

1 GHz Customer Premise RFoG ONU with 1G/10G PON Pass Through Port

LBON500AC Series



The LBON500AC series is Lindsay Broadband's third-generation RF over glass (RFoG) premise optical network unit (ONU) with xPON pass through port. It supports the overlay of GEAPON and 10G EPON with RFoG to co-exist on the same fiber network. The LBON500AC ONU incorporates the necessary filtering for proper rejection between the RFoG and 1G/10G PON wavelengths.

The LBON500AC ONU supports 42/54 MHz, 65/85 MHz and 85/102 MHz frequency splits with the downstream frequency band out to 1002 MHz.

- 1610 nm upstream optical wavelength
- 1550 nm downstream optical wavelength



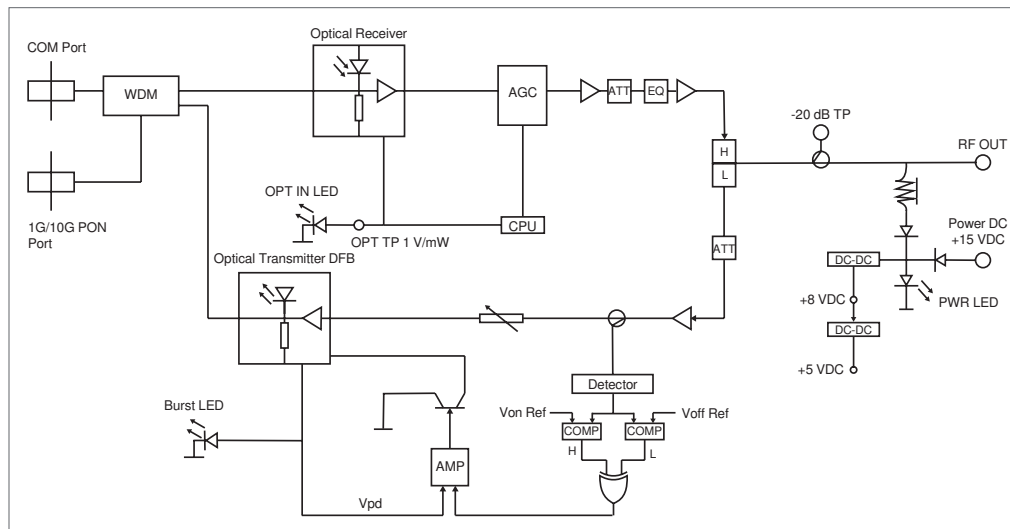
LBON500AC
(front angled view)

The LBON500AC series comes standard with Automatic Gain Control (AGC) and burst-mode return lasers (2 or 3 mW).

FEATURES

- Input Optical Wavelength: 1550 nm
- Optical AGC: -6 to +2 dBm
- Thermally stable DFB burst-mode laser
- Transmit Wavelength: 1610 nm
- Downstream Bandwidth: 54/85/102 MHz to 1002 MHz
- Upstream Bandwidth: 5 MHz to 42/65/85 MHz
- Output RF Level: 20 dBmV/CH at 1002 MHz (typ.)
- Total Input RF Level: 20-40 dBmV
- RF Bi-directional Test Point: -20 dB
- Power Supply Voltage: 12-15 VDC
- Pwr-On, Opt I/P, Opt TX LED indicators
- Optional UPS available

FUNCTIONAL SCHEMATIC



ORDERING INFORMATION

	Fwd Output Level	Total Return Input Power	Laser Type	TX Power	Common Connector	PON Connector	TX Wavelength	Sub-Split	Power Adaptor
LBON500AC	xx	xx	D	x	xx	xx	xx	xx	xx
	20 = 20 dBmV	25 = 25 dBmV	D = DFB	2 = 2 mW	SA = SC/APC	SA = SC/APC	61 = 1610 nm	45 = 42/54	00 = None
	36 = 36 dBmV	30 = 30 dBmV		3 = 3 mW	SU = SC/UPC	SU = SC/UPC		68 = 65/85	01 = N. America
								81 = 85/102	02 = Europe



SPECIFICATIONS

Parameter	Specifications		
	Min	Typ	Max
Forward Receiver			
Optical Receive Wavelength	1540-1565 nm		
Monitor Voltage	1 V/mW		
Optical Input Power	Optical AGC	-6 to +2 dBm	
RFoG Path Rejection of PON Wavelengths	1260-1540 nm	≤ -30 dB	
	1565-1598 nm	≤ -30 dB	
	1625-1680 nm	≤ -30 dB	
PON Path Rejection of RFoG Wavelengths	1551/1611 nm	≤ -25 dB	
PON Pass Through Port Loss	1G/10G	1 dB	
RF Frequency Range ⁽¹⁾	102-1002 MHz		
Flatness of Frequency Response	f = fmin-1002 MHz	± 1 dB	
Output Return Loss	f = fmin-1002 MHz	16 dB	
Reference Output Level ⁽²⁾	@ 1000 MHz (± 2 dB)	20 dBmV	
Slope	(± 1 dB)	5 dB	
Optical Input Return Loss	45 dB		
C/N ⁽³⁾	50 dB	51 dB	
CTB ⁽³⁾	-65 dB		
CSO ⁽³⁾	-60 dB		
Return Transmitter			
Optical Wavelength	1610 nm		
Optical Output Power	2 mW		3 mW
RF Input Level	Total power	20-40 dBmV	
Dynamic Input Range ⁽⁴⁾		15 dB	
Frequency Range ⁽¹⁾	5 MHz		85 MHz
Flatness of Frequency Response	f = 5 MHz to fmax	± 0.75 dB	± 1 dB
Input Return Loss	f = 5 MHz to fmax	16 dB	
Optical Output Return Loss	45 dB		
TX OMI ⁽⁵⁾	35%		
Laser ON	± 1.5 dB	15 dBmV	
Laser OFF	± 1.5 dB	-4 dBmV	
Power, Environmental & Physical			
Total Power Consumption	15 VDC power pack	≤ 5.2 W	
Operating Humidity	5-95%, non-condensing		
Operating Temperature	-40°C to +65°C (-40°F to +149°F)		
Dimensions (H x W x D)	4.1"H x 6.7"W x 1.5"D (10.4H x 17.0W x 3.9D cm)		
Weight	0.3 kg (0.7 lb)		

NOTES:

- (1) Other duplex splits available: 42/54 MHz & 65/85 MHz
- (2) 3.5% OMI/CH
- (3) -1 dBm optical input; 3.5% OMI/CH; 54-550 MHz analog channels & digital compressed channels above 550-1002 MHz at levels 6 dB below equivalent video
- (4) NPR at 30 dB. Measured using a receiver with an equivalent input noise (EIN) of <2.5 pA/Hz0.5 with a link budget of 23 dB (20 km fiber + passive loss). NPR test performed with 80 MHz noise loading
- (5) SCTE 174 2018 with a single 39 dBmV tone; 35% ± 1 dB