

NTPIMS-XXXX S parameter & PIM parameter auto switching test system

This S parameter & PIM parameter auto switching test system is based on Rflight leading product PIM test system, in cooperation with Keysight utilized its new generation of vector network analyzer E5072A along with Rflight active, passive equipments and low intermodulation RF switch matrix through software automatic control to realize single port testing of S parameter & PIM parameters. This is a total solution to use one single test system without cable changing to achieve various parameters testing through software auto switching which greatly improved the testing efficiency of the manufacturers, it's a breaking through to the S parameter & PIM parameters seamless testing market in China. The test system characterized with logical design, convenient operation, easy to upgrade, high reliability. This test system is a customized design (in cooperation with Keysight design) based on our long term cooperation with antenna manufacturing customer for their automatic antenna production requirements.

This innovative test system design gives better performance with lower cost for PIM & S parameters in compare with the conventional design, the features of this test system including: flexible configuration, fast test speed, excellent accuracy, its an ideal replacement for current PIM test system.

Nowadays passive components PIM testing, it will take long time for connecting and disconnecting which is much longer than testing itself. This test system which opens up the some of the test ports of internal receiver and signal source, these ports are located at the front panel. During PIM & S parameters testing, it's not required to change DUT physical connection which means only one time DUT connection and disconnection we can achieve both PIM & S parameters testing which greatly improved the manufacturing efficiency. This test system has outstanding RF performance, suitable for high speed sweep, especially it's frequency sweep function which do not need extra time to control other equipment's operation, it's greatly saved the time for PIM sweep test.

This test system featured with accurate power calibration function to compensate power amplifier's output power changes



- Freq Coverage: DD800, CDMA800, EGSM900, DCS1800, PCS1900, WCDMA2100, LTE2600
- System self IMD3 less than -165dBc, meeting the test requirements for dual ports base station antenna
- Test port power rate: 2 channel carrier wave signal, min. +33dBm to max. +43dBm
- Multi protections and inspection functions
- Flexible combinations, to achieve multi freq. band automatic test through switch matrix
- Capable for test of IMD3, 5, 7, 9, 11
- Automatic testing of S parameter through RF switch matrix
- Periodic calibration through software to ensure testing accuracy
- effective heat radiation, high reliability
- capable to present written test report
- through software control easily realize the test mode switching: point of frequency, sweep of frequency, transmit and reflect tests

Software Operation Interface:

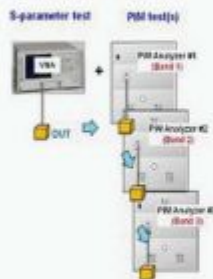


MAJOR PRODUCTS



RFLIGHT COMMUNICATION ELECTRONIC CO.,LTD.

Old Design



New Design

PIM & S-parameter test

EM-based Solution



NTPIMS-0810 S parameter & PIM parameter auto switching test system, equipment required:

Name	Model	Quantity
Vector Network Analyzer	E5072A	1
Signal Source	N5181A	1
Power Meter	U2001A	1
Power Amplifier	NTPIM-0810	2
Passive Test Module	NTPIMD-800	1
Passive Test Module	NTPIMD-900	1
RF Switch Matrix	NTDPDT-4X10	1
Network Port Switch		1

NTPIMS-0810 Key Technical Data:

- **Testing signal:**
CDMA800/EGSM900 IMD3,5 transmission signal
S parameter test
Input signals:
Keysight MXG N5181A & vector network analyzer E5072A CW signals
Test port power rate: 2 channel carrier wave signal, min. +33dBm to max. +43dBm
Output power accuracy: +/-0.35dB typical
System test ports output power were detected and corrected through Keysight U2001A power meter to ensure output power rate accuracy.
- **Receiver:**
Utilize Keysight vector network analyzer for IMD3,5 intermodulation signal analysis and S parameter test
Average low noise:-145dBm, maximum
Dynamic range: 100dB, typical
Linear working condition max. signal input power: -60dBm
Max. safe input power:20dBm
- **Safety**
Reflect power rate protection (UUT protection): >=50dBm (100w)
Over VSWR protection (VSWR>=3) Over heat protection (>=+60 C)
Test equipment protection
ESD protection to interfaces +/-2kV
- **System residual intermodulation**
Self intermodulation: <=168dBc typical (reflect mode) (2x43dBm)
<=160dBc typical (transmit mode) (2x43dBm)
Capable to test S parameter of multi-port base station antenna through software and RF switch matrix
System Uncertainty: <2dB@95% confidence level (3.8dB according to IEC)
Repeatability (GR&R): <20%
- **Size:** 440mmX600mmX8Umm (Active Module)
440mmX600mmX3Umm (Passive Module)
- **Power supply:** 100-240VAC, 50/60 Hz
- **Working Temperature:** +5~+30C
- **System software:**
Test result can be saved through dedicated port, automatic generate test report in Word format, screenshot is allowed for all test data
Intermodulation system adopts power meter detecting system power output
System calibration items: Power rate calibrate, system intermodulation calibrate, system S parameter calibrate
System calibrate time: <=1 hour
System calibrate time cycle: >1 month
Testing modes: point freq. test, time domain test, sweep freq. test, S parameter test
Telecom. interface: GPIB, USB, LAN
Recommended to use printer with USB port, either black&white or color printer

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