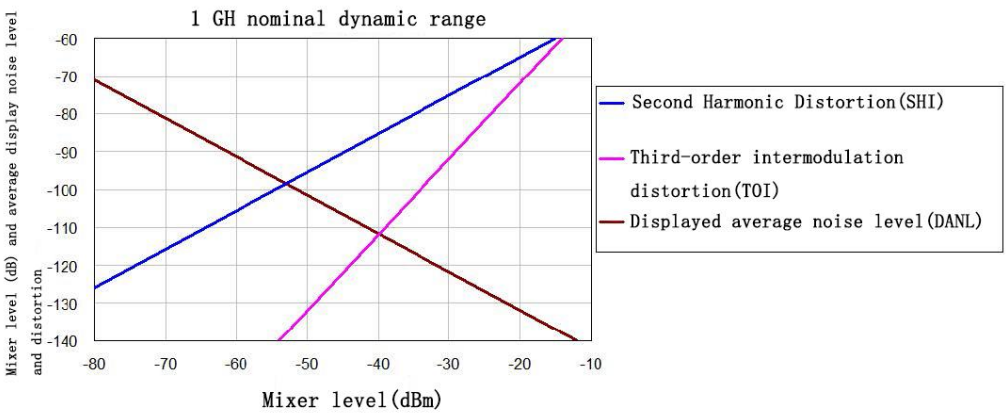


Figure 1.0 Frequency band nominal dynamic range, second-order and third-order distortion, 10

MHz to 3 GHz

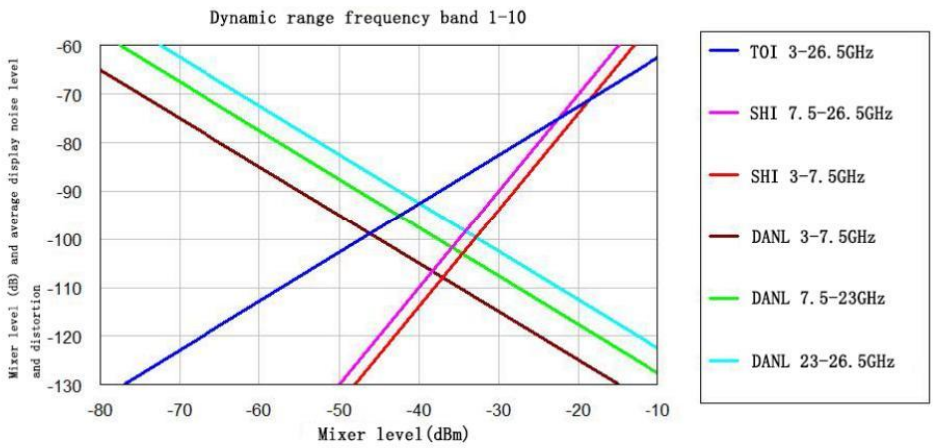


Figure 2. Nominal Dynamic Range - Second and Third Order Distortion, 3 GHz to 26.5 GHz

Phase Noise	Frequency offset	Specifications	Typical
Offset relative to continuous wave signal Fc=1 GHz,RBW=1 kHz,VBW=10 Hz,Sampling detection,Log avg,avg > 50	100 Hz	---	-80 dBc/Hz nominal
	1 kHz	-100 dBc/Hz	-102 dBc/Hz
	10 kHz	-106 dBc/Hz	-107 dBc/Hz
	100 kHz	-108 dBc/Hz	-110 dBc/Hz
	1 MHz	-130 dBc/Hz	-132 dBc/Hz

