Sintec Optronics

Supercontinuum Sources

Supercontinuum Source STYS-SC-5

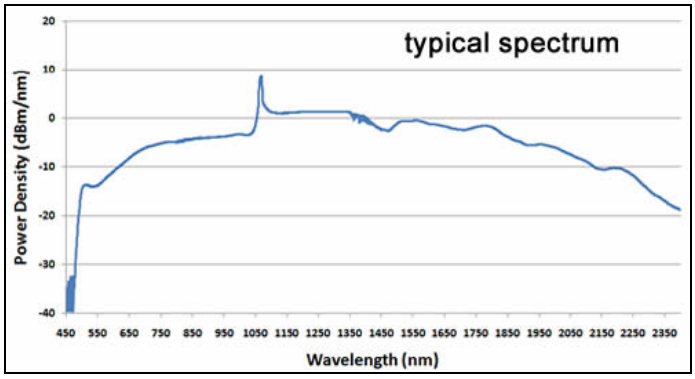
Supercontinuum source STYS-SC-5 is a cost effective supercontinuum laser. With a total output power of more than 500mW covering a broad spectral range of 450nm to 2400nm, the system is an ideal light source for fiber component characterization, fiber sensing, OCT and other areas. The system is based on self-designed highly reliable seed laser offering unique reliability and performance. STYS-SC-5 can replace the traditional ASE, SLD and lamp systems in many applications.

Features:

- FC/APC fiber connector output
- Up to 500mW
- Single-mode output
- 450nm-2400nm
- Spectrum Stability<0.1dB
- With anti-reflection isolator

Applications:

- Fiber component characterization
- Fiber sensing
- OCT
- Industry inspection
- Broadband spectroscopy
- Fluorescence spectroscopy



Model	STYS-SC-5-FC
Total Power (Full specrum)	500mW
Wavelength	450nm-2400nm
Spectrum Stability (800-1700nm)	<0.1dB
Power Stability	<1%
Repetition Rate	5MHz
Output	Single mode fiber with FC connector
M^2	<1.1
Fundamental Pulse Width	~150ps
Length of Output Fiber	1.5m
State of Polarisation	Unpolarised
Computer Interface	USB
Sync(trigger) Output	SMA
Connector	FC/APC. FC/PC or CFS
Power Requirements	100-240V, 50/60Hz
Dimensions (W*L*H)	300mm*245mm*70mm
Weight	<10kg

Option: fiber collimated output >1W total powerw at 450-2400nm.

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Supercontinuum Source STYS-SC-PRO

STYS-SC-Pro is the latest high-power supercontinuum source with variable repetition rate from 10kHz to 80MHz. It delivers a wide spectral output ranging from 430nm to 2400nm with 8W total power (10-20W optional). It has the unique feature of 1MHz-80MHz external triggerable range which could be very useful for locking to the mode-locked laser for pump-probe application. STYS-SC-Pro offers >1μJ pulse energy (@1MHz), making it the ideal source for super resolution microscopy. The 10kHz to 80MHz repetition rate capability makes it an ideal source for the applications such as low noise OCT, fluorescence microscopy, nanophotonics and etc.

Features:

- Wavelength: 430nm-2400nm
- Total power: 8W (10-20W Optional)
- Internal Repetition Rate: 0.01-80MHz
- External Triggerable (Optional): 1MHz-80MHz
- Pulse Energy: >1μJ

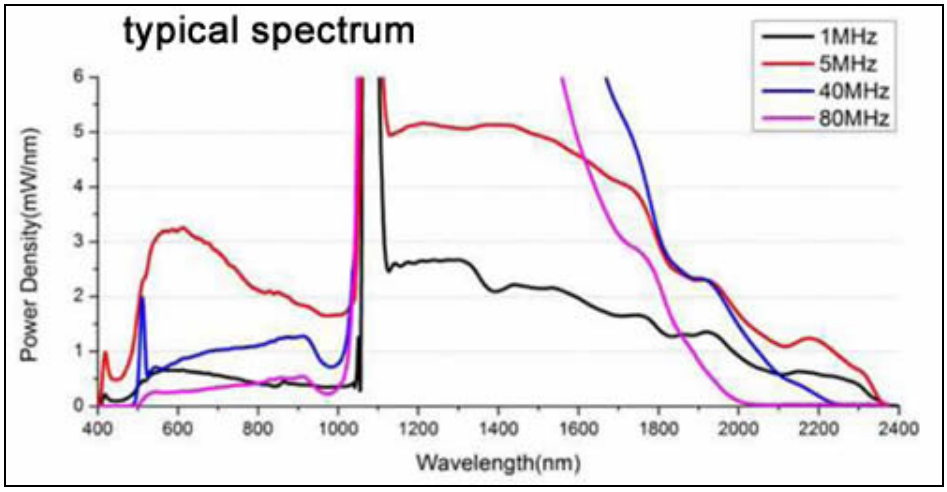
Applications:

