Low Noise Tunable Laser

Clean Light portfolio – Feature Guide

The **Pure Photonics** full-band tunable laser solution provides a very narrow linewidth (~10 kHz), significantly reduced low-frequency AM and FM noise and a range of operating modes in this low-noise setting. The product can access any desired frequency set-point in the tuning range (C-band, L-band or optionally up to 60nm). Output power can be set as low as 7dBm and as high as 18dBm.

This feature guide provides more detail about the features available on this product and how to use them, including interactions with the Graphical User Interface, Command Line Interface and the base RS-232 interface.

We recommend using this guide as a starting point, with the need to use our more detailed implementation guides and application notes (mostly available on our website) for a full understanding.

2. Features by Module Family

The features available on each model is listed in the below table. The 'S' designates a standard feature (available on all units) and the 'O' designates an optional feature.

	PPCL600	PPCL700
Tuning range [1]	S 38nm O 60nm	S 38nm O 60nm
Maximum Power [1]	S 13.5dBm O 17dBm (C-band) O 16dBm (L-band)	S 13.5dBm O 17dBm (C-band) O 16dBm (L-band) *
In-operation power adjust	S (7dBm-MAX)	S (7dBm-MAX)
In-operation frequency adjust	S (+-12 GHz)	S (+-30GHz)
Fiber	PMF /w short or long tubing	PMF /w short or long tubing
Clean Sweep	O 25GHz	Y up to 200GHz
Clean Jump	O [3]	S [3]
Clean Scan	O [3]	O [3]
No Drift	O [3]	O [3]
Clean Sweep Extended		O [3]
Low RIN configuration		O
Clean Modulation FM		O
Clean Modulation AM		O
Clean Measurement CH1		O [4]
Clean Measurement CH2		O [4]
Analog Output		O [4]
Enclosure [2]	PPCL500	PPCL550
Enclosure fiber	Adapter or pigtail (900um/2mm/3mm)	Adapter or pigtail (900um/2mm/3mm)

Note 1: the customer can choose their desired tuning range (up to 60nm) in the wavelength ranges 1515nm – 1580nm (extended C-band) and 1560nm – 1625nm (extended L-band). Maximum guaranteed power in the tuning range (subject to the selected power level) is as below:

Max Guaranteed Output Power	1515-1520	1520-1525	1525-1570	1570-1575	1575-1580
Extended C-band	15dBm	16 dBm	17 dBm	16 dBm	15 dBm
	1560-1565	1565-1570	1570-1615	1615-1620	1620-1625
Extended L-band	14 dBm	15 dBm	16 dBm	15 dBm	14 dBm

E.g when a customer selects 17dBm for 1515-1575nm range, they are guaranteed at least 15dBm at 1515nm. Power levels above that are best-effort.

Note 2: The enclosure solution integrates the PPCL600/PPCL700 into a metal enclosure with power supplies and a convenient communications interface. The customer will need to plug in a barrel plug from a power supply (included) and a micro-USB cable (included). If analog inputs are included, SMA connectors are added (PPCL550 only). The customer can choose between a fiber adapter in the wall of the module or a fiber pigtail (900um buffer, 2mm cable or 3mm cable).

Note 3: Feature still in development and may be available at extended leadtimes

Note 4: Exact functionality depends on firmware implementation. Customization available.

At times, special configurations may have been created for customers that deviate from the above descriptions. Customers that have purchased such units were made aware of the differences.