

## NTPIM-XXXXE Series Portable Outdoor PIM Test System

In order to meet the telecom. carrier's demand for testing of the passive intermodulation for antennas, Rflight specially designed NTPIM-XXXXE Series Portable Outdoor PIM test system. This portable system is characterized with high reliability, excellent accuracy, low cost, light weight, easy operation, portability etc. It's a perfect solution to telecom carrier's outdoor testing task of the passive intermodulation for antennas, it's also a handy tool for telecom. components manufacturers for production line complete testing, a truly daily necessity toolkit



- Frequency Coverage: CDMA800, GSM900, DCS1800, TD-SCDMA2000, UMTS2100, LTE2600
- System IMD3 test accuracy is min -168dBc, capable to test various passive base station antennas
- Test port power rate: 2 channel carrier wave signal, min. +30dBm to max. +46dBm
- Multi protections and inspection functions
- Capable for test of IMD3, 5, 7 signals
- High accuracy, good repeatability
- Effective heat radiation, high reliability
- Outstanding cost-effectiveness
- High test speed, easy to operate

### Software Operation Interface:



### What's the passive intermodulation?

Passive Intermodulation is the nonlinear distortion of the radio frequency passive components, while 2 or more than 2 signals transmit through the components with nonlinear characters, the combined signals mixed together which will lead to spurious signal—passive intermodulation, once the passive intermodulation goes into receiver's band width, the intermodulation interference will occur.

### Where's the passive intermodulation?

The passive intermodulation is widely spreading through the fields of RF passive components: mobile communication base station antennas, RF coaxial cables, filters, duplexers, couplers, lightning arresters etc.

### What's the cause of passive intermodulation?

1. Product designing, manufacturing flaws
2. Product containing magnetic substances (for example: Fe, Ni, Cr etc.)
3. Products connected with different dielectric metals
4. Poor soldering during the production
5. The contact surface is not smooth, clean or erode while connecting the products

### What's the harmfulness of the passive intermodulation?

If the passive intermodulation goes into uplink band it will interfere with mobile communication makes system Signal Noise Rate deteriorate, occupies channel resources, severely affecting communication capacity and quality, to end user the immediate impact is frequent drop calls, noise & crosstalk

## NTPIM-XXXXE Series Portable Outdoor PIM Test System Specifications

Model	Telecom standards	Signal Source Freq. Accuracy(PPM)	Transmit band (MHz)	Receive band (MHz)	Reflect IMD test (+43dBm)(dBc)
NTPIM-800E	NADC/AMPS	±2	869-894	824-849	-165
NTPIM-900E	GSM900	±2	925-960	880-915	-165
NTPIM-1800E	DCS1800	±2	1805-1880	1710-1785	-165
NTPIM-1900E	PCS1900	±2	1930-1990	1850-1910	-165
NTPIM-2100E	UMTS2100	±2	2110-2170	1920-1980 2050-2060	-165* -165

Remarks: \* indicate IMD7, rest are IMD3

### Key Technical Data:

- **Test objective signal:** IMD3, 5, 7 reflective transmission signal
- **Testing signal:**
  - Freq: Achieving the compatibility of AMPS800, EGSM900, DCS1800, PCS1900, UMTS2100
  - Freq accuracy: ±2ppm (typical) , ±5ppm (max)
  - Test port power rate: 2 channel carrier wave signal, min. +33dBm to max. +43dBm
  - Display: System front panel
  - Data Access: test result can be saved through dedicated port
- **Receiver:**
  - Average Noise Floor: ≤-135dBm (typical)
  - Dynamic Range: 75 dB (typical)
  - Receiver accuracy: ±0.5dB@ (-55~ -120dBm)
  - Max effective input power: -55dBm (transmit & receive freq. mix)
  - Reflect power protection 43dBm (20w)
  - Over VSWR protection (VSWR≥3)
  - Over heat protection (≥+60°C)
  - Self intermodulation (reflect): ≤-165dBc (typical) (2 x 43dBm)
- **Pre-heat:** 3 minutes
- **Power supply:** 110-240V AC, 50/60Hz. DC,AC dual power supply, exterior power supply supported
- **Working temperature:** Max, working temperature: -10°C~+45°C  
recommended working temperature: +15°C~+25°C
- **Measuring modes:** Point freq test, Time domain test, Sweep freq test
- **Remote Control:** RS232, USB, LAN (TCP/IP) (optional)
- **Print:** recommended to use printer with USB port, either black&white or color printer
- **Dimensions:** 570mmx416mmx282mm