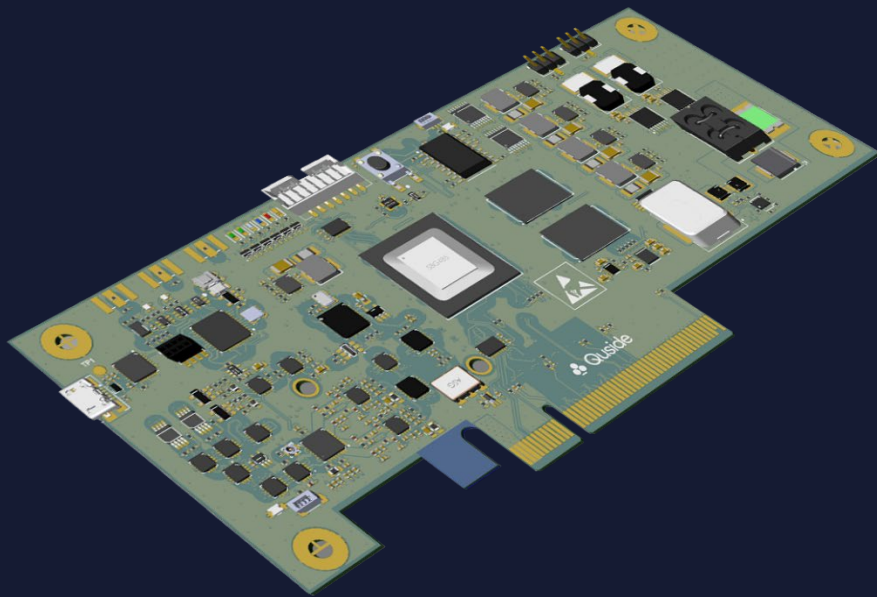


Quside PCIe 100



Random numbers are at the foundational base of any crypto system. In the absence of truly random numbers, any cryptographic software is vulnerable to attacks. Quantum phenomena are the only source of true randomness that we know of. With a QRNG, you have the guarantee that the quantum realm is where your numbers are coming from.

Applications

Random numbers are required in a broad range of applications, including cybersecurity, high-performance computation, or gambling. The PCIe 100 is designed for high-performance quantum random generation for a broad range of target computing devices.

- Quantum random number generation
- Crypto-agile & quantum-safe deployments.
- Quantum key distribution
- Post-quantum cryptography
- Advanced entropy monitoring
- Cloud security
- Entropy-as-a-Service
- High-performance Monte Carlo simulations
- Synthetic data generation

Features

- 100 Mb/s raw generation rates
- Above 82% quantum min-entropy bounds.
- Average min-entropy above 92%.
- Standard PCIe Gen 2x4 interface
- Compliant with NIST SP800B recommendations and passes DieHarder and NIST SP800-22 test suites.
- Metrology and monitoring of the entropy source and entropy quality
- Linux (Ubuntu 20.04) compatible drivers and libraries for C and Python

Electrical specifications

	Units	Min	Typ	Max
Power consumption	W		8	

Status monitor specifications

	Units	Min	Typ	Max
Bias monitor	mA	39	40	41
Temperature monitor ¹ (T = environmental temp.)	°C			T + 20

¹ At Tamb = 25°C

Randomness specifications

	Units	Min	Typ	Max
Quantum min-entropy ²	Bits	0.82	0.92	
Raw bit rate	Mbps		100	
Extracted bit rate ³	Mbps		~72	

Absolute maximum ratings

	Units	Min	Typ	Max
Operating Temperature ⁴	°C	20	25	50
Storage Temperature	°C	0	25	80

OS compatibility

The system is compatible with LINUX Ubuntu 20.04.

Mechanical specifications

The Quside™ PCIe 100 is a low profile PCIe.

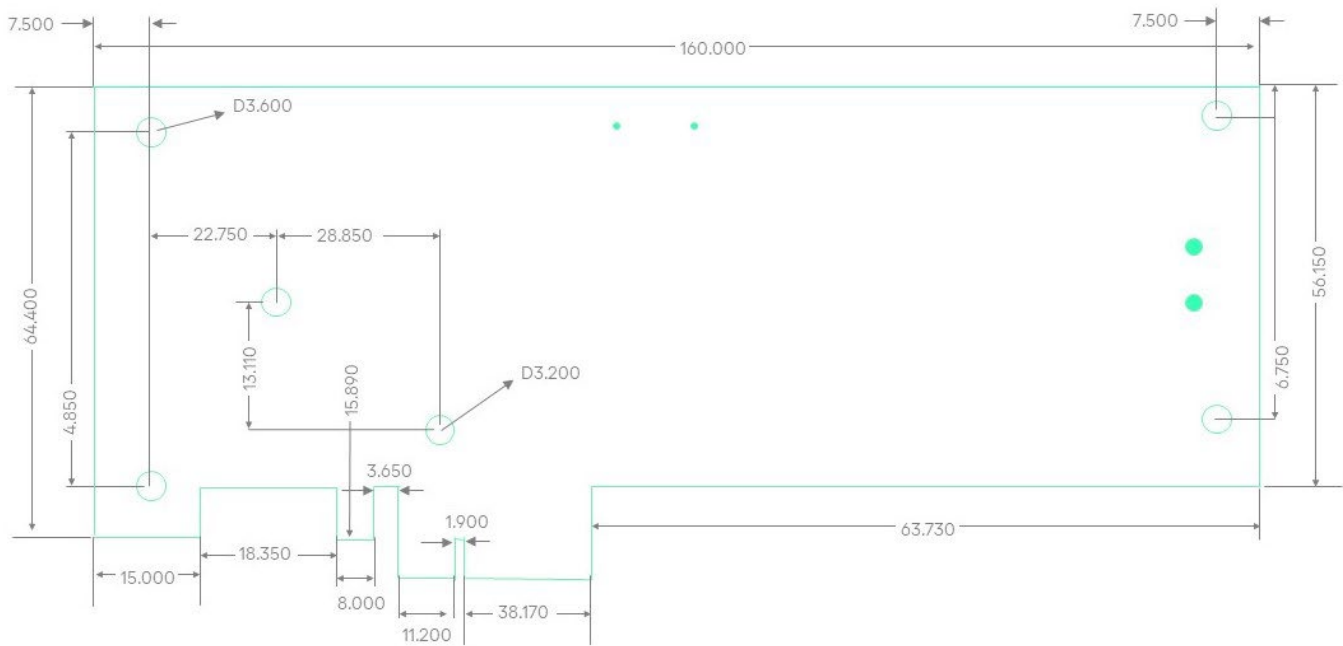
Dimensions:

- Full Height: 68.9mm
- Length: 160mm
- Single-slot PCIe card (20 mm)

² Quantum conditional min-entropy [R. König, R. Renner, & C. Schaffner (2009), [IEEE Trans. Inf., 55\(9\), 4337-4347](#)] based on the physical model developed in [C. Abellán et al. (2015), [Phys. Rev. Lett. \(2015\), 115\(25\), 250403](#)].

³ Extraction from 352 bits to 256 bits, using the randomness extractor from [D. Frauchiger, R. Renner, & M. Troyer (2013), [arXiv:1311.4547](#)].

⁴ TBC



Thanks for being part
of our quantum journey!

To learn more about our products visit
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