

| Lv       | KA                 | SA                 | HS [1/s] | CPU Cost [ms] |        | Packets Sent |        | Server Library Distribution |       |       |       | Client Library Distribution |       |       |       |
|----------|--------------------|--------------------|----------|---------------|--------|--------------|--------|-----------------------------|-------|-------|-------|-----------------------------|-------|-------|-------|
|          |                    |                    |          | Server        | Client | Server       | Client |                             |       |       |       |                             |       |       |       |
| ≤ 2      | X25519             | dilithium2         | 465      | 1.8           | 1.9    | 6            | 1      | 57.11                       | 25.69 | 9.08  |       | 48.58                       | 33.04 | 8.0   | 7.5   |
|          | X25519             | dilithium2_aes     | 462      | 1.7           | 1.8    | 6            | 1      | 55.87                       | 27.32 | 8.5   |       | 46.96                       | 34.45 | 8.3   | 6.8   |
|          | X25519             | dilithium3         | 372      | 2.0           | 2.1    | 8            | 1      | 60.55                       | 25.22 | 7.2   |       | 54.52                       | 29.62 | 7.0   | 6.6   |
|          | X25519             | dilithium3_aes     | 455      | 1.9           | 1.9    | 8            | 1      | 57.82                       | 25.35 | 7.9   |       | 50.94                       | 31.54 | 8.4   | 6.8   |
|          | X25519             | dilithium5         | 412      | 2.1           | 2.4    | 12           | 1      | 62.65                       | 23.19 | 7.4   |       | 57.10                       | 27.10 | 7.1   | 6.5   |
|          | X25519             | dilithium5_aes     | 360      | 2.0           | 2.1    | 12           | 1      | 57.15                       | 27.38 | 7.5   |       | 55.50                       | 29.47 | 7.2   |       |
|          | X25519             | falcon1024         | 285      | 3.2           | 2.5    | 5            | 1      | 74.60                       | 14.87 |       |       | 59.43                       | 25.30 | 6.7   |       |
|          | X25519             | falcon512          | 404      | 2.2           | 2.1    | 4            | 1      | 67.46                       | 18.56 | 6.9   |       | 51.69                       | 30.68 | 8.0   | 7.1   |
|          | X25519             | p256_dilithium2    | 400      | 1.9           | 2.6    | 6            | 1      | 58.68                       | 23.43 | 8.0   |       | 59.90                       | 23.82 | 7.0   | 6.3   |
|          | X25519             | p256_falcon512     | 370      | 2.3           | 2.8    | 4            | 1      | 67.24                       | 19.80 | 6.3   |       | 61.06                       | 24.04 |       |       |
|          | X25519             | p256_sphincs128    | 58       | 24.4          | 5.8    | 27           | 1      | 96.50                       |       |       |       | 80.94                       |       | 12.53 |       |
|          | X25519             | p384_dilithium3    | 185      | 4.8           | 7.9    | 9            | 1      | 76.95                       | 14.77 |       |       | 83.27                       |       | 9.68  |       |
|          | X25519             | p384_sphincs192    | 33       | 41.5          | 13.1   | 54           | 1      | 96.57                       |       |       |       | 88.12                       |       | 7.6   |       |
|          | X25519             | p521_dilithium5    | 112      | 8.6           | 14.9   | 12           | 1      | 89.05                       |       | 6.1   |       | 92.14                       |       |       |       |
|          | X25519             | p521_falcon1024    | 102      | 9.9           | 15.0   | 6            | 1      | 93.25                       |       |       |       | 91.57                       |       |       |       |
|          | X25519             | p521_sphincs256    | 16       | 90.3          | 20.7   | 74           | 1      | 98.38                       |       |       |       | 92.61                       |       |       |       |