- OCT
- Fluorescence Spectroscopy and Microscopy
- Nanophotonics
- Super-Resolution Imaging
- Photocurrent microscopy

Model	STYS-SC Pro
Total Power	>8W
Wavelength Range	430-2400nm
Pulse Energy	>1μJ
Visible Power	>1000mW
Power Stability	<1%
Fundamental Pulse Width	100ps
Internal Repetition Rate	10kHz-200MHz adjustable
External Trigger (Optional)（SMA）	100kHz-2MHz or 1MHz-80MHz, External trigger range 0-5V
Beam Diameter and Quality	~2mm@633nm; M2<1.1
Beam Divergence (Half Angle)	<1mrad
State of Polarization	Unpolarized
Length of Output Fiber	1.5m
Computer Interface	USB
Sync(trigger) Output（SMA）	NIM -1V
Power Requirements	100-240V 50/60Hz
Dimensions (L*W*H) and Weight	360mm*260mm*125mm, <20kg

Optional:

- Total Power: 10-20W
- Fundamental Pulse Width: 50ps



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Mode-locked Supercontinuum Source STYS-SC-Pro-M

STYS-SC-Pro-M is the latest supercontinuum source with a seed source pulse duration of 6ps. It delivers a wide spectral output ranging from 410nm to 2400nm with over 7W total power. The optional 10kHz to 40MHz repetition rate capability also makes it an ideal source for the applications such as low noise OCT,fluorescence microscopy, nanophotonics and etc.

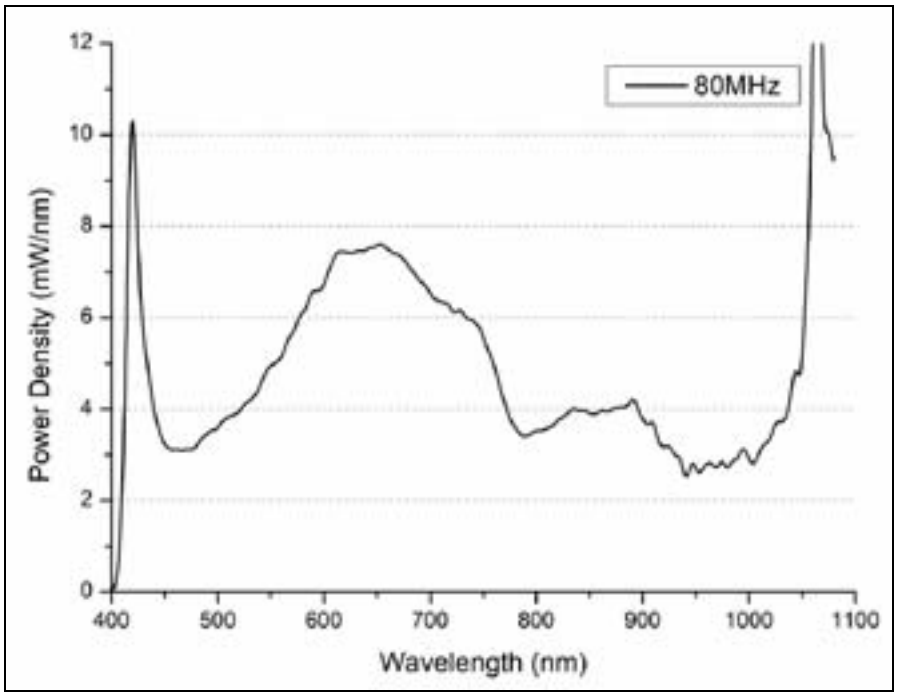
Applications:

