

FEATURES

- 1 GHz GaN technology delivers higher output and enhanced reliability for last mile and fiber deep designs
- Supports CWDM, DWDM, and CORWave® multiwavelength technologies
- Lid upgrades enable Philips amplifiers to be seamlessly converted to nodes for cost-saving cascade reductions
- Supports 1310/1550 nm DFB and CWDM transmitter technologies for flexible network designs
- Premise powering option enables hospitality installations and new revenue opportunities

The CommScope Opti Max OM1111 provides cable operators with a compact, single high-output node to service small subscriber groups, small/medium business customers, and MDUs.

The OM1111's 1 GHz bandwidth enables cable operators to increase downstream capacity for HDTV, Video on Demand, VoIP, high-speed data/internet, and other value-added services. Return bandwidth options extend to 85 MHz to support additional revenue generating service offerings. CWDM transmitters allow multiple nodes to be combined onto a single fiber with ruggedized optical passives, maximizing the optical spectrum that is available in fiber-scarce architectures.

The OM1111's 9-LH 2-port housing base is backward compatible with a wide range of Philips, C-COR™, and CommScope line extender Flex Max® 320/321 and MMLE line extender amplifier housings. Operators can utilize amplifier to node upgrades as an effective cascade reduction tool. The OM1111 housing lid has an extended depth that can manage two separate fiber service cable entries. The node's fiber tray has two tiers, which manages separate fiber entry service cables in the lower level and optical bulkheads and ruggedized optical passive devices in the upper level.



SPECIFICATIONS

Characteristics	Specification	
Physical		
Dimensions	8.9 in W x 6.9 in H x 7.5 in D (22.6 cm x 17.5 cm x 19.1 cm)	
Weight	8.60 lb (3.90 kg)	
Mounting	Arial	
RF Connector Types	SCTE-compliant housing, accepts 1.6" 5/8 stinger	
International Protection Rating	IP68	
Environmental		
Operating Temperature Range	-40° to 60°C (-40° to 140°F)	
Humidity	5% to 95% non-condensing	
Forward Path Optical		
Optical Input Wavelength	1100 nm to 1600 nm	
Optical Input Range, without optical AGC	-3 dBm to +3 dBm	
Optical Input Range, with optical AGC ¹	-6 dBm to 0 dBm or -3 dBm to +3 dBm	
Equivalent Input Noise	7 pA/Hz ^{0.5}	
Forward Path RF		
Operating Passband	54 MHz to 1002 MHz	102 MHz to 1002 MHz ²
Minimum Output Level ³	58 @ 1002 MHz	58 @ 1002 MHz
Factory Aligned Tilt ⁴	17.5 ± 1 dB	16.5 ± 1 dB
Flatness	± 1.0 dB	± 1.0 dB
Return Loss	16.0 dB (min)	16.0 dB (min)
Thermal Level Stability ⁵	± 1.5 dB (max)	± 1.5 dB (max)
Optical AGC Accuracy ⁶	± 1.0 dB (max)	± 1.0 dB (max)
Downstream Output RF Test Point Level	-20 ± 1.0 dB	-20 ± 1.0 dB
NTSC Channel Performance^{7,8,9}		
Channel Loading, Number of Channels, NTSC	79	74
Reference Frequency	1002/547/54 MHz	1002/547/105 MHz
Output Level	56/47.5/38.5 dBmV	56/47.5/39.5 dBmV
Carrier to Noise Ratio, 4 MHz	57 dB	57 dB
Composite Triple Beat	72 -dBc	72 -dBc
Composite 2IM	66 -dBc	66 -dBc
Cross Modulation (per NCTA std)	66 dB	66 dB
Composite Intermodulation Noise (CIN) ¹⁰	55 dB	55 dB
Hum Modulation (Time Domain @ 10A)		
54 to 1002 MHz	65 dB	N/A
105 to 1002 MHz	N/A	65 dB

SPECIFICATIONS

Characteristics	Specification	
Return Path RF		
Operating Passband, MHz	5 to 42 MHz	5 to 85 MHz
Optimum RF Input Level	10 dBmV/6 MHz	7 dBmV/6 MHz
OMI per channel @ Optimum Input Level	10 % (typical)	7.1 % (typical)
Gain Slope	± 1.0 dB	± 1.0 dB
Flatness @ slope	± 1.0 dB	± 1.0 dB
Return Loss	16 dB (min)	16 dB (min)
Upstream Input RF Test Point Level	-20 ± 0.75 dB	-20 ± 0.75 dB
Hum Modulation (Time Domain @ 10A)		
5 to 42 MHz	60 dB	N/A
5 to 85 MHz	N/A	60 dB

NOTES:

- Output levels are reduced by 6 dB when -6 dBm to 0 dBm Optical AGC mode is selected.
- Roll-off from 105 MHz to 102 MHz is < 1.0 dB. Group delay from 103.25 to 105.25 is < 10 ns.
- Minimum output level with EQ installed and an optical input of -3 dBm from a transmitter with 3.5% OMI. Optical AGC mode does not compensate for changes in transmitter OMI. Nodes with optical AGC selected will maintain these output levels over the optical input range.
- Linear tilt with 8.5 dB on-board EQ and plug-in EQ GEQL-1GHZ-100. Tilt is measured from 54 to 1002 MHz and is determined using a best fit/least squares formula.
- Referenced to 23°C with a fixed optical input.
- Output level variation with respect to output level at 0 dBm input.
- The distortion values listed are for the node only. To obtain a particular link performance, combine the listed node performance values along with the applicable transmitter performance values.
- Analog channels occupying the 54 to 547 MHz frequency range with digitally compressed channels or equivalent broadband noise to 1002 MHz at levels 6 dB below equivalent video channels.
- Node configured with a plug-in GEQL-1GHZ-100 and the onboard 8.5 dB EQ. Optical input of 0 dBm, 3.5% OMI.
- Systems operating with digitally compressed channels or equivalent broadband noise from 547 to 1002 MHz will experience a composite distortion (CIN) appearing as noise in the 54 to 547 MHz frequency spectrum.

RELATED PRODUCTS

CHP CORView™ EMS	Optical Patch Cords
CHP Chassis	Optical Passives
Fiber Service Cable	Installation Services

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
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Note: Specifications are subject to change without notice.

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