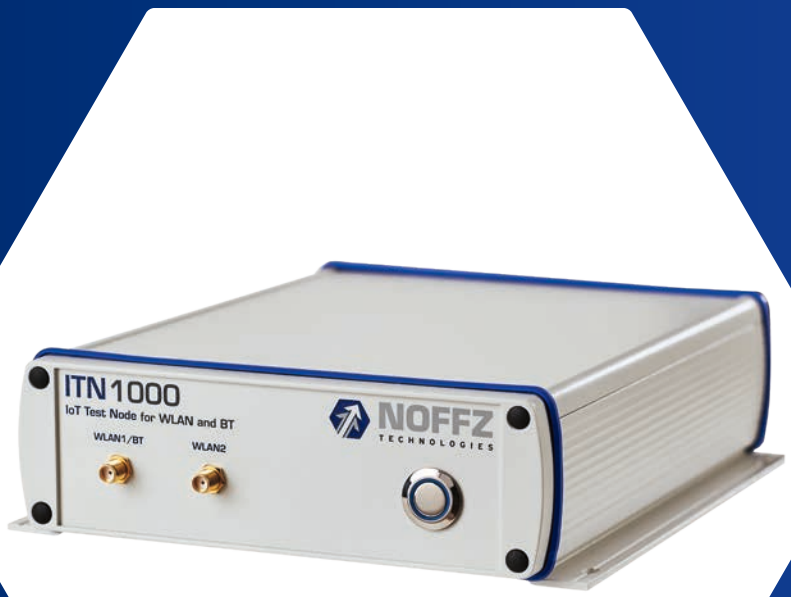
NOFFZ TECHNOLOGIES

# IOT TEST NODE 1000

## FOR WLAN AND BLUETOOTH™
## INDUSTRIAL RF- AND WIRELESS APPLICATION TEST SOLUTION




## PRODUCT

**Product Applications:** Application Level Functional RF Test for Production and Validation

**FAST › FLEXIBLE › FOCUSED**

## FEAUTRES AND HIGHLIGHTS

Development, prototyping, validation and production testing of wireless devices in the world of IoT need low cost, easy-to-use test equipment with support for the latest standards.

- Spend only a fraction of the cost compared to traditional instrumentation
- Wi-Fi 6E: 802.11ax/ac/n/a/g/b, 2x2 MIMO, 2/5/6 GHz
- Bluetooth™: 5.2 BDR/EDR/BLE
- Compact, industrial form factor and connections
- Conducted or radiated measurements for multiple DUTs
- Automate test cases in any sequencer or custom script.


**IoT Test Node** for WLAN and Bluetooth™
with SMA connectors for RF and Ethernet (PoE) to control

## INDUSTRIAL WI-FI ACCESS POINT, CLIENT SIMULATOR AND BLUETOOTH™ PEER DEVICE

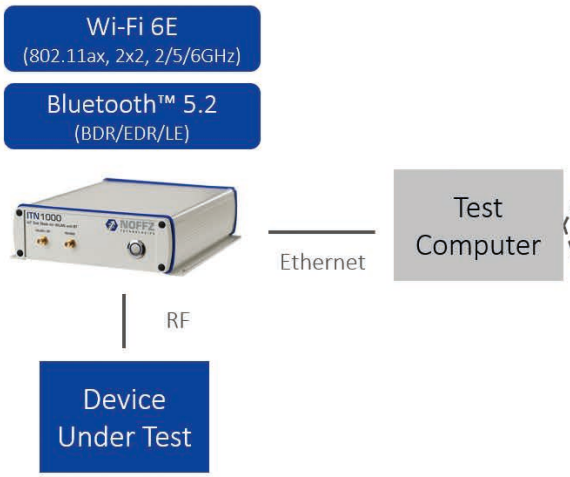
When the final application firmware is loaded to your device, and there is no need to run parametric tests with expensive instrumentation again, but you need more control, reliability and engineering level access to parameters than a Wi-Fi router or BT dongle can provide, then the IoT Test Node is your perfect test tool.

IoT Test Node is designed for automated test, you can reach all functions through a modern, platform-independent API, but for benchtop applications just use the webUI out of the box.

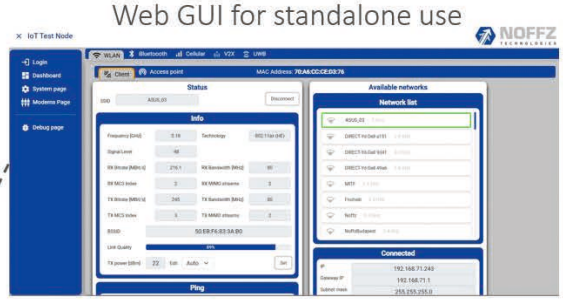
**WebGUI** for easy access, prototyping and becnhtop application

