cNode-4 | Conventional Optical Node 4 RF Output

The QAMnet cNode-4 series outdoor optical outdoor platform is designed for wide array of HFC networks architectures. It is ideal for conventional HFC system installation. With 4 RF output port, each with output level of 50 dBmV available, cNode-4 can be used to reach deep into of the coax distribution network.

The cNode-4 utilize highly linear amplifier module to provide excellent CSO, CTB and CNR performance. The standard configuration cNode-4 carries two sets of forward path receivers and return path transmitters (one set as primary and the other set as redundant) to provide extreme reliability. Return path transmitter can be ordered with 1310nm laser or1 of 8 available CWDM laser wavelengths.

Features:

- Four RF outputs, two auxiliary ports for power, and two fiber ports
- Two receivers forward path
- Two lasers for return path
- 4 RF output port, each with output level of 50 dBmV @ 870 MHz
- Level of RF port can be independently adjusted with attenuation pads
- Optical capabilities: 1310nm, 1550nm or CWDM in both forward & return
- Forward optical redundancy and return redundancy
- Redundant dual power supply standard

Order Information:
cNode-4-x-y-z

x:	1, 2 :	Number of receivers
y:	1, 2:	Number of return transmitter lasers
z:	s:	1310nm return laser
	cc:	CWDM lasers wavelength

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QAMnet
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Technical Specifications

Forward Path - Receiver	
Receiver Wavelength Range	1270nm - 1620nm
Input Optical Power Level	+3dBm to -6dBm
RF Output Power Level	50dBmV Typical @ 2dBm optical input
Carrier to Noise Ration (CNR)	52dB Typical @ 3.0% OMI & 0dBm Input
Composite Second Order (CSO) Distortion	65dBc Typical
Composite Triple Beat (CTB) Distortion	65dBc Maximum
RF Frequency Range	54MHz to 870MHz
Return Path - Transmitter	
Transmitter Wavelength	1310nm ± 5nm (standard) 1470nm, 1490nm, 1510nm, 1530nm, 1550nm, 1570nm, 1590nm, 1610nm (CWDM)
Output Optical Power Level	+2.5dBm Typical
RF Input Power Level	20dBmV Typical
Carrier to Noise Ration (CNR)	> 50dB Typical @ 20dBmV RF Input
RF Frequency Range	5MHz to 42MHz
General Specifications	
Flatness in Frequency Range	±0.5dB
Optical Return Loss	45dB Minimum
RF Impedance	75Ω
RF Return Loss	16dB Minimum
Number of RF Port	4

Environment / Mechanical Specifications

Optical Connector	4, SC/APC
Temperature Range	-20 to +65 ºC
Power Supply	12 – 15 VDC (receiver) 80 – 240 V, 43 – 63 Hz AC (AC adaptor)
Power Consumption	5W Maximum
Housing Dimensions	16”(W) x 9“(L) x 9”(H)
Control / Monitoring	N/A
Display	2 LEDs: Optical Input and Power

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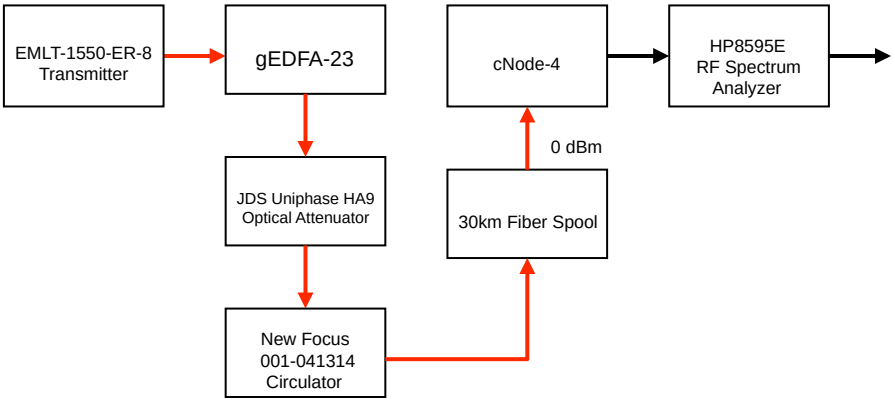
cNode-4 Forward Path Test Configuration

