2.6 GHz RFoG Optical Node FTTx Solution

RON1526 ONU Series

- 2.6GHz RFoG ONU
- Compact Design
- Optical AGC
- RFoG Compliant (SCTE 174)
- Burst Mode Upstream
- Low Power Consumption
- LED Status Indicators
- 1310/1610nm Return
- Remote Control

ACT 2.6GHz RON1526 series RFoG (RF over Glass) ONU is a cost effective, superior performance optical network unit, which is designed and optimized to work in a standards-compliant RFoG Fiber-to-the-Home (FTTH) architecture network. The wide RF spectrum supports both CATV spectrum and Satellite IF spectrum up to 2.6GHz.

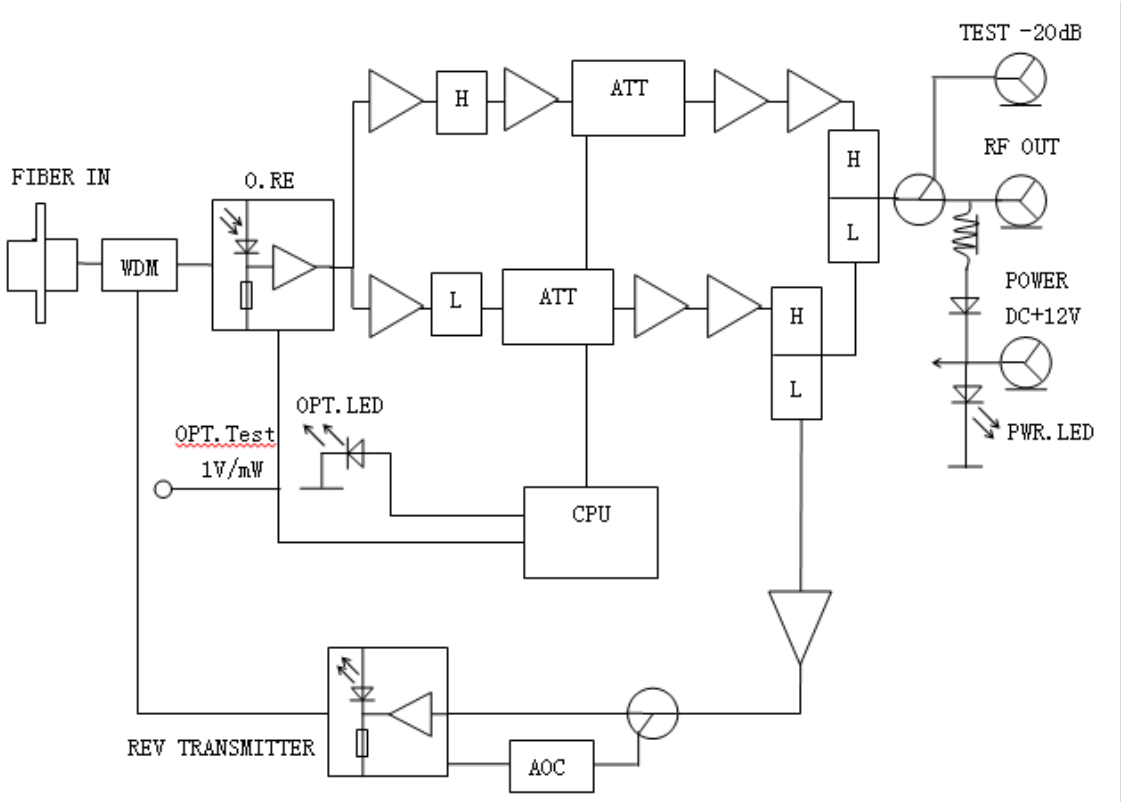
Rolling out RFoG ONU makes it possible for cable operators to protect their existing network investment and continue the deployment of DOCSIS-compliant cable modems for Internet and VoIP delivery, together with Video on Demand systems.

