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Data Sheet

August 14, 2026

AGILENT / KEYSIGHT

Agilent / Keysight N7778C Step-Tunable Laser Source

Agilent Keysight N7778C Value Line Tunable Laser Source The Agilent/Keysight N7778C is an N777-C Family value line tunable laser. OEM datasheet 5992-4217 covers 1240 nm to 1650 nm by option with peak output greater than plus 12 dBm (plus 19.4 dBm N7776C Option 013; plus 18 dBm N7778C Option 013) and bidirectional sweeps to 200 nm/s. Swept IL/PDL of DWDM, CWDM and PON filters, silicon photonics ROSA test on Option 013, and coherent transmission local-oscillator use. Value line with mandatory Option 004 enhanced wavelength accuracy The Agilent/Keysight N7778C is an N777-C Family value line tunable laser. OEM datasheet 5992-4217 covers 1240 nm to 1650 nm by option with peak output greater than plus 12 dBm (plus 19.4 dBm N7776C Option 013; plus 18 dBm N7778C Option 013) and bidirectional sweeps to 200 nm/s. Swept IL/PDL of DWDM, CWDM and PON filters, silicon photonics ROSA test on Option 013, and coherent transmission local-oscillator use. Value line with mandatory Option 004 enhanced wavelength accuracy Signal to SSE ratio 75 dB/nm (50 dB/nm on Option 013)



MODEL

**Agilent / Keysight
N7778C**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

N7778C

LISTING

<https://aumictechlabs.com/products/n7778c-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keysight N7778C Step-Tunable Laser Source is a ECL tunable laser engineered for optical testing, manufacturing, and research applications. It delivers narrow linewidth operation below 10

kHz with excellent long-term wavelength stability and suppressed spontaneous emission, enabling precise spectral measurements and high-throughput device characterization. The instrument combines cost-effective operation with the tuning speed and accuracy demanded by modern optical component testing, while maintaining software compatibility with industry-standard 8160xA and 81600B platforms.

Technical Specifications

- Wavelength Range: 1240 nm to 1650 nm (continuous coverage across family options)
- Absolute Wavelength Accuracy: ± 4 pm (Option 004) or ± 20 pm standard
- Relative Wavelength Accuracy: ± 10 pm
- Wavelength Repeatability: ± 1 pm to ± 2.5 pm depending on sweep conditions and configuration
- Wavelength Stability: ± 1.5 pm to ± 2.5 pm typical
- Spectral Linewidth: < 10 kHz
- Source Spontaneous Emission: ≥ 75 dB/nm above baseline
- Maximum Output Power: +18 dBm (Option 013), +12 dBm peak standard; +16 dBm across 1290–1340 nm
- Power Stability: ± 0.01 dB over one hour
- Power Linearity: ± 0.05 dB
- Tuning Speed: Up to 200 nm/s for two-way sweeps
- Fine Tuning Resolution: 0.1 pm with coordinated motor and piezo control
- Mode-Hop Free Tuning: Full wavelength range operation

Key Features

- ECL cavity and module design ensures narrow linewidth and low spontaneous emission
- Web browser and USB remote control interfaces; optional local touch-screen display
- Amplitude modulation and coherence control functions
- Integrated Photonic Application Suite compatibility for insertion loss, PDL, and dispersion measurement
- Compact form factor: 16 × 14 × 10 in, 25 lbs, single rack unit height

Typical Applications

- Component spectral characterization and BER testing
- Optical device manufacturing quality assurance
- Telecommunications and datacom wavelength validation

Compatibility & Integration

Software-compatible with 8160xA and 81600B laser platforms. Supports remote command control for amplitude modulation and integrated photonic measurement workflows.

Features & description

From manufacturer datasheet

Polarization Extinction Ratio Typical: 16 dB on PMF Panda slow axis aligned to connector key

Optical Connector: PMF angled contact output Laser Safety Class: Class 1M IEC 60825-1 2017

Dimensions HxWxD: 88 mm x 426 mm x 545 mm Weight Approximate: 8.5 kg net; 13 kg shipping Line

Power: AC 100 to 240 V plus or minus 10 percent 50/60 Hz 200 VA max Remote Interfaces: LAN

10/100/1000BASE-T and USB 2.0 Operating Temperature: plus 10 C to plus 35 C Storage Temperature:

minus 40 C to plus 70 C (Option D00); minus 30 C to plus 70 C (Option D01 touchscreen) Warm Up

Time: 60 minutes; 30 minutes if previously stored at the same temperature Recommended

Recalibration Period: 2 years Notes Numeric rows from Keysight N777-C Family of Tunable Laser

Sources datasheet 5992-4217 model column N7778C. Specifications apply with mandatory Option