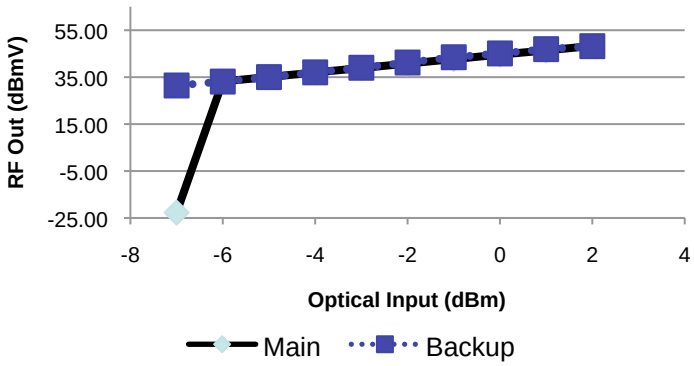
2.0 – 3.0% OMI

SBS: 18.0

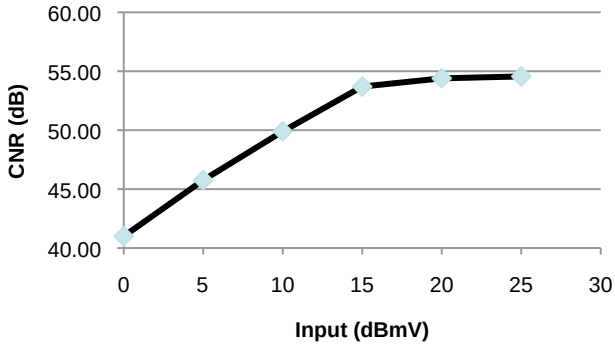


Testing Conditions:
Frequency Channels: 77 Analog NTSC
Frequency Tested: 325.25MHz (#48)
Receiver input level: 0 dBm
Fiber Spool Length: 30 km1111

Received Optical Input vs. RF Out 1



RF Input Level vs CNR



Testing Results:
Receiver Optical Input: -10 dBm
Transmitter 1 Output: 2.63 dBm
Return Path λ: 1314.253 nm
Transmitter 2 Output: 2.51 dBm
Return Path λ: 1314.521 nm

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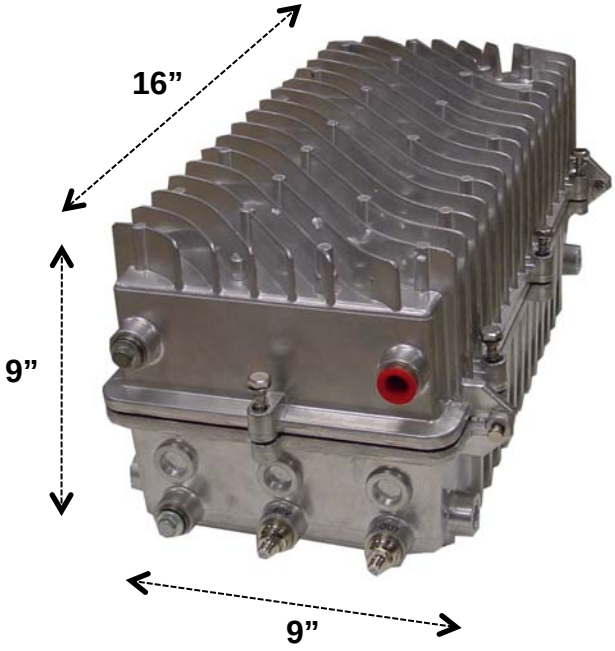
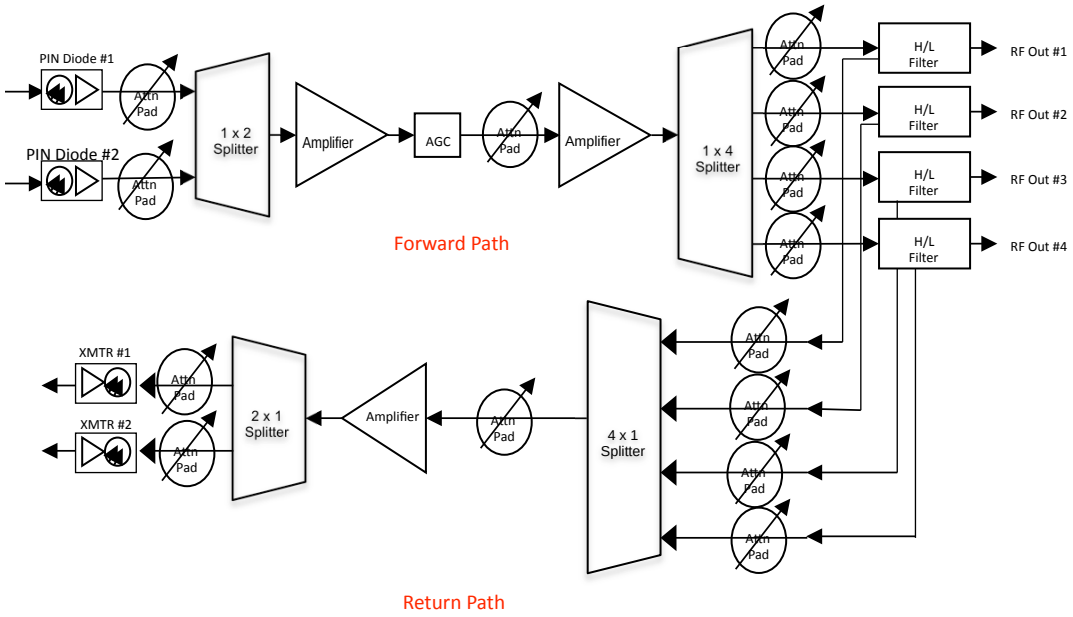
cNode-4 Product Appearance & Dimension



cNode-4 Block Diagram



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