- OCT
- Fluorescence Spectroscopy and Microscopy
- Nanophotonics
- Super-Resolution Imaging
- Photocurrent microscopy

Features:

- Wavelength: 410nm-2400nm
- Total power: 7W
- Repetition Rate: 80MHz
- Seed source pulse duration: ~6ps
- Single-Mode Output

Model	STYS-SC-Pro-M-80	STYS-SC-Pro-M--40	STYS-SC-Pro-M-20	STYS-SC-Pro-M-PP
Total Power	>7W	>3.5W	>1.5W	>3.5W
Repetition Rate	80MHz	40MHz	20MHz	10kHz-40MHz
Visible Power	>2W	>1W	>0.5W	>1W@40MHz
Wavelength Range	410-2400nm			
Power Stability	<1%			
Fundamental Pulse Width	6ps			
Beam Diameter and Quality	~2mm@633nm; M2<1.1			
Beam Divergence (Half Angle)	<1mrad			
State of Polarization	Unpolarized			
Length of Output Fiber	1.5m			
Computer Interface	USB			
Sync(trigger) Output（SMA）	TTL +2.8V			
Power Requirements	100-240V 50/60Hz			
Dimensions (L*W*H) and Weight	360mm*260mm*125mm, <20kg			



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Supercontinuum Source STYS-SC-OEM

STYS-SC-OEM is the latest high power supercontinuum source with the compact footprint for the demanding medical and industry application. The STYS-SC-OEM, with 10kHz to 200MHz repetition rate range, delivers a wide spectral output ranging from 430nm to 2400nm with >8W total power. The STYS-SC-OEM not only maintains the traditional supercontinuum light source excellent performance, but also sets aside DB25, RS232, NIM trigger, Pulse on Demand (POD) and many other control interface. The wide spectrum combined with laser beam quality makes it an ideal source for replacing traditional broadband source like lamp, LED, SLED or any number of laser lines in the system.

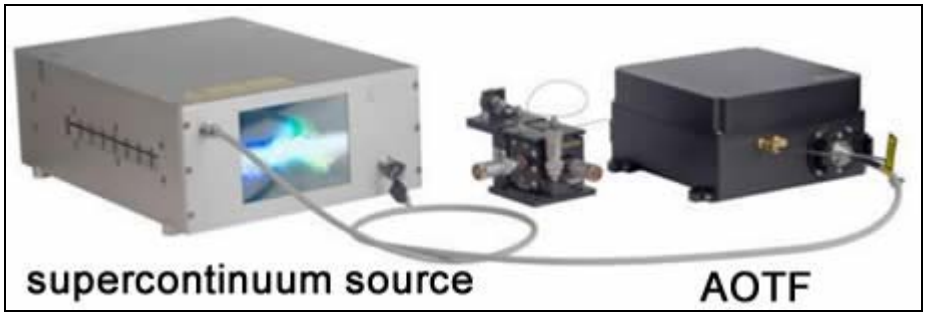
Applications:
- Semiconductor Inspection & Metrology
- Industrial Sorting/ Machine Vision
- Medical Instrumentation
- Flow Cytometry
- Optical Coherence Tomography

Features:
- Wavelength: 400nm-2400nm
- Total Power: >8W
- Visible Power: >1200mW
- Repetition Rate: 10kHz-200MHz
- Optional External Triggerable: 1-80MHz

Model	STYS-SC-OEM
Visible Power	>900mW
Power Stability	<1%
Repetition Rate	0.01kHz-200MHz adjustable (Optional external triggerable 1-80MHz)
Maximun Pulse Energy	>1.2uJ
Wavelength Range	430-2400nm
Fundamental Pulse Width	~100ps
Beam Diameter & Quality	~2mm@633nm; M2<1.1
Beam Divergence (half angle)	<2mrad
State of Polarisation	Unpolarised
Length of Output Fiber	1.5m
Computer Interface	USB
Sync(trigger) Output	SMA NIM pulse
Power Requirements	100-240V, 50/60Hz
Dimensions (W*L*H)	300mm*245mm*70mm
Weight	<10kg

Acousto-optic Tunable Filter Unit for Supercontinuum Sources (STYS-AOTF Series)

AOTF system is a simply plug and play module with any of the supercontinuum sources. For each integrated AOTF crystal, the system enables up to 8 simultaneous tunable wavelength channels. Combines of three different crystals, the AOTF module covers the entire supercontinuum spectrum from 400nm to 2400nm. The system can be equipped with either one or two of them according to customer demand. The AOTF offers a free-space collimated beam as standard optical output. As an alternative, a single-mode fiber delivered output is also available.