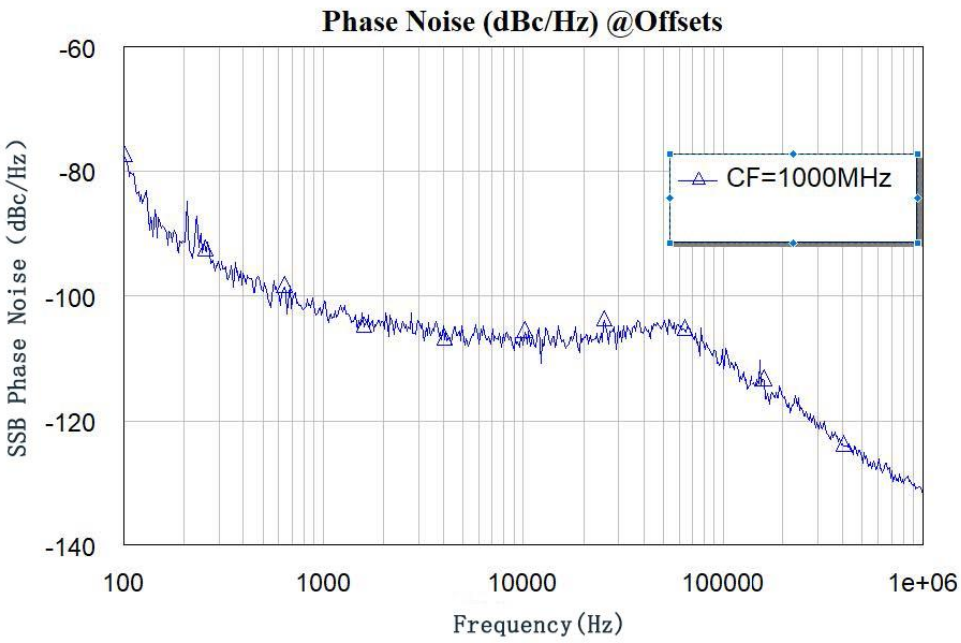


Figure3.Nominal phase noise at 1 GHz center frequency

Advanced Measurement (Option)

Power Suite Measurement	
Channel Power	Channel power,Power integral density
T-power	Zero sweep time integral power
Occupied Bandwidth	Occupancy power, transmission frequency error
Adjacent Channel Power	Main channel power, left adjacent channel power/power ratio, right adjacent channel power/power ratio
Carrier to noise ratio	Carrier power,noise power
Nonlinear Measurement	
Third order intermodulation	Automatic search based on dual tone peak
Harmonic analysis	Maximum number of harmonics 10
Spectrum Monitoring	
Waterfall Plot	

Analog Demodulation (Option)

Demodulation		
Frequency range	2 MHz to 13.6 GHz	2 MHz to 26.5 GHz
Carrier power accuracy	±2 dB,nominal	
Input power	-30 dB to +20 dBm	Automatic attenuation
AM Measurement (option)		
Modulation rate	20 Hz to 100 kHz	
Accuracy	1 Hz (nominal)	Modulation rate < 1 kHz
	< 0.1% Modulation rate(nominal)	Modulation rate ⩾ 1 kHz
Depth	5 to 95%	
Accuracy	±4% (Nominal)	
FM Measurement (option)		
Modulation rate	20 Hz to 100 kHz	
Accuracy	1 Hz (nominal)	Modulation rate < 1 kHz
	< 0.1% Modulation rate(nominal)	Modulation rate ⩾ 1 kHz
Frequency offset	1 kHz to 400 kHz	
Accuracy	±4 % (nominal)	
PM Measurement (option)		
Modulation rate	20 Hz to 100 kHz	

Accuracy	1 Hz (Nominal)	Modulation rate < 1 kHz
	< 0.1% Modulation rate (Nominal)	Modulation rate ≥ 1 kHz
Phase deviation	0.2 to 6.28 rad	
Accuracy	±4 % (Nominal)	

Vector Signal Analyzer(Option)

Measurement Function	
Modulation type	ASK: 2ASK, 4ASK, 8ASK, and 16ASK
	FSK: 2FSK, 4FSK, 8FSK, and 16FSK
	MSK: Type1, Type2
	PSK: BPSK, QPSK, OQPSK, and 8PSK
	BPSK, QPSK, 8BPSK; DQPSK, D8PSK, π/4-DQPSK, π/8-D8PSK, and OQPSK
	QAM: 16, 32, 64, 128, and 256
Measurement symbol length	10 to 4,096
Symbol point/over-sampling rate	4, 6, 8, 10, 12, 14, 16, 20
Symbol rate	1 ksps to Analyzer bandwidth /symbol point
Filter	
Measurement Filter type	No Filter, RRC, Gaussian, EDGE, CDMA and Rectangular
Reference Filter type	Raised Cosine, RRC, Gaussian, EDGE, CDMA, and Rectangular
Filter length	2 to 128
Alpha/BT	0.05 to 1
Display	
Data	IQ measurement time domain, IQ measurement time
	IQ reference time domain, IQ reference frequency domain
	Symbol error statistics, error vector time domain, and error vector frequency domain
	Time domain, IQ amplitude error, and IQ phase error
Format	logarithmic amplitude, linear amplitude, real part, and imaginary part
	IQ diagram, constellation diagram, I (eye diagram), and Q (eye diagram)
	Phase diagram, Phase extension diagram, and phase tree-like diagram