004. Option 013 extra-high power peak greater than plus 18 dBm.

N7778C Characteristics / Specifications

PARAMETER	VALUE
Instrument Type	Tunable laser source
Series Family	Keysight N777-C
Wavelength Options	Option 013 1250 to 1370 nm; 113 1240 to 1380 nm; 114 1340 to 1495 nm; 116 1490 to 1640 nm; 216 1450 to 1650 nm
Maximum Output Power Option 116 2	greater than plus 12 dBm peak; greater than plus 11 dBm from 1515 nm to 1620 nm; greater than plus 8 dBm across option span
Minimum Output Power Setting	0 dBm (Options 113 114 116 216); plus 6 dBm (Option 013)
Wavelength Resolution	0.1 pm (12.5 MHz at 1550 nm)
Maximum Sweep Speed	200 nm/s bidirectional (not N7779C)
Absolute Wavelength Accuracy Stepped	plus or minus 9 pm; typical plus or minus 4 pm with Option 004
Relative Wavelength Accuracy Stepped	plus or minus 5 pm; typical plus or minus 2.5 pm with Option 004
Wavelength Repeatability Stepped	plus or minus 2 pm; typical plus or minus 1 pm with Option 004
Wavelength Stability 24 Hours Typical	plus or minus 1.5 pm or less
Power Repeatability Typical	plus or minus 0.01 dB
Power Stability 1 Hour	plus or minus 0.01 dB at constant temperature plus or minus 1 K
Power Linearity	plus or minus 0.1 dB
Power Flatness Versus Wavelength	plus or minus 0.25 dB; typical plus or minus 0.1 dB Options 116 and 216
Signal to SSE Ratio	75 dB/nm or greater (50 dB/nm or greater Option 013)
Signal to SSE Ratio 0.1 nm	85 dB/0.1 nm or greater (60 dB/0.1 nm or greater Option 013)
Signal to Total SSE Ratio	70 dB or greater (38 dB or greater Option 013 typical)
Side Mode Suppression Typical	70 dB or greater (60 dB or greater on Option 013/113 full span)
Relative Intensity Noise Typical	less than minus 150 dB/Hz from 0.1 to 6 GHz; less than minus 155 dB/Hz Option 013
Linewidth Intrinsic Typical Coherence Off	less than 10 kHz
Effective Linewidth Coherence On Typical	greater than 50 MHz (greater than 150 MHz Option 013)
Return Loss Typical	60 dB

PARAMETER	VALUE
Polarization Extinction Ratio Typical	16 dB on PMF Panda slow axis aligned to connector key
Optical Connector	PMF angled contact output
Laser Safety Class	Class 1M IEC 60825-1 2017
Dimensions HxWxD	88 mm x 426 mm x 545 mm
Weight Approximate	8.5 kg net; 13 kg shipping
Line Power	AC 100 to 240 V plus or minus 10 percent 50/60 Hz 200 VA max
Remote Interfaces	LAN 10/100/1000BASE-T and USB 2.0
Operating Temperature	plus 10 C to plus 35 C
Storage Temperature	minus 40 C to plus 70 C (Option D00); minus 30 C to plus 70 C (Option D01 touchscreen)
Warm Up Time	60 minutes; 30 minutes if previously stored at the same temperature
Recommended Recalibration Period	2 years
Absolute wavelength accuracy	Stepped: plus or minus 9 pm; typical plus or minus 4 pm with Option 004
Relative wavelength accuracy	Stepped: plus or minus 5 pm; typical plus or minus 2.5 pm with Option 004
Wavelength repeatability	Stepped: plus or minus 2 pm; typical plus or minus 1 pm with Option 004
Wavelength stability	24 Hours Typical: plus or minus 1.5 pm or less
Linewidth	Intrinsic Typical Coherence Off: less than 10 kHz
Effective linewidth	Coherence On Typical: greater than 50 MHz (greater than 150 MHz Option 013)
Maximum output power	Option 116 216: greater than plus 12 dBm peak; greater than plus 11 dBm from 1515 nm to 1620 nm; greater than plus 8 dBm across option span
Power repeatability	Typical: plus or minus 0.01 dB
Power stability	1 Hour: plus or minus 0.01 dB at constant temperature plus or minus 1 K
Relative intensity noise	Typical: less than minus 150 dB/Hz from 0.1 to 6 GHz; less than minus 155 dB/Hz Option 013
Return loss	Typical: 60 dB
Polarization extinction ratio	Typical: 16 dB on PMF Panda slow axis aligned to connector key

