GEPON Enabled RFoG Mini-Node

The QAMnet iTRVR-G is a bi-directional analog Optical Network Unit (ONU) designed for combining GEPON-based systems with RFoG applications.

Product Description

The QAMnet iTRVR-G is a bi-directional analog Optical Network Unit (ONU) designed for combining GEPON-based systems with RFoG applications. The iTRVR-G contains a fully function burst mode RFoG mini-node and an internal multiplexer for combining external GEPON signals. With advanced Wavelength Division Multiplexing (WDM) technology, optical wavelengths from the analog ONU, which are 1550 nm in forward-path and 1570-1610nm in return-path, can be added to with the GEPON ONU signals, which are 1490 nm down-stream and 1310 nm upstream. With a forward 1550nm forward-path receiver and a return-path CWDM DFB laser, the iTRVR-G can provide the HD video and QAM-based return data bandwidth as in a conventional HFC optical node. It can be used for enhancing GEPON transmission in HFC, Deep Fiber and RFoG networks. The return path bandwidth capacity of the RFoG systems can be increased by a factor of 3, by using return path laser with from 3 different CWDM wavelengths.

Features

- 1550 nm forward path receiver
- Return path laser: CWDM DFB with wavelength of: 1570 nm, 1590 nm, 1610 nm
- Internal WDM to add GEPON wavelengths of 1310nm and 1490nm
- Single optical fiber for forward / return path
- Second output for passing through GEPON
- Designed for combining GEPON with RFoG

Applications

✓ HFC ✓ FTTH ✓ RFoG ✓ GEPON ✓ Deep Fiber Applications

PRODUCT SPECIFICATIONS

Optical Specifications

Forward Path - Receiver	
Receiver Wavelength Range	1530 nm - 1560 nm
Input Optical Power Level	+3 dBm to -6 dBm
RF Output Power Level	25 dBmV typ.
Carrier to Noise Ration (CNR)	50 dB typ. @ 0 dBm Input Level
Composite Second Order (CSO) Distortion	-60 dBc max.
Composite Triple Beat (CTB) Distortion	-60 dBc max.
Frequency Range	54 MHz to 870 MHz
Return Path - Transmitter	
Laser Wavelength	1570 nm, 1590 nm, 1610 nm
Output Optical Power Level	+2 dBm typ.
RF Input Turn On Power Level	25 dBmV min.
Burst Mode Switch on Time	1.0 μs max.
MER of QAM64	34 dB min. at 20 MHz
Frequency Range	5 MHz to 42 MHz
Frequency Range	5 MHz to 42 MHz
GEPON Path	
Pass Wavelength	1310 nm ± 25 nm, 1490 nm ± 5 nm
Insertion Loss for GEPON signals	1 dB max.
Isolation from RFoG	30 dB min.
General Specifications	
Flatness in Frequency Range	±0.5 dB
Optical Return Loss	45 dB min.
RF Impedance	75 Ω
RF Return Loss	16 dB min.

Mechanical Specifications

Optical Connectors	2 SC/APC, RFoG and GEPON
Temperature Range	-20 to +65 ºC
Power Supply	12 – 15 VDC, 350 mA
Housing Dimensions	4.6”(W) x 5“(L) x 1.3”(H)
Control / Monitoring	Voltage Monitoring: Optical Level 1V/mW
Display	3 LEDs: Optical Input/Output and Power

Ordering Information

iTRVR-G

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