Symbol Error Statistics	
PSK/DPSK/MSK/QAM	EVM (rms EVM, peak EVM), and Magnitude error
	Phase error, IQ offset, Carrier offset, and SNR Quadrature error
	Gain imbalance (not support for MSK)
ASK	ASK Error, ASK depth, and carrier offset
FSK	FSK Error, Magnitude error, FSK deviation, and carrier offset

I/Q Analysis (Option)

Frequency			
Frequency sweep width	Standard parts	10Hz to 25 MHz	
Resolution bandwidth (spectrum measurement)			
Range	1 Hz to 3 MHz		
Window shapes	Flat top, Hanning, Gaussian, Blackman, Blackman-Harris		
Analysis bandwidth			
Standard	25 MHz		
IF frequency response (standard 10 MHz IF path)			
IF frequency response (demodulation and FFT response relative to the center frequency, 20 to 30 ° C)			
Center frequency (GHz)	Span(MHz)	Max error	RMS(Nominal)
≤ 3.0	≤ 10	±0.4 dB	0.03 dB
3.0 < f ≤ 26.5	≤ 10		0.10 dB
IF phase linearity (deviation from mean phase linearity, nominal)			
Center frequency (GHz)	Span(MHz)	Peak-to-peak	RMS(Nominal)
≤ 3.0	≤ 10	0.5°	0.2°
3.0 < f ≤ 7.5	≤ 10	0.5°	0.4°
7.5 < f ≤ 26.5	≤ 10	0.5°	0.4°
Data acquisition (10 MHz IF path),Time record length			
IQ analyzer	5,000,000 IQ sample pairs		
Sample rate at ADC	90 MSa/s		
ADC resolution	14 bits		
Data acquisition (B40 IF path),Time record length			
IQ analyzer	5,000,000 IQ sample pairs		

Sample rate at ADC	90 MSa/s
ADC resolution	14 bits

LTE (Option)

Measurement parameters	
predefined configuration	
Duplex Type	TDD, FDD
Test Model	Uplink: FRC Test Mode/ PUCCH Test Mode
	Downlink: TM1.1, TM2, TM2a, TM2b, TM3.1, TM3.1a, TM3.1b, TM3.2, TM3.3
Carrier Wave	
System Bandwidth	1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
Spectrum mirroring	On, Off
Configuration	0 to 6
Synchronous Mode	Downlink: CRS/ PSS
	Uplink: PUSCH DMRS/ PUCCH DMRS/ SRS
Synchronous Time Slot	0 to Maximum time slot number
Cell ID Source	Downlink: manul
	Uplink: manul
Cell ID	0 to 503
Cyclic Prefix	Normal/ Extended
Total number of Antennas	1 / 2 / 4
Reference signal port	0 to Maximum reference port number
Channel type	Downlink: CRS, PSS, SSS, PCFICH, PDCCH, PHICH, PBCH, PDSCH
	Uplink: PUCCH, PUSCH, SRS
Time	
Time Slot Offset	0 to Maximum time slot number
Symbol Offset	0 to Maximum symbol number of time slot
Measure time slot length	1 to Number of time slots
Measure symbol length	0 to Measure symbol length
View	
Data	Raw Data - Time, Raw data, IQ Meas Time, IQ Meas, IQ Ref Time, IQ Ref, Error Vector Time, Error Vector Spectrum, RB Error Mag Time, RB Error

	Mag Spectrum, Error Statistics Table, Frame statistics table
Format	Log Mag, Linear Mag, Real (I), Imag (Q), I-Q, Constellation, I-Eye, Q-Eye, Phase, Phase unwrapping
Parameter Table	
Error Summary	Channel Power, EVM (RMS/ Peak), Data EVM, Freq Error, Sync Corr, Sync Source, CTE, Time Offset, Cell ID, CP Type
Frame summary	Each channel/ UE: EVM, RE Power, Modulation type

5G NR (Option)