|          | X25519             | rsa3072_dilithium2 | 181      | 6.9           | 2.3    | 8            | 1      | 87.56                       |       | 7.3   |       | 56.77                       | 27.87 | 6.8   | 6.3   |
|          | X25519             | rsa:1024           | 597      | 1.7           | 1.6    | 3            | 1      | 58.20                       | 25.00 | 8.4   |       | 44.94                       | 34.90 | 9.92  | 7.6   |
|          | X25519             | rsa:2048           | 402      | 3.1           | 1.9    | 3            | 1      | 77.37                       |       | 13.27 |       | 45.54                       | 34.62 | 8.73  | 7.5   |
|          | X25519             | rsa:3072           | 215      | 6.6           | 2.1    | 3            | 1      | 89.15                       |       | 6.4   |       | 47.77                       | 35.89 | 8.0   | 6.3   |
|          | X25519             | rsa:4096           | 117      | 12.6          | 2.3    | 3            | 1      | 94.19                       |       |       |       | 50.89                       | 32.09 | 8.0   | 6.8   |
|          | X25519             | sphincs128         | 60       | 23.9          | 5.3    | 27           | 1      | 96.56                       |       |       |       | 73.85                       |       | 16.65 |       |
|          | X25519             | sphincs192         | 39       | 38.5          | 7.3    | 54           | 1      | 96.75                       |       |       |       | 74.34                       |       | 19.09 |       |
|          | X25519             | sphincs256         | 20       | 83.3          | 8.3    | 74           | 1      | 98.16                       |       |       |       | 75.04                       |       | 19.93 |       |
|          | bikel1             | dilithium2         | 231      | 1.8           | 6.5    | 7            | 2      | 48.17                       | 30.51 | 13.27 |       | 74.21                       | 11.10 | 9.35  |       |
|          | bikel1             | dilithium2_aes     | 224      | 1.8           | 6.4    | 7            | 2      | 44.59                       | 30.80 | 13.15 | 6.0   | 75.38                       |       | 10.50 | 9.46  |
|          | bikel1             | falcon512          | 230      | 2.4           | 6.6    | 5            | 2      | 58.10                       | 24.40 | 10.09 |       | 73.60                       |       | 12.97 | 8.99  |
|          | bikel1             | p256_dilithium2    | 213      | 1.9           | 7.2    | 7            | 2      | 51.23                       | 29.16 | 12.15 |       | 68.06                       |       | 19.29 | 8.0   |
|          | bikel1             | p256_falcon512     | 211      | 2.5           | 7.2    | 5            | 2      | 60.19                       | 23.02 | 9.94  |       | 67.20                       |       | 20.67 | 8.1   |
|          | bikel1             | p256_sphincs128    | 57       | 24.4          | 10.4   | 28           | 2      | 93.90                       |       |       |       | 47.91                       | 41.24 |       | 7.7   |
|          | bikel1             | rsa3072_dilithium2 | 183      | 6.7           | 7.0    | 9            | 2      | 85.52                       |       | 8.2   |       | 68.53                       |       | 16.47 | 10.92 |
|          | bikel1             | rsa:1024           | 239      | 1.8           | 6.3    | 4            | 2      | 48.17                       | 29.68 | 14.13 |       | 77.93                       |       | 9.72  | 8.60  |
|          | bikel1             | rsa:2048           | 239      | 3.3           | 6.4    | 4            | 2      | 71.15                       | 27.77 | 15.35 | 7.4   | 76.99                       |       | 9.47  | 8.5   |
|          | bikel1             | rsa:3072           | 202      | 6.4           | 6.6    | 4            | 2      | 87.57                       |       | 7.1   |       | 73.99                       |       | 12.22 | 9.66  |
|          | bikel1             | rsa:4096           | 117      | 12.7          | 7.0    | 4            | 2      | 93.95                       |       |       |       | 71.47                       |       | 13.95 | 11.05 |
|          | bikel1             | sphincs128         | 57       | 24.0          | 9.9    | 28           | 2      | 94.24                       |       |       |       | 50.12                       | 35.91 |       | 9.30  |
