NA7100/NA7300
Vector Network Analyzer

Overview

NA7300/7100 is mainly applied for Communication, Satellite, Wireless TV & Broadcast and CATV industries.

1. Application

- Communication: Antenna, Amplifying Module, Coaxial Cable, Connector and so on
- Satellite TV: Amplifiers, Spliters and so on
- Wireless Broadcasting & TV: Antenna, Transmitter
- CATV: Amplifiers, Spliters and so on
- Other industries: researching and manufacture of crystal, surface acoustic and cable.

2. Main Testing Functions

Transmission, Insertion Loss, Gain, Insertion Phase, Isolation, Group Delay, Return Loss, VSWR, Impedance, Center Frequency of Crystal, surface acoustic, 3dB Bandwidth, In-band flatness, Out-band Restrain, Rectangle Coefficient, Q-Value and so on

3. Model

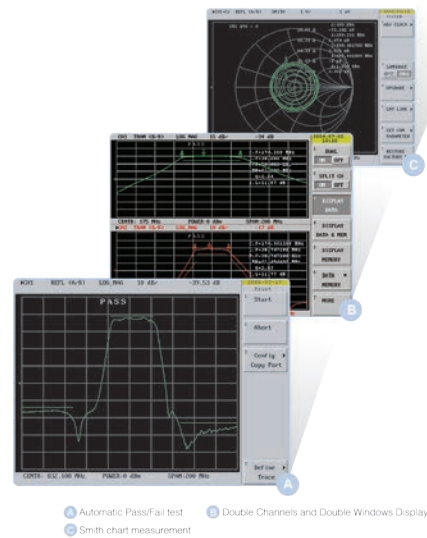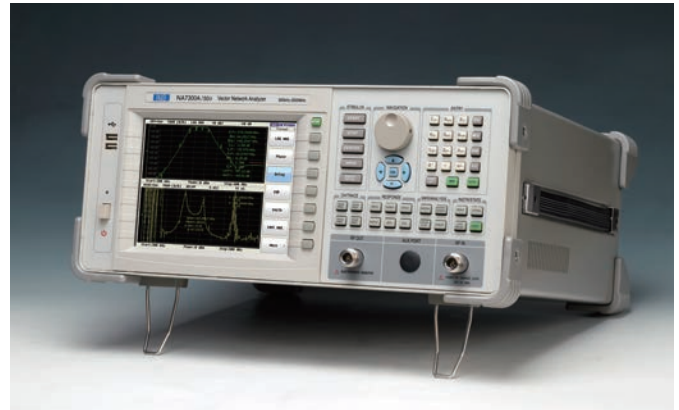NA7300A/NA7100A   50 Ω

NA7300B/NA7100B   75 Ω

Features

- Two channels, Four traces display
- Fast sweep time
- Save/ print/ recall function
- USB, parallel, RS-232 and VGA,LAN interface
- Automatic PASS/FAIL judgement

A Automatic Pass/Fail test   B Double Channels and Double Windows Display
C Smith chart measurement

Specifications

	NA7300	NA7100
Source		
Frequency Range	300 kHz ~ 3 GHz	300 kHz ~ 1.3 GHz
Frequency stability	≤±5 ppm	≤±5 ppm
Frequency Resolution	1 Hz	1 Hz
Phase Noise	≤ -65 dBc/Hz @10 kHz	≤-67 dBc/Hz (10 kHz Offset)
Output Level Range	-48 dBm ~ +10 dBm	-50 dBm ~ +10 dBm
Level Accuracy	≤±1.5 dB (-45 dBm ~ +5 dBm)	≤±1.5 dB (25 ℃+5 ℃)
Harmonic Rejection	≥-30 dBc (>1 MHz) ≤-25 dBc (≤1 MHz)	≥-30 dBc(>1 MHz) ≤-25 dBc(≤1 MHz)
Directivity	≥50 dB (After Vector calibration)	≥50 dB (After Vector calibration)
VSWR	≤1.3	≤1.3
Receiver		
Resolution Bandwidth	100 Hz ~ 15 kHz	100 Hz ~ 15 kHz
Dynamic Range	≥100 dB (RBW=1 kHz)	≥100 dB (RBW=1 kHz)
Level Accuracy	≤±1.5 dB	≤±1.5 dB
Measurement Resolution	0.01 dB	0.01 dB
Maximum Input Level	+ 10 dBm	+ 10 dBm
VSWR	≤1.2	≤1.2
Phase		
Phase Resolution	0.01 °	0.01 °

