

Bringing to you the most affordable, advanced and compact WSN research platform developed by industry Experts. This platform will be useful for academic, research and industrial applications to benefit students, faculties and scientists across various domains. Supported by user-friendly GUI, seamlessly integrated with sensor node to monitor as well as program for various applications.



### Product Highlights

- Programming interface for the device
- Displays live data from the network and create SQL(sqlite3) database
- All data available in graphical charts?Command panel for IoT applications
- Network topology graph generator for selected protocols
- Special Command window for generating commands for the nodes in the network
- Flexible mac and phy layer with controllable PIB attributes through predefined APIs.
- Complete implementation of the protocol stack in C
- AODV, Level Based Routing and Mac Based Routing available.
- Modifiable source codes of complete protocol stack available with users.
- GUI also provides communication with TCP/IP to make a soft gateway
- Easy to install and supported on Windows Operating SystemOptional Features: Android APP with sample code and cloud interface

## TeleGate Gateway

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### Product Characteristics

#### Powerful Wireless Capability

- Supports Dual-band AP (2.4 GHz and 5 GHz) Wi-Fi access and adopts 2 x 2 MIMO antenna system to double the transmission speed.
- Provides LTE/3G upstream ports, allowing users to enjoy fast network access to services.
- Has a built-in GPS to provide value-added applications based on user's location.

#### Innovative multimedia playing

- Supports multiple analog or digital output formats, including HDMI, YPbPr, and CVBS.
- Plays two-channel HD video concurrently.
- Has large-capacity storage media to store video, ads, and application programs; supports wireless updates.

#### Industrial design

- Adopts industry-level standard design, and is dustproof as well as waterproof.
- Works in a large temperature range (-25°C to 60°C) with a fan-free design for natural heat dissipation.
- Meets anti-shock and anti-vibration requirements in EN61373, QC/T 413-2002, and ISO 16750-3:2007.

#### Multi-level security protection

- Has a built-in firewall to prevent hacker attacks and viruses.
- Supports multiple authentication methods, including RADIUS and HWTACACS.
- Provides multiple VPN access solutions to set up trusted secure connections and ensure data security.

#### Easy deployment and easy O&M

- Supports deployment using USB flash drive, and has plug-and-play feature.
- Works with uniform NMS to manage a large number of devices and implements visual O&M.
- Supports NQA function to monitor links in real-time.

#### Open service platform

- Android Operating system is installed, supporting secondary development.
- Accommodates a large number of applications to expand device functions

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### Technical Specifications

<b>Hardware</b>	
<b>Specifications</b>	<b>Value</b>
Device model	Metal box (external plastic shell can be used)
Fixed Ethernet interface	2 x GE
Video interface	Two video interfaces (HDMI, CVBS, or YPbPr), which support playing 1080p HD video
Video Codec	MPEG4, H.264, H.263, Divx, Xvid, RV10
Video file format	MP4, RM, DivX, 3GP, MOV, MKV
Audio interface	Two stereo outputs (one output: audio power amplifier), one stereo input
Audio Codec	MP3, AAC, AAC+, eAAC+, WMA, OGG, AC-3
3G/LTE	MP3, WAV, WMA, OGG, AMR, AAC
Wi-Fi	FDD LTE, compatible with 3G (WCDMA/HSDPA/HSUPA/HSPA+) Dual SIM cards (one standby)
GPS	Supported
Console interface	Dual-band AP (2.4 GHz and 5 GHz), 2x2 MIMO 802.11a/b/g/n
USB2.0	1 USB HOST, 1 USB OTG
Memory	1 GB
Storage	Built-in flash memory 16 GB
Power supply	Dual DC inputs: 8V to 36V
Maximum Power	30W
Dimensions (W x D x H)	275 mm x 160 mm x 30 mm
Weight	1.3 Kg
Operating temperature	-25°C to +60°C
Storage temperature	-40°C to +85°C
Operating humidity	5% RH to 95% RH (non-condensing)
Installation method	Wall-mounted or horizontally
Shock and vibration standards	EN61373, QC/T 413-2002, ISO 16750-3:2007
<b>Software</b>	
<b>Specifications</b>	<b>Value</b>
Basic features	DHCP server/client/relay, DNS client/proxy/relay, NAT, ARP, Port management
WLAN	WLAN QoS, WLAN Security, WLAN radio management, WLAN VAP management, WLAN user management, WLAN anti-attack
IPv4 unicast routing	Unicast routing management, routing policies, static routes, RIP, OSPF, IS-IS, BGP, MBGP
Multicast	IGMPv1/v2/v3, PIM SM, PIM DM, PIM-SSM, MSDP
VPN	SSL VPN, L2TP VPN, GRE VPN, Efficient VPN
QoS	ACL, QoS, MQC, SAC
Security	Firewall, AAA authentication, RADIUS authentication, HWTACACS authentication, ICMP attack defense, Unicast Reverse Path Forwarding (URPF), CPCAR, blacklist, Public Key Infrastructure (PKI)

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### Modules

#### Radio Module:

It comprises of microcontroller and an integrated transceiver for processing, sending and receiving the data.

- 32-bit RISC JN 5168 Microcontroller
- 1-32MHz clock speed
- 256KB flash, 32KB RAM, 4KB EEPROM
- 2.4 GHz IEEE 802.15.4 compliant transceiver
- 128-bit AES security processor
- Time of Flight engine for ranging
- Integrated PCB antenna
- Rx current 17mA, Tx current 15mA
- 2V to 3.6V battery operation
- Controllable transmission power (-32 to +2.5 dBm)

#### USB Gateway Module :

It programs the microcontroller and acts as an interface between the network and PC.

- USB to Asynchronous serial data transfer interface
- USB protocol handled by the device (No USB specific programming required)
- Data Transfer rate 115200 baud 128 byte receive buffer and 256 bytes transmit buffer

#### Ethernet Gateway Module :

- IEEE 802.3™ Compatible Ethernet Controller
- 8-Kbyte Transmit/Receive Packet Dual Port SRAM
- Configurable Transmit/Receive Buffer Size
- Fully Compatible with 10/100/1000Base-T Networks
- Integrated with SENSEnuts Radio module with SPI interface
- Temperature Range: -40°C to +85°C

#### Wifi Gateway Module :

- Low-power Wi-Fi networking module
- Integrated SPI-serial flash for software
- Broadcom BCM43362 single band 2.4GHz IEEE 802.11b/g/n 1x1 Wi-Fi transceiver
- Includes support for all Wi-Fi security modes including Open, WEP, WPA, WPA2-PSK
- Integrated 1MB Flash memory and 128kB SRAM
- Operational Temperature Range: -30°C to +85°C
- Wi-Fi Powersave : 0.77mA
- Active receive : 6.9mA @ 1Mbit/s Active transmit : 12.5mA @ 1Mbit/s

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