Features:
- 400-2400nm filter range
- Simultaneous 8 channels output
- Linear polarized output
- Easy plug & play
- User friendly GUI

Applications:
- High resolution microscopy
- Fluorescence microscopy
- Nanophotonics
- Replace for several single wavelength laser
- Material characterization

Model	STYS-AOTF-VIS	STYS-AOTF-NIR	STYS-AOTF-IR
Wavelength Range	400nm-650nm	650nm-1100nm	1100-2000nm
Filter Bandwidth	3-8nm	2-7nm	6-12nm
AOTF Diffraction Efficiency	>70%	>70%	>70%
Output Efficiency	>40%	>40%	>40%
Polarization	Linear Polarised	Linear Polarised	Linear Polarised

Acousto-optic Tunable Filter Unit for Supercontinuum Sources (STYS-AOTF-Pro Series)

STYS-AOTF-PRO is the latest plug and play wavelength selection module based on the acousto-optic crystal. It has the two output: broadband supercontinuum output (useful for broadband scattering, reflection and transmission spectroscopy) and single line tunable output (useful for replacing multiple laser lines). Moreover the single line tunable output covers 430-1450nm range in one output beam, offering great flexibility for spectroscopy, microscopy and nanophotonics application.

Applications：
- High resolution microscopy
- Fluorescence microscopy & spectroscopy
- Nanophotonics
- Replace of several single wavelength laser
- Material characterization

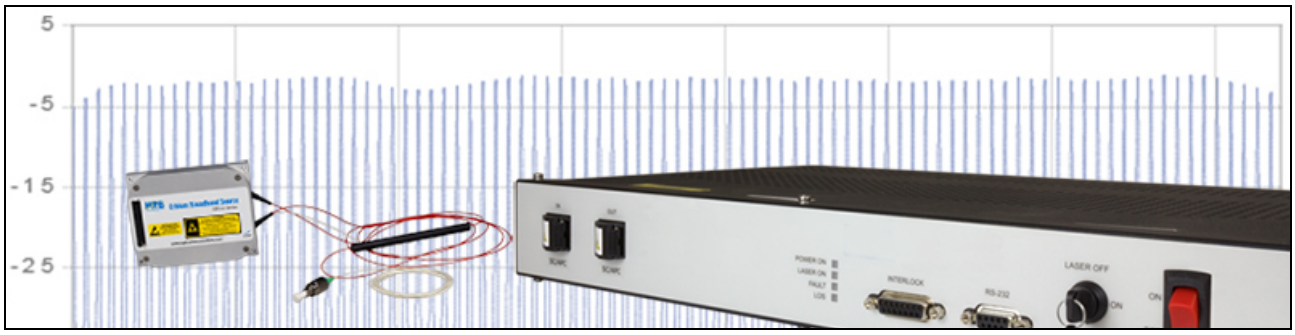
Features：
- Switchable SC output and tunable output
- 430-1450nm range in one beam
- Linear polarized output
- Up to 8 simultaneous channel
- Easy plug & play

Model	STYS-AOTF-Pro
Outputs	Output 1: Broadband SC Output; Output 2: Single Line Tunable Output
Single Line Tunable Range	430-1450nm
Filter Bandwidth	2-10nm
AOTF Diffraction Efficiency	>90%
Output Efficiency	>40%
Polarization	Linear

Broadband Sources for Communications
Erbium Broadband Sources

STM-EBS-Series

Our Erbium Broadband Sources with single or dual band coverage provide excellent stability and flatness over the entire bandwidth. As an invaluable addition to Test and Measurement workstations requiring a noise source or spectrally spliced output to provide ITU locked channels, these units can be easily integrated into new or existing system. 1RU models have the option to control the unit using RS232, or the GUI. A complete line of flattened Broadband and Comb Sources designed for optical-component measurement, EDFA-subsystem evaluation and optical link characterization.



