I, Jung Hee Cheon, of Seoul National University, 1, Gwanak-ro, Gwanak-gu, 08826 Seoul, Republic of Korea, and of CryptoLab, 1, Gwanak-ro, Gwanak-gu, 08826 Seoul, Republic of Korea, do hereby declare that the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE**, is my own original work, or if submitted jointly with others, is the original work of the joint submitters.

I further declare that (check one):

- I do not hold and do not intend to hold any patent or patent application with a claim or that could be amended to include a claim that may cover the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE** ; OR (check one or both of the following):
- to the best of my knowledge, the practice of the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as \_\_\_\_\_ (print name of cryptosystem)\_\_\_\_\_, may be covered by the following U.S. and/or foreign patents: \_\_\_\_\_\_ (describe and enumerate or state "none" if applicable)\_\_\_\_\_;
- to the best of my knowledge, the following pending U.S. and/or foreign patent applications may cover the practice of my submitted cryptosystem, reference implementation or optimized implementations:
  \_\_\_\_\_ (describe and enumerate or state "none" if applicable) \_\_\_\_\_.

I do hereby acknowledge and agree that my submitted cryptosystem will be provided to the public for review and will be evaluated by NIST, and that it might not be selected for standardization by NIST. I further acknowledge that I will not receive financial or other compensation from the U.S. Government for my submission. I certify that, to the best of my knowledge, I have fully disclosed all patents and patent applications which may cover my cryptosystem, reference implementation or optimized implementations. I also acknowledge and agree that the U.S. Government may, during the public review and the evaluation process, and, if my submitted cryptosystem is selected for standardization, during the lifetime of the standard, modify my submitted cryptosystem's specifications (e.g., to protect against a newly discovered vulnerability).

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I acknowledge that, during the post-quantum algorithm evaluation process, NIST may remove my cryptosystem from consideration for standardization. If my cryptosystem (or the derived cryptosystem) is removed from consideration for standardization or withdrawn from consideration by all submitter(s) and owner(s), I understand that rights granted and assurances made under Sections 2.D.1, 2.D.2 and 2.D.3, including use rights of the reference and optimized implementations, may be withdrawn by the submitter(s) and owner(s), as appropriate.

Signed:

Title: Professor and CEO Date: 26 May, 2023

Place: Seoul, Republic of Korea

Jyhch

I, Hyeongmin Choe, of Seoul National University, 1, Gwanak-ro, Gwanak-gu, 08826 Seoul, Republic of Korea, do hereby declare that the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE**, is my own original work, or if submitted jointly with others, is the original work of the joint submitters.

I further declare that (check one):

I do not hold and do not intend to hold any patent or patent application with a claim or that could be amended to include a claim that may cover the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE** ; OR (check one or both of the following):

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- to the best of my knowledge, the following pending U.S. and/or foreign patent applications may cover the practice of my submitted cryptosystem, reference implementation or optimized implementations:
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Signed:

Title: Ph.D. student Date: 26 May, 2023 Place: Seoul, Republic of Korea

I, Julien Devevey, of ENS de Lyon 15 parvis René Descartes BP 7000 69342 Lyon Cedex 07 FRANCE, do hereby declare that the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE**, is my own original work, or if submitted jointly with others, is the original work of the joint submitters.

I further declare that (check one):

- I do not hold and do not intend to hold any patent or patent application with a claim or that could be amended to include a claim that may cover the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE**; OR (check one or both of the following):
- to the best of my knowledge, the practice of the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as \_\_\_\_\_ (print name of cryptosystem)\_\_\_\_\_, may be covered by the following U.S. and/or foreign patents: \_\_\_\_\_ (describe and enumerate or state "none" if applicable)\_\_\_\_\_;
- to the best of my knowledge, the following pending U.S. and/or foreign patent applications may cover the practice of my submitted cryptosystem, reference implementation or optimized implementations:
  \_\_\_\_\_ (describe and enumerate or state "none" if applicable) \_\_\_\_\_\_.

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I acknowledge that NIST will announce any selected cryptosystem(s) and proceed to publish the draft standards for public comment.

I do hereby agree to provide the statements required by Sections 2.D.2 and 2.D.3, below, for any patent or patent application identified to cover the practice of my cryptosystem, reference implementation or optimized implementations and the right to use such implementations for the purposes of the public review and evaluation process.

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Signed: **Title: PhD Student** 

Date: 26/05/2023

Place: Lyon

I, Prof. Dr.-Ing. Tim Güneysu, of Universitätsstr. 150, 44780 Bochum, GERMANY, do hereby declare that the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE**, is my own original work, or if submitted jointly with others, is the original work of the joint submitters.