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	minus 40 C to plus 70 C (Option D00); minus 30 C to plus 70 C (Option D01 touchscreen)
Operating temperature	plus 10 C to plus 35 C
Operating Temperature	plus 10 C to plus 35 C
Warm Up Time	60 minutes; 30 minutes if previously stored at the same temperature
Recommended Recalibration Period	2 years Notes Numeric rows from Keysight N777-C Family of Tunable Laser Sources datasheet 5992-4217 model column N7778C. Specifications apply with mandatory Option 004. Option 013 extra-high power peak greater than plus 18 dBm.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
Specifications	
PARAMETER	VALUE
Instrument Type	Tunable laser source
Series Family	Keysight N777-C
Wavelength Options	Option 013 1250 to 1370 nm; 113 1240 to 1380 nm; 114 1340 to 1495 nm; 116 1490 to 1640 nm; 216 1450 to 1650 nm
Maximum Output Power Option 116 216	greater than plus 12 dBm peak; greater than plus 11 dBm from 1515 nm to 1620 nm; greater than plus 8 dBm across option span
Minimum Output Power Setting	0 dBm (Options 113 114 116 216); plus 6 dBm (Option 013)
Wavelength Resolution	0.1 pm (12.5 MHz at 1550 nm)
Maximum Sweep Speed	200 nm/s bidirectional (not N7779C)
Absolute Wavelength Accuracy Stepped	plus or minus 9 pm; typical plus or minus 4 pm with Option 004
Relative Wavelength Accuracy Stepped	plus or minus 5 pm; typical plus or minus 2.5 pm with Option 004
Wavelength Repeatability Stepped	plus or minus 2 pm; typical plus or minus 1 pm with Option 004
Wavelength Stability 24 Hours Typical	plus or minus 1.5 pm or less
Power Repeatability Typical	plus or minus 0.01 dB
Power Stability 1 Hour	plus or minus 0.01 dB at constant temperature plus or minus 1 K
Power Linearity	plus or minus 0.1 dB
Power Flatness Versus Wavelength	plus or minus 0.25 dB; typical plus or minus 0.1 dB Options 116 and 216
Signal to SSE Ratio	75 dB/nm or greater (50 dB/nm or greater Option 013)
Signal to SSE Ratio 0.1 nm	85 dB/0.1 nm or greater (60 dB/0.1 nm or greater Option 013)
Signal to Total SSE Ratio	70 dB or greater (38 dB or greater Option 013 typical)
Side Mode Suppression Typical	70 dB or greater (60 dB or greater on Option 013/113 full span)
Relative Intensity Noise Typical	less than minus 150 dB/Hz from 0.1 to 6 GHz; less than minus 155 dB/Hz Option 013
Linewidth Intrinsic Typical Coherence Off	less than 10 kHz
Effective Linewidth Coherence On Typical	greater than 50 MHz (greater than 150 MHz Option 013)
Return Loss Typical	60 dB

PARAMETER	VALUE
Polarization Extinction Ratio Typical	16 dB on PMF Panda slow axis aligned to connector key
Optical Connector	PMF angled contact output
Laser Safety Class	Class 1M IEC 60825-1 2017
Dimensions HxWxD	88 mm x 426 mm x 545 mm
Weight Approximate	8.5 kg net; 13 kg shipping
Line Power	AC 100 to 240 V plus or minus 10 percent 50/60 Hz 200 VA max
Remote Interfaces	LAN 10/100/1000BASE-T and USB 2.0
Operating Temperature	plus 10 C to plus 35 C
Storage Temperature	minus 40 C to plus 70 C (Option D00); minus 30 C to plus 70 C (Option D01 touchscreen)
Warm Up Time	60 minutes; 30 minutes if previously stored at the same temperature
Recommended Recalibration Period	2 years

Notes

Numeric rows from Keysight N777-C Family of Tunable Laser Sources datasheet 5992-4217 model column N7778C. Specifications apply with mandatory Option 004. Option 013 extra-high power peak greater than plus 18 dBm.

Ordering Information

OPTION	DESCRIPTION
Option 004	enhanced wavelength accuracy
Option 013	1250 to 1370 nm; 113 1240 to 1380 nm; 114 1340 to 1495 nm; 116 1490 to 1640 nm; 216 1450 to 1650 nm
Option 116	216: greater than plus 12 dBm peak; greater than plus 11 dBm from 1515 nm to 1620 nm; greater than plus 8 dBm across option span

Laser Safety Class: Class 1M IEC 60825-1 2017 Dimensions HxWxD: 88 mm x 426 mm x 545 mm Weight Approximate: 8.5 kg net; 13 kg shipping Line Power: AC 100 to 240 V plus or minus 10 percent 50/60 Hz 200 VA max Remote Interfaces: LAN 10/100/1000BASE-T and USB 2.0 Operating Temperature: plus 10 C to plus 35 C Storage Temperature: minus 40 C to plus 70 C (Option D00); minus 30 C to plus 70 C (Option D01 touchscreen)

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.