Features

- Provides broadband light several thousand times brighter than a typical EELED
- Unique and extra-ordinary source for different applications
- Output light is unpolarized
- Wide spectral range with excellent flatness
- Excellent stability of 5 mdB/hour
- Packaged in instrument or modular format

Applications

- Wide dynamic-range optical component testing
- Accurate EDFA gain spectrum measurement
- Telecom systems compliance tests
- Optical link characterization
- Optical-code division multiple access and local networking by spectral slicing
- Biomedical imaging
- Sensors & gyroscopes

1. DWDM Comb Sources

A series of high-power spectrally-sliced Erbium Broadband Sources providing up to 100 channels (50 GHz) locked to the ITU grid at 22 dBm output power. This source can dramatically reduce equipment cost and setup time in DWDM system test, replacing costly banks of DFB lasers.

- Features the same power-spectral density as a full set of DFB lasers
- Extremely stable

- 50 GHz and 100 GHz spacing available
- Channels locked to ITU grid
- High peak-to-valley extinction ratio

Add / Drop Option

Combining the Add/Drop box with our ASE Comb Source allows for an even broader range of applications. The Add/Drop box filters out one or more fixed channels depending on the customer's request.

- Allows the replacement of these missing channels with real data carrying channels
- Modulated channels can be used for Bit-Error Rate testing
- Easy monitoring of Four-Wave Mixing

Applications

- Simultaneously measure optical amplifier gain flatness and noise figure under conditions of full channel loading (high peak-to-valley extinction ratio extends NF measurement capability to high-power booster amplifiers)
- Measure the full band OSNR and channel power evolution over links consisting of multiple spans and optical amplifiers without the need for costly banks of DFB lasers
- Measure magnitude of inter-channel Raman pumping along a span for fully-loaded band case
- Test DWDM demux components

Specifications

Our Comb Sources can be designed to meet customer-specific requests. Contact us to discuss your requirements.

Part number	STM-4522	STM-9022	STM-9622	STM-9822	
Output Power, Typical	22	22	22	22	dBm
Spacing Between Channels	100	50	50	50	
Number of Channels	45	91	96	99	
Wavelength Range	1529.55 - 1565.09	1529.55 - 1565.5	1529.16 - 1567.13	1570.01-1611.35	nm
Extinction Ratio, Minimum	47	45	44	44	dB
Optical Connector	FC/APC	FC/APC	FC/APC	FC/APC	

2. Brodband Sources

High power flat and stable Broadband Sources for Automated Test and Measurement work stations or stand-alone lab test equipment.

Part number	STM-4022	STM-4026	STM-4226	STM-7514 C+L Band	
Output Power	22	26	26	14	dBm
Minimum Wavelength Range	1529-1565	1529-1565	1526-1568	1526-1600	nm
Ripple	≤1.5(0.8 typ)	≤1.5(0.8 typ)	≤1.5(0.8 typ)	≤ 2.5	dB
Spectral Width at 3 dB	≥ 40	≥ 40	≥ 44	≥ 75	nm
Stability after 60 min	≤ 20	≤ 20	≤ 20	≤ 20	mdB/hr
Also available in L Band					

3. Gain Module Broadband Sources

Compact and lightweight in half- (STM-EBS-μ) and full-MSA (STM-EBS-xs) packages, these Broadband Sources can provide up to 21 dBm output power over 35 nm bandwidth with a maximum power consumption of < 5 watts. A graphical user interface provides access to the unit. Communication is via RS232/485.

	STM-EBS-μ Series	STM-EBS-xs Series	
Maximum Output Power	19	21	dBm
Minimum Spectral Width	1529-1564	1529 - 1564	nm
Ripple	≤± 2.5	≤± 1.5	dB
Stability after 60 min warm up	≤± 50	≤± 50	mdB/hr
Optical output isolation	≥ 40	≥ 40	dB
Power Consumption	< 2.9	< 4.9	W
Dimensions	45 x 70 x 12	90 x 70 x 15	mm