

# NTE-RG-1402G-W/GC-W

## Turbo GEPON subscriber terminals

### Description:

NTE-RG-1402G-W/GC-W are high-performance multifunctional subscriber terminals designed for up-to-date telephone services and high-speed Internet access. The RG series subscriber terminals provide a variety of opportunities for local network operation.

### PON technology

Turbo GEPON network refers to a type of Passive Optical Network (PON) based on Ethernet technology. It is one of the most effective and advanced "last mile" solutions which enables to significantly save on cable infrastructure and provide downlink transmission rates up to a 2.5 Gbps and 1.25 Gbps uplink rate. Turbo GEPON solution applications on access networks enable users to access to new services based on IP protocol along with standard telephone services.

### Available services

- High-speed access to Internet
- Streaming video/High Definition TV
- IP TV
- IP telephony
- Video on demand (VoD)
- Video conference
- Online entertainment and teaching programs

### Typical application

- Connection of tenement houses and cottage settlement subscribers to broadband access services
- Corporate networking in large-scale enterprises and business centers

### Features

- 1x Turbo GEPON port Gigabit router
- 4x 10/100/1000 Base-T ports
- 2x FXS ports (for NTE-RG-1402G(C)-W,
- Wi-Fi 802.11n, up to 450 Mbps
- USB port
- Max. distance to OLT:

NTE-RG-1402G-W	10 km
NTE-RG-1402GC-W	20 km
- Embedded Triplexer for providing CATV service (for NTE-RG-1402GC-W)



## Technical specifications

### LAN interface parameters

- 4x Ethernet 10/100/1000 Base-T (RJ-45) ports

### PON interface parameters

- 1x GPON port
- Supported standards
  - IEEE 802.3ah, 802.3u, 802.3z, 802.3x, 802.3ad
  - IEEE 802.1d, 802.1w, 802.1Q, 802.1p

### NTE-RG-1402G-W

- Connector type: SC/APC
- Transmission medium: SMF 9/125, G.652
- Splitting ratio: up to 1:64
- Transmitter



CZECH MADE products, produced under ELTEX license in the Czech Republic

is registered trademark of OPTOKON, a.s. and ELTEX Enterprise, Ltd. Other names and trademarks mentioned herein may be the trademarks of their respective owners.

OPTOKON, a.s. reserves the right to make changes, without notice, to the products described in this document, in the interest of improving design, operational function and/or reliability.

OPTOKON, a.s., Cervený Kríž 250, 586 01 Jihlava, Czech Republic  
tel. +420 564 040 111, fax +420 564 040 134, WWW.OPTOKON.COM, INFO@OPTOKON.COM

ELT\_08-13\_EN  
1/10/2013

- Wavelength 1310 nm
- Data rate: 1244 Mbps
- Average launch power: -2 to +3 dBm
- Spectral width (RMS): 3 nm
- Receiver
  - Wavelength 1490 nm
  - Data rate: 2488 Mbps
  - Sensitivity: -23 (with BER  $\leq 1 \times 10^{-10}$ )
  - Overload: -3 dBm

**NTE-RG-1402GC-W**

- Connector type: SC/APC
- Transmission medium: SMF 9/125, G.652
- Splitting ratio: up to 1:64
- Transmitter
  - Wavelength 1310 nm DFB Upstream Burst Mode Transmitter
  - Data rate: 1244 Mbps
  - Average launch power: +0.5 to +5 dBm
  - Spectral width @ -20 dBm 1 nm
- Receiver
  - Wavelength 1490 nm APD/TIA Downstream CW Mode Digital
  - Data rate: 2488 Mbps
  - Sensitivity: -28 (with BER  $\leq 1 \times 10^{-10}$ )
  - Overload: -4 dBm

**CATV characteristics (for NTE-RG-1402GC-W)**

- SMB connector for RF output
- Supported standards
  - ITU-T G.984.2
  - IEC 60825-1
  - EEC Directive 2002/95/EC (RoHS)
- Receiver 1550 nm downstream linear CATV video receiver
- Input optical power: -8 to +2 dBm
- Compound Second Order (CSO): -55 dB
- Compound Triple Beat (CTB): -55 dB
- Carrier to Noise Ratio (CNR): 46 dB
- RF Bandwidth: 47 to 870 MHz
- RF output: 17 dBmV/channel with 4 dB positive tilt
- RF output impedance: 75 Ohm

**Configuration**

- OMCI, TR-069, Web/CLI
- Remote control via OMCI, Telnet, TR-069
- Software upgrade via OMCI, TR-069, HTTP, TFTP

**IP telephony (for NTE-RG-1402G-W/GC-W)**

- Supported protocols - SIP
- Audio codecs
  - G.729, annex A, annex B
  - G.711 (A/u)
  - G.723.1 (5.3 Kbps)
  - G.726
- Fax transfer
  - G.711, T.38

**Analog subscriber port parameters**

- 2x FXS ports
- Loop resistance: up to 2 kOhm
- Dual Tone Multiple Frequency (DTMF)
- Caller ID