The RON1526 optical node is part of ACT overall FTTx solution suite, and it is designed with 1550 nm forward-path RF signals, and return-path upstream signal at either 1310 nm or 1610 nm in a 1 x 32 split FTTH network topology. It incorporates a low noise optical receiver and an isolated DFB optical laser to modulate the return-path signal from any set-top box (STB) or DOCSIS modem onto the fiber. An optional PON upgrade port combines these up and downstream signals across a 1310/1490 nm EPON/GPON network, providing MSO a transitional platform to migrate from existing HFC system to PON FTTH network.

Key Features

- 2.6GHz RF Spectrum
- Small form factor and low power consumption
- SCTE174 2010 standards compliant
- High performance and Cost Effective RFoG ONU solution for FTTX Network
- Optical automatic gain control (AGC)
- Active Carrier Suppression (ACS) to allow up to 32 units to function within a PON HFC network compatible with DOCSIS 1, 2 or 3 standards
- In-built return path transmitter suits set-top box systems where pay-per-view and other various return path information sent via RF
- Powered directly using the power adaptor or via the F-type connectors
- 75.5MHz FSK modulation remote control CATV\SAT-IF\Return
- The compact and sturdy enclosure fits easily in wiring closets or network termination boxes.

Block Diagram



Specifications

RON1526 RFoG Optical Network Unit

Downstream Specifications (Receiver)	
Wavelength	1550 +/-10nm
Optical Input Power	-8 to -1dBm
Optical AGC Range	-8 to -1dBm
Optical AGC accuracy	+/-3dB (CATV), +/-4dB (SAT-IF)
CATV RF bandwidth:	47 to 862MHz
SAT-IF RF bandwidth:	950 to 2602MHz
Reference Output Level	95dBμV (OMI 7% Analog) 85dBμV (OMI 2.2% SAT-IF)
RF flatness	+/-2.5 dB CATV, +/-3.0 dB SAT-IF
RF return loss	14 dB Typical CATV, 10dB Typical SAT-IF
RF input impedance	75 Ω
RF test point	-20 dB +/- 2.0 CATV, +/-3.0 SAT-IF ±
Link Performance	
CNR	51dB CATV, 28dB SAT-IF @-1dBm input (OMI 3.5%)
CTB	-60dBc
CSO	-57dBc
XMOD	-55dB
Upstream Specifications (Optional RTN Transmitter)	
Optical Wavelength	1310+/-20nm, 1610+/-10nm
RF Bandwidth	5 to 65MHz, 10 to 50MHz
Output Power	3dBm
RF Input Level	20 to 40dBmV
RF Input Level On/Off threshold	>10dBmV / <-4dBmV
Laser Turn On Time	Typical 1.0μs (<1.3 μs)
Laser Turn Off Time	Typical 1.2μs (<1.6 μs)
RF return loss	14 dB Typical
Optical return loss	45 Min
General Specifications	
Optical Connector	SC/APC, FC/APC, SC/UPC
Operating Temp, °C	-20 to 55
Storage Temp, °C	-40 to 85
Power Supply	100 to 240VAC
Operating relative humidity, %	5 to 95
Power Consumption W	7
Dimensions (W x D x H)	210 x 156 x 50 mm
Weight, kg	0.93 kg

Ordering Information

RON1500 Series RFoG ONU Ordering Information

RON15	XX-	XX	X-	XX-	XX-	XX-	X

	RF Bandwidth
10	1002MHz
26	2.6GHz

	Return Transmitter
0	Forward RX Only
B	1310 FP Rtn 3dBm
C	1310 DFB Rtn 3dBm
D	1611 DFB Rtn 3dBm

	Optical Connector
AS	SC/APC
AU	SC/UPC

	PON Upgrade Port
0	No Upgrade Port

	Output Level
95	95dBuV (CATV) 85dBuV (SAT-IF)

	Band Split
55	55/70 MHz
65	65/85 MHz

	Power Adaptor
01	Australia
02	China
03	Continental Europe
04	North America

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