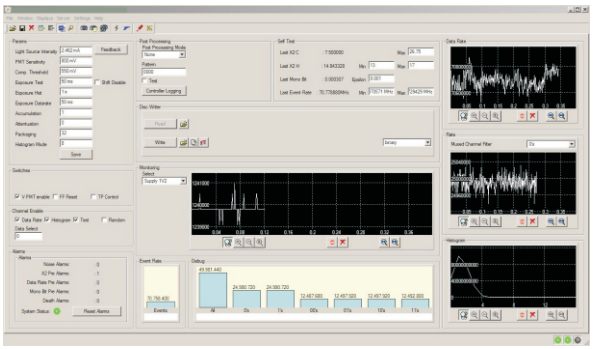
quRNG 50

Quantum Random Number Generator

Key features



- Generation of true quantum random numbers
- No post-processing necessary
- High data rate of up to 50 Mbit/s
- Easy-to-use, reliable
- Source of randomness well understood
- Passes common randomness tests (NIST, Dieharder)
- Continuous self tests
- USB 2.0 interface

Random number generation:
qutools' quRNG uses a rather simple process to generate random bits: The photons of a strongly attenuated light source are registered by a single photon detector. According to quantum physics the number of events within a fixed time interval time can be used to provide random bits. By choosing the parameters carefully, the need for post-processing the output bit stream can be avoided completely.

Simple, yet efficient:
The design of our quRNG fits current research into a simple and user-friendly system, which can be operated without any expertise or previous training. While the industrial version works with minimal user input, the research variant allows the user to study the process and set the desired parameters. Continuously running tests (in both versions) ensure that the quality of the output bit stream always fulfils the requirements. The high rate of 50 Mbit/s provides true random bits even for very demanding applications.

Software:
A graphical user interface can be used to set and read parameters, an API and example software for C/C++ and LabVIEW™ are available.

Applications

- Cryptography
- (Online) Gambling/ Lotteries
- Numerical Simulations
- PIN/ TAN Generation
- Quantum Key Distribution

	quRNG 50
True Random Bit Rate (max)	50 Mbit/s
PC Interface	USB 2.0, Ethernet
Operating Systems	Windows® XP, Vista, 7 Linux
API and Example Software	C/C++, LabVIEW™
Dimensions	45 cm x 9 cm x 28 cm (19 “, 2 HE)

Further Information

For more information about the underlying principle, please refer to:
- Opt. Express **18**, 13029-13037 (2010)