chilas

POLARIS C-band

ULTRA-NARROW LINEWIDTH
SINGLE-FREQUENCY LASER SOURCE

DATASHEET

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ULTRA-NARROW LINEWIDTH SINGLE-FREQUENCY LASER SOURCE



≤ 1 kHz linewidth **Excellent stability** **Fiber connected**

Applications

- LiDAR
- Quantum Key Distribution
- Telecommunications
- Metrology
- Free-Space Optical
- Communication Systems

Key Features

- Selectable ITU channel with 50 GHz spacing
- Ultra narrow linewidth
- Excellent Stability
- Ultra-Low RIN
- In-built isolator
- Compact housing
- Easy to set-up and use
- Manual temperature and current tuning through software
- High modulation depth and bandwidth

Laser Description

The POLARIS is a single frequency laser module, which has multiple advantages such as ultra-low RIN noise, narrow linewidth, excellent stability, compact and easy to setup and use. The operating wavelength of the module can be specified by choosing a preferred ITU channel.

Performance and specifications

Parameter	Min	Typ	Max	Unit	Comments
Center Wavelength	1530	1550	1570	nm	See "4 CHANNELS"
Output Power		13	16	dBm	
integral Linewidth	2		10	kHz	
Intrinsic linewidth	0.3		1	kHz	
Relative Intensity Noise		-150		dB/Hz	@100kHz
Side-Mode Suppression Ratio		>40		dB	
Polarization Extinction Ratio	20	31		dB	
Modulation bandwidth		1		MHz	
Modulation depth		2.5	4	GHz	1 Vpp
Power consumption		2	10	W	
Working voltage	4.75	5	5.25	V	
Working temperature	-20		70	°C	
Storage Temperature	-40		85	°C	
Storage Humidity	5		95	%RH	

Package	Specified values
Fiber & Connector	PM Fiber, FC-APC, Min bending radius 35mm, Max fiber tension 5N
Dimensions L x W x H	85 x 47 x 14 mm
Module weight	145g (excluding cables)
ESD Level	500V

Certifications

CE RoHS COMPLIANT

LASER 1 INVISIBLE LASER RADIATION CLASS 1 LASER PRODUCT IEC 60825-1:2014

NOTE

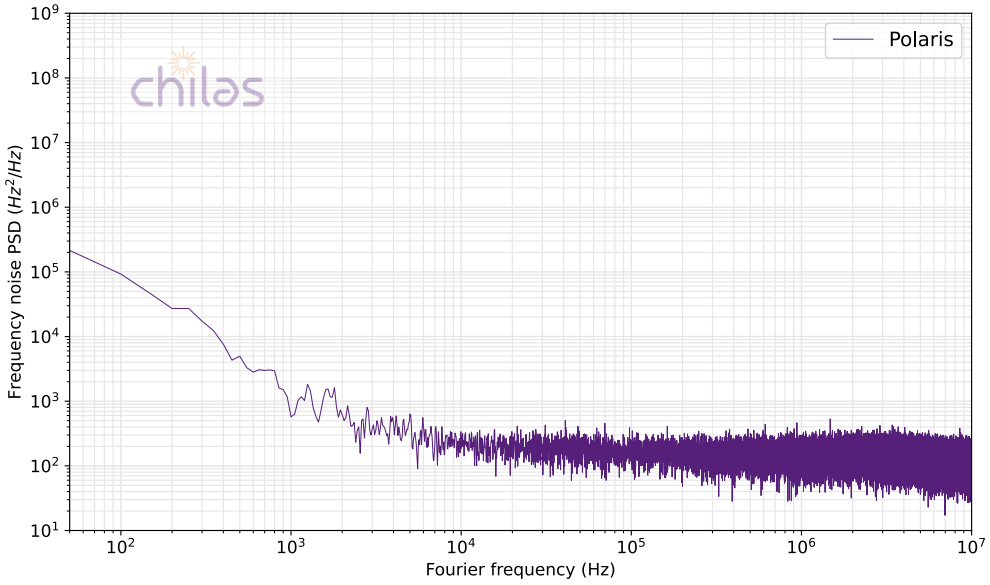
This laser product complies with FDA performance standards 21 CFR 1040.10 and 1040.11 except for conformance with IEC 60825-1 Ed. 3., as described in Laser Notice No. 56, dated May 8, 2019.

Channels

CH	Wavelength	CH	Wavelength	CH	Wavelength	CH	Wavelength
C00	1577.855	C17	1563.863	C34	1550.116	C51	1536.609
H00	1577.44	H17	1563.455	H34	1549.715	H51	1536.216
C01	1577.025	C18	1563.047	C35	1549.315	C52	1535.822
H01	1576.61	H18	1562.64	H35	1548.915	H52	1535.429
C02	1576.196	C19	1562.233	C36	1548.515	C53	1535.036
H02	1575.782	H19	1561.826	H36	1548.115	H53	1534.643
C03	1575.368	C20	1561.419	C37	1547.715	C54	1534.25
H03	1574.954	H20	1561.013	H37	1547.316	H54	1533.858
C04	1574.54	C21	1560.606	C38	1546.917	C55	1533.465
H04	1574.127	H21	1560.2	H38	1546.518	H55	1533.073
C05	1573.714	C22	1559.794	C39	1546.119	C56	1532.681
H05	1573.301	H22	1559.389	H39	1545.72	H56	1532.29
C06	1572.888	C23	1558.983	C40	1545.322	C57	1531.898
H06	1572.476	H23	1558.578	H40	1544.924	H57	1531.507
C07	1572.063	C24	1558.173	C41	1544.526	C58	1531.116
H07	1571.651	H24	1557.768	H41	1544.128	H58	1530.725
C08	1571.239	C25	1557.363	C42	1543.73	C59	1530.334
H08	1570.828	H25	1556.959	H42	1543.333	H59	1529.944
C09	1570.416	C26	1556.555	C43	1542.936	C60	1529.553
H09	1570.005	H26	1556.151	H43	1542.539	H60	1529.163
C10	1569.594	C27	1555.747	C44	1542.142	C61	1528.773
H10	1569.183	H27	1555.343	H44	1541.746	H61	1528.384
C11	1568.773	C28	1554.94	C45	1541.349	C62	1527.994
H11	1568.362	H28	1554.537	H45	1540.953	H62	1527.605
C12	1567.952	C29	1554.134	C46	1540.557	C63	1527.216
H12	1567.542	H29	1553.731	H46	1540.162	H63	1526.827
C13	1567.133	C30	1553.329	C47	1539.766	C64	1526.438
H13	1566.723	H30	1552.926	H47	1539.371	H64	1526.05
C14	1566.314	C31	1552.524	C48	1538.976	C65	1525.661
H14	1565.905	H31	1552.122	H48	1538.581	H65	1525.273
C15	1565.496	C32	1551.721	C49	1538.186	C66	1524.885
H15	1565.087	H32	1551.319	H49	1537.792	H66	1524.498
C16	1564.679	C33	1550.918	C50	1537.397	C67	1524.11
H16	1564.271	H33	1550.517	H50	1537.003	H67	1523.723

Graphs

Frequency noise of POLARIS C-band



Picture of POLARIS C-band



Chilas Lasers, Tuned to your Wavelength

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