Measurement parameters	
predefined configuration	
Duplex Type	TDD, FDD
Test Model	FR1: TM1.1, TM1.2, TM2.0, TM2.0a, TM2.0b, TM3.1, TM3.1a, TM3.1b, TM3.2, TM3.3
Carrier Wave	
Number of carriers	1
System Bandwidth	FR1: 5 MHz, 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 35 MHz, 40 MHz, 45 MHz, 50 MHz, 60 MHz, 70 MHz, 80 MHz, 90 MHz, 100 MHz
Numerology	15 kHz, 30 kHz
Carrier Type	Downlink: SSB, PDSCH, PDCCH, CSI-RS
	Uplink: PUCCH, PUSCH, SRS
View	
Data	Raw Data - Time, Raw data, IQ Meas Time, IQ Ref Time, RMS Power vs Time, RMS Power vs Frequency, Error Vector time, Error Vector Frequency, RMS Error Vector time, RMS Error Vector Frequency, Results statistics table, Frame statistics table, Time slot statistics table, RE allocation diagram, MIMO information
Format	Log Mag, Linear Mag, Real (I), Imag (Q), I-Q, Constellation, I-Eye, Q-Eye, Phase, Phase unwrapping, Phase tree diagram
Parameter Table	
Result Statistics Table	Channel Power, EVM (RMS/Peak), Freq Error, Symbol clock deviation, IQ Offset, Time Offset, Sync correlation, Sync Source, Mag Error, Phase Error, IQ Gain Imbalance, IQ Quad Error, IQ Timing Skew, Cell ID
Frame statistics table	Each channel/ UE: EVM, RE Power, Modulation Type, RB Number, RNTI
Time slot statistics table	Each time slot (Classified by channel/UE): EVM, REPower, Modulation Type, RB Number, SINR
MIMO	Port number, EVM, Power, TAE, Freq Error, Phase Error, Symbol clock

	deviation

Phase Noise (Option)

Measurement parameters		
Mode	UTS5013A	UTS5026A
Frequency range	100 kHz to 13.6 GHz	100 kHz to 26.5 GHz
Min offset frequency	10 Hz	
Max offset frequency	Max measurement frequency - Measure signal frequency	
Measurement function		
View	Monitor, Spot Frequency, Log Plot, IQ Waveform	
Measurement Type	Phase Noise, DANL Floor	
Marker Function	Noise Degree, Noise Radian, Noise Jitter, Noise dBc, Residual FM (Weighted Integ), Averaged Noise Density	

Interface and Display

Common Interface	
Front RF input	NMD 2.92 male head
10MHz Ext Ref input	10 MHz,- 5 dBm to +10 dBm,50 Ω,BNC pubic head
10MHz Ref output	10 MHz,> 0 dBm,50 Ω,BNC pubic head
External trigger input	TTL,BNC pubic head
HDMI display	19 pin HDMI connector
USB-Host	Front panel:USB-A 3.0 Rear panel:USB-A 2.0
USB-Device	USB-B 2.0
LAN	LAN(VXI11),10/100/1,000 Base,RJ-45
Headphone Jack	3.5 mm (1/8 inch) miniature stereo audio jack
Display Screen	
Display Type	15.6 inch High definition capacitive touch screen
Display resolution	1920 x 1080

General Technical Specifications

Specifications		
Supply voltage	100 to 240 VAC (Fluctuations± 10%)	100 to 120 VAC (Fluctuations± 10%)
Frequency	50 / 60 Hz	400 Hz
Environment		
Temperature range	Operation:0 °C to +40 °C	
	Non-operational:-20 °C to +60 °C	
Cooling method	Fan forced cooling	
Humidity range	Operation:Below +35 °C ≤ 90%relative humidity; Non-operational:+35 °C to +40 °C ≤ 60%relative humidity	
Altitude	operation:Below 3000 m;Non-operational:Below 15,000 m	
Pollution degree	2	
Usage environment	Indoor use	
Mechanical Specifications		
Dimensions	445 mm×311 mm×195 mm (Width x Height x Length)	
Net weight	About 11kg	
Calibration cycle	The recommended calibration circle is one year	
Regulatory Standards		
EMC	Compliance with EMC directives(2014/30/EU),Conform to or better than IEC 61326-1:2021/EN61326-1:2021,IEC 61326-2-1:2021/EN61326-2-1:2021	
Conductive disturbance	CISPR 11/EN 55011	CLASS B group 1,150kHz-30MHz
Radiation disturbance	CISPR 11/EN 55011	CLASS B group 1,30MHz-1GHz
Electrostatic discharge (ESD)	IEC 61000-4-2/EN 61000-4-2	4.0 kV(Contact),8.0 kV(air)
Radio frequency electromagnetic field immunity	IEC 61000-4-3/EN 61000-4-3	0 V/m(80 MHz to 1 GHz); 3 V/m(1.4 GHz to 2 GHz); 1 V/m(2.0 GHz to 2.7GHz)
Electrical fast transient burst (EFT)	IEC 61000-4-4/EN 61000-4-4	2 kV(AC input port)
Surge	IEC 61000-4-5/EN 61000-4-5	1 kV(Live line to zero line) 2 kV(Fire/zero line to ground)
Immunity to RF continuous conduction	IEC 61000-4-6/EN 61000-4-6	3 V, 0.15-80 MHz

