

TW4401 Series Microwave Multifunctional Analyzer



Order Code **TW4401**

Maxwellon TW4401 series Microwave Multifunctional Analyzer has the wide frequency range from 30kHz to 40GHz. It integrates multiple functions such as dual-port vector network analysis, cable and antenna feeder test, vector voltage measurement, spectrum analysis, field strength measurement, and power measurement, providing you with powerful comprehensive test capabilities. TW4401 series RF analyzer is widely used in the radar performance test and cable TV, wireless communication field.

Features:

- Dual-port vector network analysis can make comprehensive RF network parameters measurement quickly and accurately, providing logarithmic, linear, phase, group delay, impedance chart, polar coordinate, SWR and other display formats, and providing time domain measurement options.
- Cable and antenna feeder test can measure the SWR, return loss, impedance, cable loss and other parameters of microwave networks such as antenna feeders, transmission lines and cables, and can conveniently measure impedance discontinuity points in feeders and cables, with DTF function.
- Vector voltage measurement adopts an integrated solution instead of the traditional vector voltmeter to accurately test the electrical length of cables and some other devices under test.
- Spectrum analysis is a spectrum analyzer with standard functions, which can measure the spectrum characteristics comprehensively in an electromagnetic environment.
- Field strength measurement has a friendly user interface and high test sensitivity. With the corresponding test antenna, it can effectively monitor the electromagnetic spectrum and is widely used in space electromagnetic environment monitoring and radio management.
- USB power sensor is configured to achieve large dynamic range and high-precision power measurement, and can also carry out power monitoring through the spectrum input port.
- Data storage, playback and comparison functions
- Intergrate USB, LAN and other interfaces

Specifications

Vector Network Analysis(Standard Configuration)	
Frequency Range	TW4401D: 30 kHz to 18 GHz, TW4401E: 30 kHz to 26.5 GHz, TW4401F: 50 MHz to 40 GHz

Frequency Accuracy	$\pm 1 \times 10^{-6}$
Power Range	Big, small, manual
Effective Directivity	TW4401D: 32dB – 40dB, TW4401E: 30dB – 40dB, TW4401F: 28dB – 35dB
Spectrum Analysis(Standard Configuration)	
Frequency Range	TW4401D: 100 kHz to 18 GHz, TW4401E: 100 kHz to 26.5 GHz, TW4401F: 100 kHz to 40 GHz
Resolution Bandwidth	1Hz – 5MHz (step by 1,3,10)
Video Bandwidth	1Hz – 5MHz (step by 1,3,10)
Displayed Average Noise Level (Preamplifier On)	TW4401D: -140dBm to -151dBm, TW4401E: -138dBm to -151dBm, TW4401F: -135dBm to -151dBm
Displayed Average Noise Level (Preamplifier Off)	TW4401D: -120dBm to -135dBm, TW4401E: -116dBm to -135dBm, TW4401F: -113dBm to -135dBm
Noise Sideband (CF=1GHz)	<ul style="list-style-type: none"> • $\leq -99\text{dBc/Hz}@100\text{kHz}$ • $\leq -110\text{dBc/Hz}@1\text{MHz}$
Residual Response	TW4401D: $\leq -80\text{dBm}$, TW4401E: $\leq -80\text{dBm}$, TW4401F: $\leq -70\text{dBm}$
Max. Safety Input Level	+27dBm
Cable & Antenna Feeder Test(Optional)	
Frequency Range	TW4401D: 30 kHz to 18 GHz, TW4401E: 30 kHz to 26.5 GHz, TW4401F: 50 MHz to 40 GHz
Frequency Accuracy	$\pm 1 \times 10^{-6}$
Power Level	Big, small
Data Points	11 – 10001
Effective Directivity	TW4401D: 32dB – 40dB, TW4401E: 30dB – 40dB, TW4401F: 28dB – 35dB
Power Monitoring(Optional)	
Frequency Range	TW4401D: 100 kHz to 18 GHz, TW4401E: 100 kHz to 26.5 GHz, TW4401F: 100 kHz to 40 GHz
Power Range	TW4401D: -60dBm to +20dBm, TW4401E: -60dBm to +20dBm, TW4401F: -50dBm to +20dBm
General Specificaitons	
Test Port	<ul style="list-style-type: none"> • TW4401D: Type-N (f)

	<ul style="list-style-type: none"> • TW4401E: 3.5mm (m) • TW4401F: 2.4mm (m)
Power Supply	Rechargeable lithium-ion battery or power adapter
Dimension	315mm × 220mm × 102mm (excluding the handle and bracket)
Weight	5.3kg (excluding battery)

