Product Specification - OPP2022518 - 11.0

LXM-U1550.12-040-M1-I1-N00

REVISION

Revision	Date	Description
11.0	2025-11-20	Initial specifications

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]		< 0.1	kHz
Output Power [1]		> 40	mW
Frequency Noise at 5 Hz [1]		< $1x10^6$	Hz^2/Hz
Frequency Noise at 1 kHz [1]		< $2x10^2$	Hz^2/Hz
Frequency Noise Between 100 kHz and 1 MHz [1]		< $3.5x10^1$	Hz^2/Hz
Frequency Noise at 100 MHz [1]		< $5x10^4$	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
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
Modulation Rate for Amplitude Specification [1]		10	kHz
Frequency Modulation Response (up to) [7]	By design	10	MHz
Maximum Modulation Voltage [1,8]		Within -2.5 to 2.5	V

Interfaces

Description	Specification	Unit
Communication Unit	Included	
Power Supply Voltage [9]	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 [2,9]	By design	5	W
Operating Temperature [10]	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 between 1 and 10 MHz.

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

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

[7] Flat amplitude and phase response up to 10 MHz modulation rate.

[8] The voltage amplitude associated to 0.2 GHzp-p frequency modulation is provided on the test report. Exceeding this value may result in laser unlocking.

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

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

Product Specification - OPP2022518 - 12.0

LXM-U1550.12-060-M1-I1-N00

REVISION

Revision	Date	Description
12.0	2025-11-20	Initial specifications

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]		< 0.1	kHz
Output Power [1]		> 60	mW
Frequency Noise at 5 Hz [1]		< $1x10^6$	Hz^2/Hz
Frequency Noise at 1 kHz [1]		< $2x10^2$	Hz^2/Hz
Frequency Noise Between 100 kHz and 1 MHz [1]		< $3.5x10^1$	Hz^2/Hz
Frequency Noise at 100 MHz [1]		< $5x10^4$	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
Polarization Extinction Ratio		> 17	dB

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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	
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Modulation Rate for Amplitude Specification [1]		10	kHz
Frequency Modulation Response (up to) [7]	By design	10	MHz
Maximum Modulation Voltage [1,8]		Within -2.5 to 2.5	V

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Size (L x W x H)		90 x 56 x 28	mm
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