Voltage dips and short interruptions	IEC 61000-4-11/EN 61000-4-11	Voltage dip: 0% UT during 1 cycle; 40% UT during 10/12 cycles; 70% UT during 25/30 cycles Short Interruption:0% UT during 250/300 cycles
Safety Regulations		
	EN 61010-1:2010+A1:2019 EN IEC61010-2-030:2021+A11:2021 UL 61010-1:2012 Ed.3+ R:19 Jul2019 UL 61010-2-030:2018 Ed.2 CSA C22.2#61010-1:2012 Ed.3+U1; U2; A1 CSA C22.2#61010-2-030:2018 Ed.2	

Ordering Information

	Description	Ordering No.
Models	Signal Analyzer,9 kHz to 13.6 GHz	UTS5013A
	Signal Analyzer,9 kHz to 26.5 GHz	UTS5026A
Standard accessories	Power cord × 1	
	USB cable × 1	UT-D14
Optional accessories		
Options	UTS5026A Preamplifier,26.5GHz	UTS5000A-P26
	UTS5013A Preamplifier,13.6GHz	UTS5000A-P13
	Advanced Measurement Kit	UTS5000A-AMK
	EMI Analysis	UTS5000A-EMI
	Analog Demodulation Measurement	UTS5000A-AMA
	I/Q Analysis	UTS5000A-I/Q
	Vector Signal Analysis	UTS5000A-VSA
	Phase Noise Analysis	UTS5000A-PNM
	FDD-LTE Signal Analysis	UTS5000A-FDD-LTE
	NR Signal Analysis	UTS5000A-NR
	TDD-LTE Signal Analysis	UTS5000A-TDD-LTE
UT-CK02 accessories kit	UT-W03-40GHz-2.92J RF Cable × 1	UT-W03-40GHz
	RF connector 2.92-KKG Double pubic head × 2	UT-C04-40GHz
	UT-C03-18GHz RF connector SMA-N × 1	UT-C03-18GHz
UTS-EMI01 Near-field probes kit	50Ω-SMA-SMB Cable × 1	UT-W03
	Adapter SMA-N-KJ-T DC-6GHz × 1	UT-C01
	Near field probe,frequency range 30 MHz-3 GHz,Detection range 10 cm × 1	NFP-3G-P1
	Near field probe,frequency range30MHz-3GHz,Detection range 3 cm × 1	NFP-3G-P2
	Near field probe,frequency range30MHz-2GHz,resolution 5 mm × 1	NFP-2G-P3
	Near field probe,frequency range30MHz-3GHz,resolution 2 mm × 1	NFP-3G-P4

Options ordering and installation

1. Purchase options: Based on your requirements, please purchase the specified function options from Uni-t Sales Personnel and provide the serial number of the instrument that needs the option installed.
2. Receive certificate: You will receive the license certificate based on the address provided in the order.
3. Register and obtain license: Visit the Uni-t official website license activation session for registration. Use the license key and instrument serial number provided in the certificate to obtain the option license code and license file.
4. Install the option: Download the option license file to the root directory of a USB storage device, and connect the USB storage device to the instrument. Once the USB storage device is recognized, the Option Install menu will be activated. Press this menu key to begin installing the option.

Limited Warranty and Liability

UNI-T guarantees that the Instrument product is free from any defect in material and workmanship within three years from the purchase date. This warranty does not apply to damages caused by accident, negligence, misuse, modification, contamination, or improper handling. If you need a warranty service within the warranty period, please contact your seller directly. UNI-T will not be responsible for any special, indirect, incidental, or subsequent damage or loss caused by using this device. For the probes and accessories, the warranty period is one year. Visit instrument.uni-trend.com for full warranty information.

Learn more at: www.uni-trend.com

Register your product to confirm your ownership. You will also get product notifications, update alerts, exclusive offers and all the latest information you need to know.

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