Ordering Infoamtion

Part No.	Name	Description
TW4401D	Microwave Multifunctional Analyzer	100 kHz / 30 kHz to 18 GHz
TW4401E	Microwave Multifunctional Analyzer	100 kHz / 30 kHz to 26.5 GHz
TW4401F	Microwave Multifunctional Analyzer	100 kHz / 50 MHz to 40 GHz

Options

Part No.	Name	Description
TW4401-H01	Rechargeable Lithium-ion Battery	Backup
TW4401-H02	AC-DC Adapter	Backup
TW4401-H04	M31101A N-type Male Calibration Kit	DC - 18GHz, Calibrate for vector network analysis, antenna test and vector
TW4401-H05	S31101B N-type Female Calibration Kit	DC - 18GHz, Calibrate for vector network analysis, antenna test and vector
TW4401-H06	M 31121 3.5mm Calibration Kit	DC - 26.5GHz, Calibrate for vector network analysis, antenna test and vector
TW4401-H07	M 31123 2.4mm Calibration Kit	DC - 40GHz, Calibrate for vector network analysis, antenna test and vector
TW4401-H08	N (M-M) Calibration Cable	Calibration or Cable test
TW4401-H09	N (F-M) Calibration Cable	Calibration or Cable test
TW4401-H10	3.5mm (F-F) Calibration Cable	Calibration or Cable test
TW4401-H12	2.4mm (F-F) Calibration Cable	Calibration or Cable test
TW4401-H13	2.4mm (F-M) Calibration Cable	Calibration or Cable test
TW4401-H14	M 87230 USB Power Sensor	9kHz - 6GHz, For high-precision power measurement
TW4401-H15	M 87231 USB Power Sensor	10MHz - 18GHz, For high-precision power measurement
TW4401-H16	M 87232 USB Power Sensor	50MHz - 26.5GHz, For high-precision power measurement
TW4401-H17	M 87233 USB Power Sensor	50MHz - 40GHz, For high-precision power measurement

TW4401-H18	M 89101A Antenna	10kHz - 20MHz, For Field Strength Measurement
TW4401-H19	M 89101B Antenna	20MHz - 200MHz, For Field Strength Measurement
TW4401-H20	M 89101C Antenna	200MHz - 500MHz, For Field Strength Measurement
TW4401-H21	M 89101D Antenna	500MHz - 4000MHz, For Field Strength Measurement
TW4401-H22	M 89901 Antenna	1GHz - 18GHz, For Field Strength Measurement
TW4401-H23	M 89401 Antenna Amplifier	10kHz - 4GHz, For Field Strength Measurement
TW4401-H24	M 71522D Attenuator	(40dB,25W), For high power measurement
TW4401-H25	M 71523C Attenuator	(40dB,50W), For high power measurement
TW4401-H26	M 71524C Attenuator	(40dB,100W), For high power measurement
TW4401-H27	M 71101 Adapter	N(F)-N(F), For switching between connectors
TW4401-H28	M 71115 Adapter	3.5mm(M)-N(F), For switching between connectors
TW4401-H29	M 71116 Adapter	3.5mm(M)-N(M), For switching between connectors
TW4401-H30	M 71117 Adapter	3.5mm(F)-N(M), For switching between connectors
TW4401-H31	M 81101 Adapter	N(M)-N(F), For switching between connectors
TW4401-H32	Soft Backpack	For carrying
TW4401-H33	Aluminum Carrying Case	For transportation
TW4401-H34	Waterproof Safety Box	For transportation
TW4401-H35	M 89901 Antenna Handle	Used with option H22 antenna
TW4401-S02	Antenna Test	For testing RL, VSWR, Breakpoint of cable and antenna
TW4401-S03	Vector Voltmeter	For testing cable phase shift and electrical length
TW4401-S04	USB Power Measurement	External USB power probes can conduct precise measurement of continuous wave signal (need additional USB power sensors)
TW4401-S05	Power Detection	Receiving external signal at spectrum input port in order to measure signal power
TW4401-S06	Field Strength Measurement	Measure the field strength with the corresponding antenna (need additional antenna)
TW4401-S07	GPS Positioning	Provide geographical information such as longitude, latitude and altitude (including GPS antenna)

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MAXWELLON ELECTRONIC INSTRUMENTS CO.,LTD.

NO.153 Zhuzhou Rd.,Laoshan District, Qingdao 266100, China.

Tel: 0086-532-80977508 Fax: 0086-532-80977508

E-mail: Sales@Maxwellon.com