

REVISION

Revision	Date	Description	Valid until:
1.0	2024-10-18	Initial specifications	2025-04-18

TECHNICAL SPECIFICATIONS

Optical Parameters at Nominal Wavelength

Description		Specification	Unit
Wavelength (in vacuum) [1,2]		1550.12 ± 0.04	nm
Instantaneous Linewidth at 1 MHz [1,3]		< 0.2	kHz
Output Power [1]		> 60	mW
Frequency Noise at 5 Hz [1]		< 1x10 ⁶	Hz ² /Hz
Frequency Noise at 1 kHz [1]		< 4x10 ³	Hz ² /Hz
Frequency Noise Between 100 kHz and 1 MHz [1]		< 8x10 ¹	Hz ² /Hz
Frequency Noise at 100 MHz [1]		< 1x10 ⁵	Hz ² /Hz
Relative Intensity Noise [1,4]		< -155	dBc/Hz
Wavelength Stability over case temperature	By design	< 0.5	pm/°C
Frequency Stability over 2 Minutes [5]	By design	< 2	MHz
Frequency Stability over 1 Hour [5]	By design	< 4	MHz
Side Mode Suppression Ratio [1]		> 40	dB
Return Loss [1]		< -40	dB
Polarization Extinction Ratio		> 17	dB

Slow Frequency Tuning

Description		Specification	Unit
Frequency Tuning Method		Thermal, control via software command	
Frequency Tuning Range	By design	± 25 (unlocked) / ± 2 (locked)	GHz
Frequency Tuning Resolution	By design	20 (unlocked) / 5 (locked)	MHz

Fast Frequency Modulation

Description		Specification	Unit
Frequency Modulation Method		Analog voltage input	
Frequency Modulation Amplitude (peak-to-peak) [1,6]		≥ 0.2	GHz
Frequency Modulation Repetition Rate [1]		10	kHz
Maximum Modulation Voltage [1,7]		Within -2.5 to 2.5	V

LXM-U1550.12-060-M1-I1-N0

Interfaces

Description	Specification	Unit
Communication Unit	Included	
Power Supply Voltage [8]	5 V USB-C PD3.0 power block included	
Power and Communication Connectors	USB-C PD3.0 (power), USB-C (comm), MMCX (interlock)	
Frequency Modulation Connector	SMA	
Communication Interface	USB-C, Software included (Windows®)	
Optical Fiber type	Panda polarization maintaining	
Optical Fiber Length	1.0 ± 0.1	m
Optical Connector	FC / APC (narrow key), slow axis aligned to key	

Mechanical & Environmental

Description		Specification	Unit
Size (L x W x H)		90 x 56 x 28	mm
Power Consumption [2,8]	By design	5	W
Operating Temperature [9]	By design	-20 to +65	°C
Storage Temperature	By design	-40 to +85	°C
Humidity (non-condensing)	By design	< 95	%

NOTE(S)

[1] Tested parameter provided on test data report

[2] Room temperature (20 to 23°C)

[3] Instantaneous linewidth obtained by multiplying the one-sided PSD of frequency noise measured at 1 MHz by π .

[4] Average of the relative intensity noise floor between 1 and 10 MHz.

[5] Characterised as the standard deviation of the beat-note frequency between two similar LXM lasers.

[6] For a triangular voltage waveform input at maximum modulation voltage and specified repetition rate.

[7] Exceeding maximum modulation voltage may result in laser unlocking.

[8] Max 15W power consumption during boot up, 5 VDC 3 Amp supply requirement.

[9] Optical specifications guaranteed between -5°C to +55°C operating temperature.