|          | hqc128             | dilithium2         | 387      | 1.9           | 2.3    | 9            | 2      | 46.93                       | 27.11 | 16.75 | 6.4   | 33.06                       | 31.17 | 26.06 | 7.5   |
|          | hqc128             | dilithium2_aes     | 373      | 1.8           | 2.2    | 9            | 2      | 44.13                       | 28.73 | 18.99 | 6.0   | 31.26                       | 31.04 | 27.02 | 7.0   |
|          | hqc128             | falcon512          | 370      | 2.3           | 2.5    | 7            | 2      | 59.29                       | 19.49 | 13.10 | 6.2   | 35.98                       | 28.80 | 25.79 | 6.5   |
|          | hqc128             | p256_dilithium2    | 336      | 2.0           | 3.0    | 9            | 2      | 48.31                       | 25.25 | 16.99 | 6.7   | 46.21                       | 23.54 | 21.65 | 7.4   |
|          | hqc128             | p256_falcon512     | 315      | 2.5           | 3.1    | 7            | 2      | 59.08                       | 19.09 | 12.82 |       | 49.12                       | 22.55 | 20.27 | 6.7   |
|          | hqc128             | p256_sphincs128    | 59       | 24.2          | 6.2    | 30           | 2      | 95.18                       |       |       |       | 71.92                       |       | 11.70 | 11.67 |
|          | hqc128             | rsa3072_dilithium2 | 190      | 6.9           | 2.9    | 11           | 2      | 84.93                       |       | 7.0   |       | 35.70                       | 31.16 | 22.44 | 7.2   |
|          | hqc128             | rsa:1024           | 536      | 1.8           | 2.0    | 6            | 2      | 48.06                       | 23.87 | 18.03 |       | 34.17                       | 28.67 | 27.38 | 7.7   |
|          | hqc128             | rsa:2048           | 390      | 3.1           | 2.3    | 6            | 2      | 71.92                       |       | 13.30 | 10.07 | 30.95                       | 30.01 | 28.34 | 7.1   |
|          | hqc128             | rsa:3072           | 213      | 6.7           | 2.7    | 6            | 2      | 87.04                       |       | 6.2   |       | 31.88                       | 28.76 | 26.87 | 6.9   |
|          | hqc128             | rsa:4096           | 122      | 12.9          | 2.9    | 6            | 2      | 92.28                       |       |       |       | 35.28                       | 30.79 | 25.80 |       |
|          | hqc128             | sphincs128         | 60       | 23.8          | 5.7    | 30           | 2      | 95.43                       |       |       |       | 67.49                       |       | 14.49 | 13.24 |
|          | kyber512           | dilithium2         | 473      | 1.6           | 1.7    | 6            | 1      | 49.71                       | 28.16 | 11.74 | 6.4   | 40.63                       | 34.01 | 14.16 | 8.67  |
|          | kyber512           | dilithium2_aes     | 522      | 1.5           | 1.7    | 6            | 1      | 49.35                       | 27.77 | 12.70 | 6.8   | 37.86                       | 35.15 | 14.10 | 8.5   |
| kyber512 | falcon512          | 420                | 2.1      | 1.9           | 4      | 1            | 61.89  | 20.61                       | 9.06  | 6.4   | 42.72 | 33.83                       | 13.09 | 6.9   |       |
| kyber512 | p256_dilithium2    | 427                | 1.7      | 2.5           | 6      | 1            | 52.59  | 26.14                       | 12.58 | 6.4   | 54.20 | 25.31                       | 10.25 | 8.1   |       |
| kyber512 | p256_falcon512     | 345                | 2.3      | 2.5           | 4      | 1            | 63.60  | 20.36                       | 8.60  |       | 56.00 | 23.44                       | 10.06 | 7.4   |       |
| kyber512 | p256_sphincs128    | 58                 | 23.9     | 5.7           | 27     | 1            | 92.74  |                             |       |       | 78.72 |                             | 13.56 |       |       |
| kyber512 | rsa3072_dilithium2 | 182                | 6.7      |               |        |              |        |                             |       |       |       |                             |       |       |       |