|	NA7300	NA7100
Phase Stability	0.5 ° (RBW=1 kHz) 1 ° (RBW=3 kHz)	0.5 ° (RBW=1 kHz) 1 ° (RBW=3 kHz)
Display		
Sweep Time	150 ms/field ~ 20 s/field (201points)	150 ms/field ~ 5 s/field (201points)
Display	7.5" Color TFT LCD	7.5" Color TFT LCD
Measurement		
Measurement Channels	2 channels,4 tracks	
Measurement Format	A,B,R,A/R,B/R,A/B	
Measurement Parameters	Logarithm amplitude, Linearity amplitude, Phase, Group delay, Real part, Imaginary part. VSWR, Smith chart, Pole chart	
Interface		
Front Panel	Type-N Input and Output port,USB1.1 port	
Rear Panel	RS-232, Parallel interface, Standard VGA output and Standard keyboard interface	
Others		
Power Supply	AC 90 V ~ 250 V / 50 Hz, P≤113 W	
Weight	15 kg	
Working Environment:	Temperature: -10 ℃ ~ 40 ℃,Humidity: ≤75%	
Store Environment:	-10 ℃ ~ 50 ℃	
Inside Storage	1 G Byte	
Dimension	400 mm × 220 mm × 470 mm	

Application

NA7300/NA7100 is the best combination of high speed, accuracy, productive and low cost. It helps reduce the testing time, increase output, and lower the overall cost of components. The analyzer is qualified in testing typical RF components such as: Filter, Amplifier, Antennas, Cables, Taps, and Splitters.
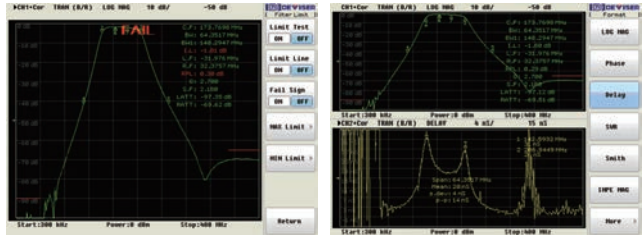
Amplifier Measurement

With high precision receiver and accurate signal level from signal source, NA7300/NA7100 can perform qualitative measurement: working frequency range, gain, flatness, AGC feature, return loss and isolation, and gain compression of amplifier. Also, power sweep function can catch 1dB compression point of amplifier. NA7300/NA7100 provides various tests and display modes to support high accuracy testing, especially for reflection strictly requested in bidirectional digital HFC network.
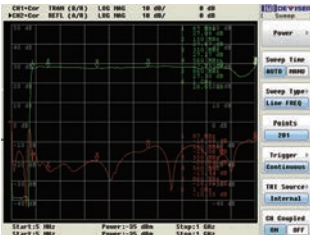
Gain and Reflection loss

Splitter Measurement

NA7300/NA7100 can measure transmission and reflection parameter of splitter including insertion loss, flatness, isolation, return loss and so on.

800~2400MHz

Filter Measurement

NA7300/NA7100 can not only test various types of filter transmission and reflection, but also with intelligent analysis module accurately display center frequency, NdB bandwidth, insert loss, Q value and group delay. Also its automatic Pass/Fail function can significantly speed up the test.

The special two windows mode helps users to test filter both in narrowband and wideband and all filter parameters list can be displayed.
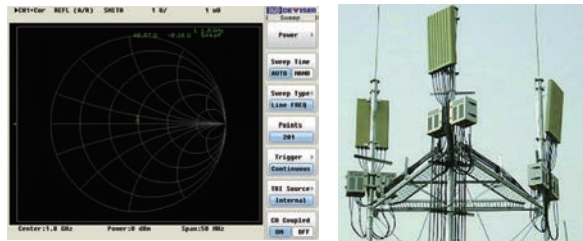
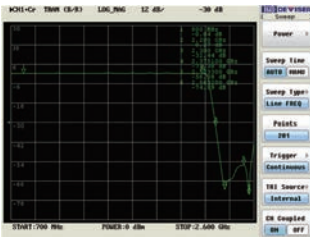Auto Diagnose   Dual Windows

Antenna Measurement

The main function parameters of antenna are gain, input impedance, standing wave ratio, polarization method, and return loss. With NA7300/NA7100 you can easily test medium wave antennas, short wave antennas and the antennas with the frequency under 3000MHz.
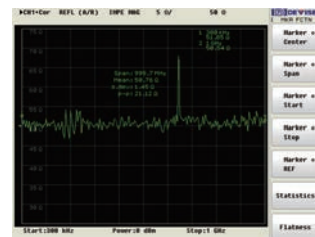
Antenna Impedance

Cable Measurement

NA7300/NA7100 can get the cable loss and transmission constant through measure the cable's parameters: insertion loss, impedance, return loss, standing wave ratio and so on. And every point measurement speed can be set between 0.3ms~20ms.

Impedance Mis–matching