## APPLICATION AREAS

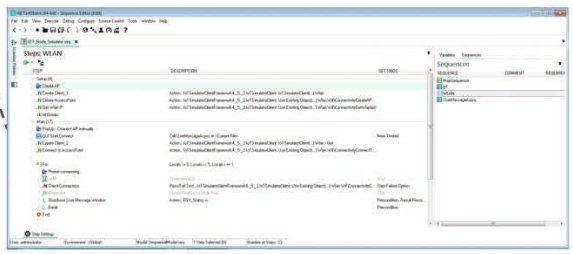
- Automated Validation Test
- EMC Lab, Environmental Monitoring
- Field Return Analysis
- End-of-Line Production Test
- HIL Simulation
- R&D Application Development
- Education and many more




Web GUI for standalone use



Test Automation using REST API



## SPECIAL FEATURES

### Connect to an IoT Node and start testing immediately

- No installation required
- Plug the Ethernet cable to your PC
- Establish RF connection over-the-air or cabled
- Visit the webUI for configuration and quick test
- Drag and drop API calls to a sequencer for automated testing

### Validation and Production Test

- Already tested on board level, but need a final check after assembly at the EoL production test stage?
- Need an industrial "counter part device" when running long-term monitoring tests in validation?
- Place a compact, low-cost IoT Test Node to the rack and automate test cases with minimum effort

### Parallel test multiple clients and access points

- Create a wireless AP and test upto 8 clients in parallel
- Simulate a Wi-Fi Client and test multiple APs in series
- Add custom RF switching front-end or use it over-the-air

## APPLICATION MATRIX

| | Configure | Connect | Act | Measure |
|---|---|---|---|---|
| **WLAN** | Create a custom **Access Point** (standard, band, channel, bandwidth) | Connect and authenticate **one or more** Wi-Fi **clients** | Start a download or upload **stress test** session | Signal quality (%), **Tx/Rx data rate (Mbit/s)**, Rx level (dBm), **PER (%), MCS index** |
| **Bluetooth™** | **Scan** for devices in classic or Low Energy mode, **read proximity** (RSSI) | Complete **pairing** and setup your profile (A2DP, GATT, SPP, HFP) | Start **audio**, data **streaming** session or ping BLE devices | PER (%), **RSSI (dBm), Link Quality (%),** HCI Messaging |

## TECHNICAL DATA

| | |
|---|---|
| **WLAN** | |
| **Standards** | IEEE 802.11 a/b/g/n/ac/ax |
| **Bandwidth** | 20 MHz / 40 MHz / 80 MHz / 160 MHz |
| **MIMO** | 2x2 |
| **Frequency ranges** | 2.412GHz - 2.484GHz \| 5.150GHz - 5.850GHz \| 5.925 - 7.125GHz |
| **Data rates** | 802.11b: 11Mbps<br>802.11a/g: 54Mbps<br>802.11n: MCS0-15<br>802.11ac: MCS0-9<br>802.11ax: HE0-11 |
| **Bluetooth** | |
| **Standards** | Bluetooth V5.2 (BR/EDR/HS/LE Compliant) |
| **Data rates** | 1 Mbps, 2 Mbps and 3 Mbps |
| **Specifications** | |
| **RF Performance** | Tx Power uncertainty: +/- 2 dBm<br>Frequency accuracy: +/- 20 ppm<br>**Rx Sensitivity** (PER <10 %): @160 MHz, MCS-11 ax: -53 dBm \| @20 MHz, MCS-9 ac: -69 dBm |
| **Interfaces on front panel** | **WLAN1/BT:** female SMA connector for the primary WLAN stream and BT; Operating on all WLAN bands (2.4/5/6 GHz)<br>**WLAN2:** female SMA connector for the secondary WLAN stream in case of 2x2 MIMO; Operating on all WLAN bands (2.4/5/6 GHz).<br>Rounded push button with LED (see details below) |
| **Interfaces on back panel** | **2x Ethernet,** ETH1 with Power over Ethernet (PoE)<br>**DC power:** 2.5mm inner diameter barrel jack |
| **Dimensions** | Without mounting brackets: W 170 x H 52 x L 221 mm<br>With mounting brackets: W 188 x H 57 x L 221 mm<br>Weight: 0.5 kg |
| **Temperature** | Maximum operating temperature range of -40 °C to 80 °C.<br>Maximum environmental temperature is 35 °C |
| **Operating voltage** | Unregulated 8 V to 60 V (12 V, 2 A recommended)<br>PoE on ETH1: active 802.3af/at, supply power requirement 24 W<br>CAUTION: Do not use DC power source and PoE at the same time, it can damage the device! |

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NOFFZ Technologies develops and produces industry-leading test systems and automation solutions for the entire product development process from prototyping and validation to series production. Due to the in-house development of the modular test platform UTP – Universal Tester Platform, NOFFZ test simulations can be individually tailored to any customer specifications and test requirements.

The company was founded in 1989 and currently employs more than 200 people at nine locations worldwide. From its headquarters in Toenisvorst, Germany, NOFFZ supplies manufacturers in the automotive, telecommunications, IoT, consumer electronics, medical technology and semiconductor industries. NOFFZ Technologies is DIN EN ISO 9001 certified.

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