**USB port**

- Connection of external USB devices or HDD

### Wi-Fi wireless interface parameters

- Standards: 802.11 b/g, 802.11n
- Frequency range: 2400 to 2483.5 MHz
- Modulation: BPSK, QPSK, 16 QAM, 64 QAM, DBPSK, DQPSK, CCK
- Data transmission rate, Mbps:
  - 802.11b (CCK): 1, 2, 5.5, 11
  - 802.11g (OFDM): 6, 9, 12, 18, 24, 36, 48, 54
  - 802.11n (HT20, 800ns GI): 130, 117, 104, 78, 52, 39, 26, 13
  - 802.11n (HT40, 400ns GI): 300, 270, 240, 180, 120, 90, 60
  - 802.11n (HT40, 800ns GI): 270, 243, 216, 162, 108, 81, 54, 27
- Max. output transmitter power:
  - 802.11b (11 Mbps): 16.5 dBm
  - 802.11g (54 Mbps): 12.5 dBm
  - 802.11n (HT20-MCS7): 10.5 dBm
  - 802.11n (HT40-MCS7): 9.5 dBm
- Receiver sensitivity:
  - 802.11b (11 Mbps): -86 dBm
  - 802.11g (54 Mbps): -73 dBm
  - 802.11n (HT20-MCS7): -68 dBm
  - 802.11n (HT40-MCS7): -65 dBm
- Safety:
  - 64/128/152 bit data WEP encryption, WEP, WPA, WPA2
- Operation system:
  - Windows XP 32/64, Windows Vista 32/64, Windows 7 32/64

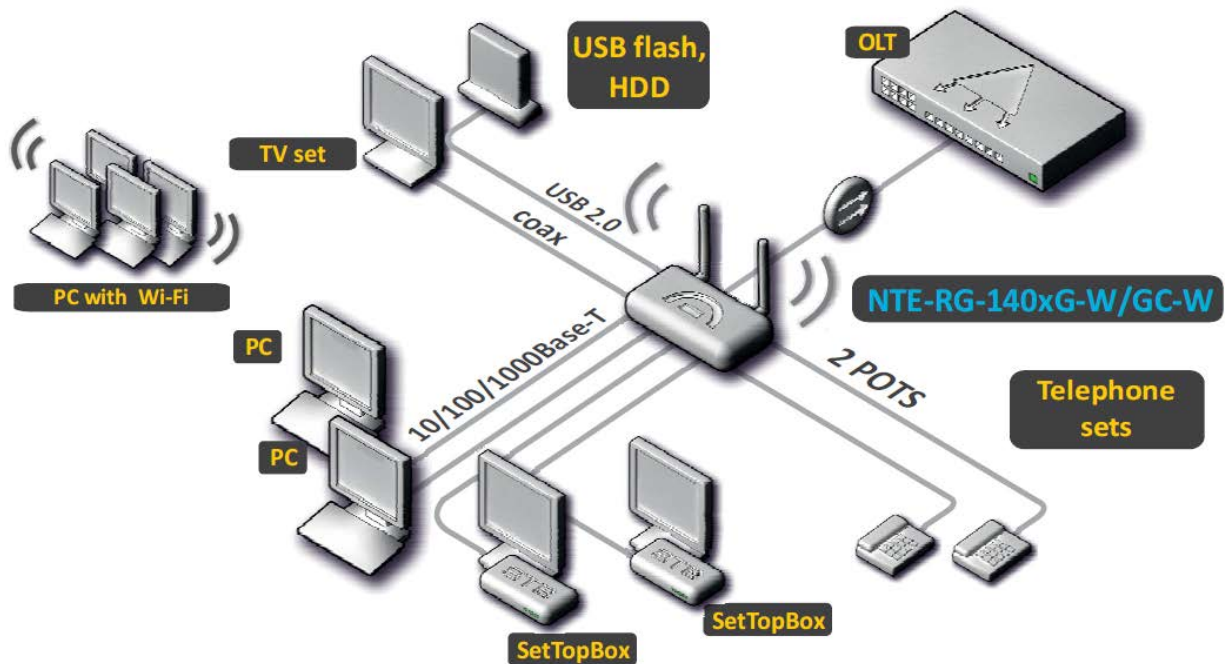
### Operating Features

- Operation in «bridge» or «router» modes
- PPPoE (PAP, SPAP and CHAP authorization) support
- Static address and DHCP (DHCP client on WAN port, DHCP server on LAN port, DHCP-relay)
- Multicast traffic transmission via Wi-Fi
- Domain Name System (DNS)
- Dynamic DNS (DynDNS)
- Universal Plug and Play (UPNP)
- Network Address Translation (NAT)
- Network Time Protocol (NTP)
- TR-069/TR-142
- Quality of Services (QoS)
- IGMP snooping
- IGMP proxy

### Physical and environmental specifications

- Power supply adapter: 220V/ (5..24) V
- Power consumption: not more than 17 W
- Operating temperature range: from +5 to +40 °C
- Relative humidity: up to 80%
- Overall dimensions: 218 x 120 x 49 mm, desktop installation

## Typical application diagram



## Ordering Code:

Description	Part number
ONT NTE-RG-1402G-W, 1x Turbo GEPON (SC) port, 10 km 4x Ethernet 10/100/1000 Base-T ports, 2x FXS ports, 1x USB port Wi-Fi IEEE 802.11n access point (up to 450 Mbps)	NTE-RG-1402G-W
ONT NTE-RG-1402GC-W, 1x Turbo GEPON (SC) port, 20 km 4x Ethernet 10/100/1000 Base-T ports, 2x FXS ports, 1x USB port Triplexer (RF connector) for connection to cable television Wi-Fi IEEE 802.11n access point (up to 300 Mbps)	NTE-RG-1402GC-W