I further declare that (check one):

I do not hold and do not intend to hold any patent or patent application with a claim or that could be amended to include a claim that may cover the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE** ; OR (check one or both of the following):

- to the best of my knowledge, the practice of the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as \_\_\_\_\_ (print name of cryptosystem)\_\_\_\_\_, may be covered by the following U.S. and/or foreign patents: \_\_\_\_\_\_ (describe and enumerate or state "none" if applicable)\_\_\_\_\_\_;
- o□ to the best of my knowledge, the following pending U.S. and/or foreign patent applications may cover the practice of my submitted cryptosystem, reference implementation or optimized implementations: (describe and enumerate or state "none" if applicable)

I do hereby acknowledge and agree that my submitted cryptosystem will be provided to the public for review and will be evaluated by NIST, and that it might not be selected for standardization by NIST. I further acknowledge that I will not receive financial or other compensation from the U.S. Government for my submission. I certify that, to the best of my knowledge, I have fully disclosed all patents and patent applications which may cover my cryptosystem, reference implementation or optimized implementations. I also acknowledge and agree that the U.S. Government may, during the public review and the evaluation process, and, if my submitted cryptosystem is selected for standardization, during the lifetime of the standard, modify my submitted cryptosystem's specifications (e.g., to protect against a newly discovered vulnerability).

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Signed:

Title: Prof. Dr.-Ing. Tim Güneysu, Full Professor of Security Engineering, Ruhr-Universität Bochum

Date: 25.05.2023

Place: Bochum, GERMANY

I, Dongyeon Hong, of Cryptolab, 1, Gwanak-ro, Gwanak-gu, 08826 Seoul, Republic of Korea, do hereby declare that the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE**, is my own original work, or if submitted jointly with others, is the original work of the joint submitters.

I further declare that (check one):

- I do not hold and do not intend to hold any patent or patent application with a claim or that could be amended to include a claim that may cover the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as HAETAE; OR (check one or both of the following):
- to the best of my knowledge, the practice of the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as \_\_\_\_\_ (print name of cryptosystem)\_\_\_\_\_, may be covered by the following U.S. and/or foreign patents: \_\_\_\_\_\_ (describe and enumerate or state "none" if applicable)\_\_\_\_\_;
- to the best of my knowledge, the following pending U.S. and/or foreign patent applications may cover the practice of my submitted cryptosystem, reference implementation or optimized implementations:
  \_\_\_\_\_(describe and enumerate or state "none" if applicable) \_\_\_\_\_\_.

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Signed: Title: Engineer

Date: 26.May, 2023 Place: Seoul, Republic of Korea

.

I, Markus Krausz, of Ruhr-University Bochum, Universitätsstr. 150, 44801 Bochum, Germany, do hereby declare that the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE**, is my own original work, or if submitted jointly with others, is the original work of the joint submitters.

I further declare that (check one):

- I do not hold and do not intend to hold any patent or patent application with a claim or that could be amended to include a claim that may cover the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE**; OR (check one or both of the following):
- to the best of my knowledge, the practice of the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as \_\_\_\_\_ (print name of cryptosystem)\_\_\_\_\_, may be covered by the following U.S. and/or foreign patents: \_\_\_\_\_\_ (describe and enumerate or state "none" if applicable)\_\_\_\_\_;
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Mah h Signed:

Title: PhD student Date: 26.05.2023 Place: Bochum, Germany

.

I, Georg Land, of Ruhr-University Bochum, Universitätsstr. 150, 44801 Bochum, Germany, do hereby declare that the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE**, is my own original work, or if submitted jointly with others, is the original work of the joint submitters.

I further declare that (check one):

- X I do not hold and do not intend to hold any patent or patent application with a claim or that could be amended to include a claim that may cover the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE** ; OR (check one or both of the following):
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Signed: Title: PhD studen Date: 26.05.2023

Place: Bochum, Germany

I, Junbum Shin, of Cryptolab, 1, Gwanak-ro, Gwanak-gu, 08826 Seoul, Republic of Korea, do hereby declare that the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as HAETAE, is my own original work, or if submitted jointly with others, is the original work of the joint submitters.

I further declare that (check one):

- I do not hold and do not intend to hold any patent or patent application with a claim or that could be amended to include a claim that may cover the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as HAETAE ; OR (check one or both of the following):
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Signed: Title: CTO

Date: 26.May, 2023 Place: Seoul, Republic of Korea

I, Damien Stehlé, of CryptoLab Research, 55 avenue Marceau 75116 Paris, do hereby declare that the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE**, is my own original work, or if submitted jointly with others, is the original work of the joint submitters.

I further declare that (check one):

I do not hold and do not intend to hold any patent or patent application with a claim or that could be amended to include a claim that may cover the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE** ; OR (check one or both of the following):

- to the best of my knowledge, the practice of the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as \_\_\_\_\_ (print name of cryptosystem)\_\_\_\_\_, may be covered by the following U.S. and/or foreign patents: \_\_\_\_\_\_ (describe and enumerate or state "none" if applicable)\_\_\_\_\_;
- to the best of my knowledge, the following pending U.S. and/or foreign patent applications may cover the practice of my submitted cryptosystem, reference implementation or optimized implementations: (describe and enumerate or state "none" if applicable) \_\_\_\_\_.

