Appendix No. 1 – **Technical specifications**

**Technical specifications**

**QKD system**

The subject of the public contract is the supply of two QKD nodes, „Alice“ and „Bob“. Transmitter and receiver modules will consist of three subsystems each:

* Quantum optical transmitter/receiver,
* Quantum post-processing and
* Management and access to keys.

The subject of performance also includes transport to the place of performance, installation od the device (at the place of performance, or remotely with local support from the contracting authority) and training of equipment users in the scope of at least 2 working days of 4 hours each.

**Manufacturer of the device:** *to be completed by the participant*

**Exact type designation of the device:** *to be completed by the participant*

**The device (QKD system) must meet following parameters:**

|  |  |  |
| --- | --- | --- |
| **Basic technical parameters** | **Required values – obligatory condition!** | **Value of the offered device** |
| Transmitter and receiver modules will consist of three subsystems each:   * Quantum optical transmitter/receiver, * Quantum post-processing and * Management and access to keys. | YES | *the participiant indicates YES/NO* |
| **QKD protocol:** | | |
| QKD protocol | CV-QKD or DV-QKD | *the participiant indicates YES/NO and indicates specific value* |
| Required tolerable loss (reach) in optical fiber  corresponds at least to 50 km reach in standard SM fiber (0.2 dB/km loss) | min. 10 dB | *the participiant indicates YES/NO and indicates specific value* |
| Secret Key rate | min. 1,4 kb/s | *the participiant indicates YES/NO and indicates specific value* |
| **Optical parameters:** | | |
| Required number of optical fibers | max. two dedicated optical SM fibers | *the participiant indicates YES/NO and indicates specific value* |
| Optical fiber connectors SC/UPC or LC/UPC | YES | *the participiant indicates YES/NO* |
| **Management and Access to Keys** | | |
| Protocol for key delivery:   * ETSI GS QKD 004 or ETSI GS QKD 014 | YES | *the participiant indicates YES/NO* |
| Managemet interface: Graphical web interface and API | YES | *the participiant indicates YES/NO* |
| Availability of data: the raw output of the detector and the sifted key; we need to make them fully accessible to users for educational purposes and experiments. | YES | *the participiant indicates YES/NO* |
| **Additional requirements** | | |
| Height | max. 4 U | *the participiant indicates YES/NO and indicates specific value* |
| Width | max. 19 inches | *the participiant indicates YES/NO and indicates specific value* |

*The participiant should enter the data in compliance with the technical specification of the offered devices.*