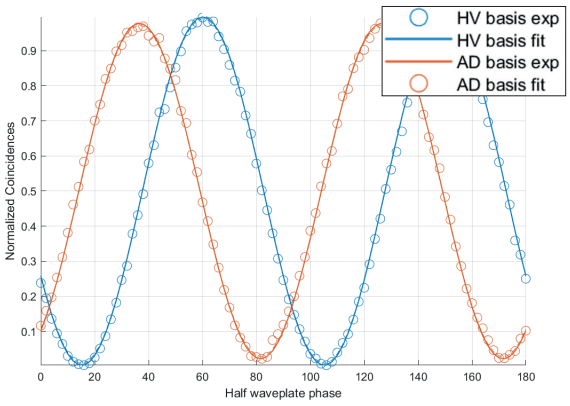
TPS_1550_TYPE_II

Quantum photon source

Polarization-entangled photon source [Quantum Communication]



Typical Visibility fringes for HV & AD basis

The TPS_1550_TYPE_II is a new generation of turn-key ultra-narrow bandwidth entangled photon source working at room temperature generating polarization-entangled photons in the C-band. Based on a table-top design, the TPS_1550_TYPE_II generates entangled photons with high visibility optimized for Quantum Communication and Quantum Internet Network applications.

Pairs of photons are produced by Spontaneous Parametric Down Conversion (SPDC) in Periodically Poled Lithium Niobate PPLN waveguide (Quasi Phase Matching-QPM) using a ultra stable pump laser. By using a wavelength optical splitter, the Photon-pairs are split in two outputs, such as Photon Out 1 and Photon Out 2.

Very well-designed and remotely controlable, the compactness and the modern interfaces of the TPS_1550_TYPE_II makes it your essential analytical tool for the most demanding optical quantum applications !

Features

- Photon pair generation at 1550 nm
- Ultra-narrow bandwidth
- Polarization Entanglement HV/AD
- High pair generation rate
- High visibility
- Adjustable pumping power
- Software for remote control

Applications

- Quantum Internet Network
- Quantum Key Distribution
- Compatible with any QKD protocols
- Quantum Communications

Pairing products

- NIR Photon Counter SPD_OEM_NIR_C
- Time Tagging electronics : CHRONOXEA

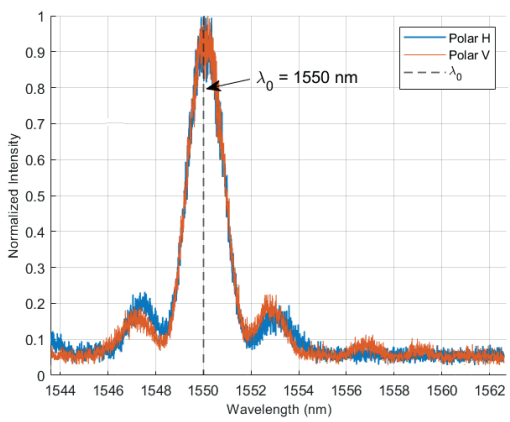
RoHS compliant

TECHNICAL SPECIFICATIONS

SPECIFICATIONS [1]	TYPICAL	BEST
Central wavelength@degeneracy	1550 nm +/- 2 nm	-
Output bandwidth [2]	600 pm	-
Max pair-Generation Rate	> 1x10⁶ pairs/s	> 2x10⁶ pairs/s
Effective CAR [3]	> 400	> 700
Visibility :		
- HV basis	98%	99%
- AD basis	96%	99%

[1] All specifications are given after photon-pairs splitting under CW operation.
[2] Output bandwidth for each channel.
[3] At max pair generation rate. Effective CAR after post processing correction of the photon counters performances.

INPUT/OUTPUT- MECHANICAL - ENVIRONMENTAL	
Photon Out 1	FC/APC for PMF
Photon Out 2	FC/APC for PMF
Computer connection	USB 2.0
Power consumption	< 40 W
Dimensions (LxWxH)	250 x 280 x 70 mm³
Weight	4.5 kg
Operating temperature	+ 10°C to + 30°C



Typical raw spectrum before and after wavelength splitting
λ_o : central wavelength at degeneracy

QUANTUM PLATEFORM

Build your custom quantum communication system now !
AUREA Technology provides a complete quantum plaftorm :

- TPS_1550_II : The narrow bandwidth EPS Source
- CHRONOXEA : The picosecond Time Tagger
- SPD_OEM_NIR : The best-in-class NIR Photon Counter

For an easy integration, all these instruments are provided with their GUI and DLL for remote control !

CUSTOMER SUPPORT

Integration of high-end technologies can be challenging but AUREA Technology is here to help you reach your objectives !

Work with AUREA Technology and benefit from the help of our dedicated technical support team. Our team of experts in entangled photon sources and quantum communication can be reached any time !

Contact our technical support team and receive an aswer within a day at sales@aureatechnology.com

ORDERING INFORMATION

TPS_1550_TYPE_II

Contact us at sales@aureatechnology.com
for more information

ACCESSORIES

- +12V, 60 W, AC/DC power adapter, with AC power cord
- 2x PMF fiber
- USB key with software
- Mini USB to USB cable

WARRANTY

Any warranty is void if the Product has been damaged, disassembled, modified, misused, used in applications which exceed the Product specifications or rating, neglected, improperly installed or otherwise abused or is used in hazardous activities

DISCLAIMER

The manufacture reserves the right to change this document at any time without notice and disclaims liability for editorial, pictorial and typological errors.

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