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Signed:

Title: Chief scientist

Date: 25.05.2023

Place: Lyon, France

I, MinJune Yi, of Seoul National University, 1 Gwanak-ro, Gwanak-gu, Seoul 08826, Korea, do hereby declare that the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE**, is my own original work, or if submitted jointly with others, is the original work of the joint submitters.

I further declare that (check one):

- I do not hold and do not intend to hold any patent or patent application with a claim or that could be amended to include a claim that may cover the cryptosystem, reference implementation, or optimized implementations that I have submitted, known as **HAETAE** ; OR (check one or both of the following):
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- to the best of my knowledge, the following pending U.S. and/or foreign patent applications may cover the practice of my submitted cryptosystem, reference implementation or optimized implementations: \_\_\_\_\_ (describe and enumerate or state "none" if applicable) \_\_\_\_\_.

I do hereby acknowledge and agree that my submitted cryptosystem will be provided to the public for review and will be evaluated by NIST, and that it might not be selected for standardization by NIST. I further acknowledge that I will not receive financial or other compensation from the U.S. Government for my submission. I certify that, to the best of my knowledge, I have fully disclosed all patents and patent applications which may cover my cryptosystem, reference implementation or optimized implementations. I also acknowledge and agree that the U.S. Government may, during the public review and the evaluation process, and, if my submitted cryptosystem is selected for standardization, during the lifetime of the standard, modify my submitted cryptosystem's specifications (e.g., to protect against a newly discovered vulnerability).

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Signed:

Title: Undergraduate Date: 31.05.2023 Place: Seoul, Korea

The following must also be included:

I, Julien Devevey, of ENS de Lyon 15 parvis René Descartes BP 7000 69342 Lyon Cedex 07 FRANCE, am the owner or authorized representative of the owner of the submitted reference implementation and optimized implementations and hereby grant the U.S. Government and any interested party the right to reproduce, prepare derivative works based upon, distribute copies of, and display such implementations for the purposes of the post-quantum algorithm public review and evaluation process, and implementation if the corresponding cryptosystem is selected for standardization and as a standard, notwithstanding that the implementations may be copyrighted or copyrightable.

Signed:

Title: PhD Student Date: 25/05/2023 Place: Lyon

The following must la lso be included: 2

Signed:

Title: Prof. Dr.-Ing. 2 im Cüneysu, Full Professor f Security Engineering, Ruhr-Universität Bochum 2

Date: 25.05.2023

Place: Bochum, GERMANY?

The following must also be included:

I, Dongyeon Hong, of Cryptolab, 1, Gwanak-ro, Gwanak-gu, 08826 Seoul, Republic of Korea, am the owner or authorized representative of the owner of the submitted reference implementation and optimized implementations and hereby grant the U.S. Government and any interested party the right to reproduce, prepare derivative works based upon, distribute copies of, and display such implementations for the purposes of the post-quantum algorithm public review and evaluation process, and implementation if the corresponding cryptosystem is selected for standardization and as a standard, notwithstanding that the implementations may be copyrighted or copyrightable.

Signed: Title: Engineer

Date: 26.May, 2023 Place: Seoul, Republic of Korea

The following must also be included:

.

I, Markus Krausz, of Ruhr-University Bochum, Universitätsstr. 150, 44801 Bochum, Germany, am the owner or authorized representative of the owner of the submitted reference implementation and optimized implementations and hereby grant the U.S. Government and any interested party the right to reproduce, prepare derivative works based upon, distribute copies of, and display such implementations for the purposes of the post-quantum algorithm public review and evaluation process, and implementation if the corresponding cryptosystem is selected for standardization and as a standard, notwithstanding that the implementations may be copyrighted or copyrightable.

Mit 12 Signed:

Title: PhD student Date: 26.05.2023 Place: Bochum, Germany

The following must also be included:

.

I, Georg Land, of Ruhr-University Bochum, Universitätsstr. 150, 44801 Bochum, Germany, am the owner or authorized representative of the owner of the submitted reference implementation and optimized implementations and hereby grant the U.S. Government and any interested party the right to reproduce, prepare derivative works based upon, distribute copies of, and display such implementations for the purposes of the post-quantum algorithm public review and evaluation process, and implementation if the corresponding cryptosystem is selected for standardization and as a standard, notwithstanding that the implementations may be copyrighted or copyrightable.

Signed: Title: PhD student

Date: 26.05.2023

Place: Bochum, Germany

The following must also be included:

I, MinJune Yi, of Seoul National University 1, Gwanak-ro, Gwanak-gu, Seoul 08826, Korea, am the owner or authorized representative of the owner of the submitted reference implementation and optimized implementations and hereby grant the U.S. Government and any interested party the right to reproduce, prepare derivative works based upon, distribute copies of, and display such implementations for the purposes of the post-quantum algorithm public review and evaluation process, and implementation if the corresponding cryptosystem is selected for standardization and as a standard, notwithstanding that the implementations may be copyrighted or copyrightable.

Signed:

Title: Undergraduate Date: 31.05.2023 Place: Seoul, Korea