

NTP-RG-1402G-W/GC-W

GPON subscriber terminals

Description:

NTP-RG-1402G-W/GC-W subscriber terminals are designed for connection to high equipment in passive optical networks (GPON) and provide broadband access services to users.

PON technology

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

Wireless Wi-Fi connection

Two modified subscriber terminals with 2.4 GHz transceivers enable to connect devices at rates up to 300 Mbps.

Features

- 1x GPON port Gigabit router
- 4x 10/100/1000Base-T ports
- 2x FXS ports (for NTP-RG-1402x)
- Wi-Fi 802.11n, up to 300 Mbps, 2.4 GHz
- USB port
- Max. distance to OLT:

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



Available services

- High-speed access to Internet
- Video streaming /High Definition TV
- IP TV
- IP telephony - VoIP
- Video on demand (VoD)
- Video conference
- Online entertaining 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

Technical specifications

LAN interface parameters

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

PON interface parameters

- 1x GPON port
- Supported standards
 - ITU-T G.988, ITU-T G.984.x
 - IEEE 802.3, 802.3u, 802.3ab, 802.3x
 - IEEE 802.1d, 802.1w, 802.1Q, 802.1p

NTP-RG-1402G-W

- Connector type: SC/APC
- According to ITU-T G.984.2
- Transmission medium: SMF 9/125, G.652
- Splitting ratio: up to 1:64
- Transmitter
 - 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

NTP-RG-1402GC-W

- Connector type: SC/APC
- According to ITU-T G.984.2, ITU-T G.984.5 Filter, FSAN C SFF-8472
- 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 NTP-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 NTP-RG-1402G-W/GC-W)

- Supported protocols - SIP
- Audio codecs
 - G.729, annex A, annex B
 - G.711(A/m)
 - 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 2497 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, 800 ns GI): 130, 117, 104, 78, 52, 39, 26, 13
 - 802.11n (HT40, 400 ns GI): 300, 270, 240, 180, 120, 90, 60
 - 802.11n (HT40, 800 ns GI): 270, 243, 216, 162, 108, 81, 54, 27
- Maximum 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 WEP data encryption, WEP, WPA, WPA2
- Operating system:
 - Windows XP 32/64, Windows Vista 32/64, Windows 7 32/64

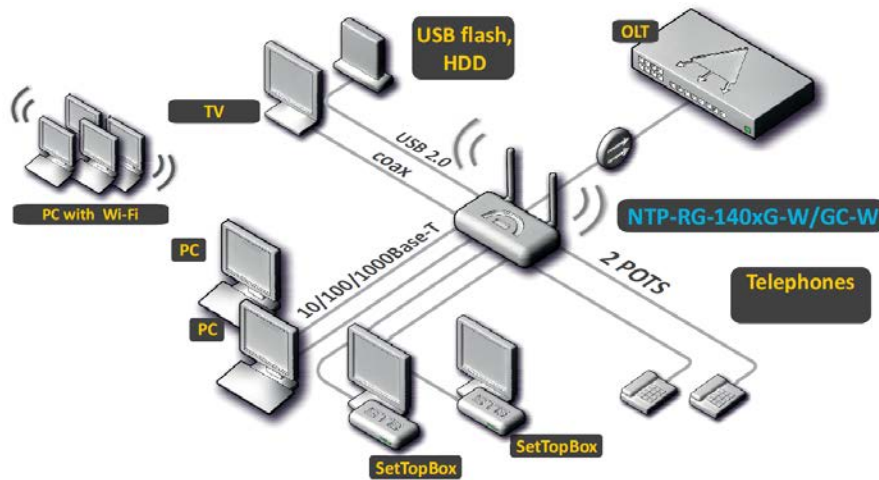
Operating Features

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

Typical application diagram



Multi-purpose devices

Subscriber terminals provide fixed wire connection to up to 4 personal computers or an IPTV set-top-box (STB) via an embedded gigabit router with 4 10/100/1000 Base-T ports. 2 FXS ports enable to connect to analog telephone sets and use IP telephony services. To watch analog or digital television, the TV set is connected to the RF-output of devices with embedded triplexer (in case the service is provided by an operator). A USB port is used to connect to USB devices (Flash card, internal HDD) or printer. The embedded Wi-Fi transceivers (802.11n) enable to connect to wireless devices at rates of up to 300 Mbps.

Ordering Code:

Description	Part number
NTP-RG-1402G-W, 1 PON (SC) port, 4 ports 10/100/1000 Base-T, USB, 2 FXS, IEEE 802.11n, 300 Mbps, 2T2R, 2.4 GHz	NTP-RG-1402G-W_revB
NTP-RG-1402GC-W, 1 PON (SC) port, 4 ports 10/100/1000 Base-T, USB, 2 FXS, CATV Triplexer, IEEE 802.11n, 300 Mbps, 2T2R, 2.4 GHz	NTP-RG-1402GC-W_revB