1. My name is Oliver Heinisch. I am an attorney for Sheppard, Mullin, Richter & Hampton, LLP, counsel for HTC Corporation and HTC America, Inc. If called as a witness, I could and would competently testify to all facts within my personal knowledge except where stated upon information and belief.

2. On or about July 31, 2018, I determined that the Dissertation of Willibrordus Johannes van Gils, entitled Design of Error-Control Coding Schemes for Three Problems of Noisy Information Transmission, Storage and Processing (herein "Gils Dissertation"), was listed on the WorldCat Online Library Catalog database, found at www.worldcat.org.

3. Exhibit 1025 is a true an correct copy of the WorldCat database at http://www.worldcat.org/search?qt=worldcat_org_all&q=Design+of+error-control+coding+schemes+for+three+problems+of+noisy+information+transmission%2C+storage+and+processing, last visited on August 18, 2018.

4. WorldCat Library indicated the Gils Dissertation is available at least at the following Libraries:

    - Technische Universität Hamburg, Universitätsbibliothek, or in English, Hamburg University of Technology Library, (herein "TUHH"), located at Hamburg, 21073 Germany, *Id.* at 3;
    - Technische Informationsbibliothek, or in English, TIB – Leibniz Information Centre for Science and Technology and University Library, or otherwise known as the German National Library of Science and Technology (herein "TIB"), located at Hannover, 30167 Germany, *Id.* at 4; and
    - Universitätsbibliothek Stuttgart, or in English, University Stuttgart Library, located at Stuttgart, 70174 Germany, *Id.* at 5.

- Karlsruher Institut für Technologie (herein "KIT"), or in English Karlsruhe Institute for Technology located at Strasse am Forum 2, Geb. 30.50/30.51, 76131 Karlsruhe, *Id.* at 4.

Hamburg University of Technology

5. Between July 31, 2018 and August 2, 2018, I corresponded with representatives at Hamburg University of Technology (TUHH) at Denickestr. 22, 21073 Hamburg, Germany regarding the Gils Dissertation.

6. Exhibit 1038 is a true and correct copy of the correspondence with TUHH, a certified translation of the correspondence, and a certificate of translation. *Id.* at 1-11.

7. On July 31, 2018, Mr. Tobias Zeumer from TUHH contacted me and provided a URL to TUHH's Library's catalogued "cryptic view" of the complete record of the Gills Dissertation at https://katalog.b.tuhh.de/DB=1/SET=2/TTL=1/PRS/PPN?PPN=01676479X, which shows the relevant date of the reference is 1988. *Id.* at 4-5. A true and correct copy of this "cryptic view" is included at *Id.* at 12-14, last visited on August 20, 2018,

8. Mr. Zeumer also suggested viewing the Library record at the University of Technology in Eindhoven, which also listed the Gils Dissertation as published in 1988 at https://research.tue.nl/en/publications/design-of-error-control-coding-schemes-for-three-problems-of-nois. *Id.* at 3-4. A true and correct copy of the Eindhoven record is included in *id.* at 15-16, last visited on August 20, 2018.

9. On August 1, 2018, I corresponded with Mr. Thomas Hapke, Subject Librarian for Chemical Engineering University Library, at TUHH, using the e-mail address of

hapke@tuhh.de, and phone number +49 40 42878-3365, to discuss the public availability of the Gils Dissertation.

10. On August 2, 2018, Mr. Hapke sent a "Letter of Declaration: Gils, Wil J. van, and Willibrordus Johannes van Gils, *Design of Error-control Coding Schemes for Three Problems of Noisy Information Transmission, Storage and Processing*, 1988, Eindhoven, Techn. Univ. Diss." ("Letter of Declaration"). *Id.* at 17-18.

11. This letter states Mr. Hapke is a "librarian for chemical engineering . . . currently employed at the University Library of the Hamburg University of Technology (TUHH) . . . at Denickstr. 22, 21073 Hamburg, Germany . . . since 1988." *Id.* at 17. Based on his employment, he has "access to and knowledge of the Library's current registration practices, including cataloging, indexing and shelving. These practices have remained consistent throughout [his] tenure at the Library until today." *Id.*

12. Mr. Hapke explained that the TUHH "Library is accessible, free of charge, to the general public." *Id.* Mr. Hapke further explained that:

> Already in 1988 there existed a digital cataloging system for all our holdings including theses, which was migrated later to the system of the GBV Common Library Network of the German States Bremen, Hamburg, Mecklenburg-Vorpommem, Niedersachsen, Sachsen-Anhalt, Schleswig-Holstein, Thiiringen and the Foundation of Prussian Cultural Heritage, which is still used today. The date of the first cataloging of each item by the Library staff is still visible in its catalog entry (see also attachment). According to the Library's regular practices, which were in effect in 1988 and still are today, any item (books, theses, etc.) indexed in the Library's catalogue is searchable by subject, author, and title. After cataloging items in the Library, these are and have been available since 1988 for viewing, copying or borrowing by each of our registered users at the latest within 5 days normally, very often considerably earlier.
>
> The thesis or dissertation by Willibrordus Johannes van Gils, published in 1988 under the name 'Design of error-control coding schemes for three problems of noisy information transmission, storage and processing', was first received by the Library in 1988. Still today it can be borrowed by our users, see the entry in our catalog today at http://katalog.tub.tuhh.de/Record/01676479X. As you see in the

> attachments a further copy was catalogued the same year by another library of the GBV. The thesis by Van Gils has been cataloged by the date April 28, 1988 in the TUHH library. The thesis has been openly accessible for use to the public after a processing time of at the latest 5 days under the shelf call number '2108-5334' in our closed stacks, from which it can be ordered and borrowed at once until today. See as attachment a photo of the copy of the dissertation, which has been borrowed by me.

Id. at 17-18.

13. Mr. Hapke also included a screenshot of the GBV Common Library Network catalogue entry for the Gils Dissertation with the cataloging date, available through the TUHH library website. *Id.* at 19.

14. Mr. Hapke also sent a screenshot of the entry of the dissertation in the catalog at TUHH today (*id.* at 20), and a photocopy of the hardcopy of the Gils Dissertation next to a print out of the receipt indicating that the Gils Dissertation was checked out to Mr. Hapke on August 2, 2018. *Id.* at 21.

Technische Informationsbibliothek

15. On August 1, 2018, my colleague Ximena Solano Suarez obtained a Certificate, signed by Ursula Krys of Technische lnformationsbibliothek (TIB) in Hanover Germany, regarding the public availability of the Gils Dissertation at TIB. *See* Exhibit 1028 at 2.

16. From August 1, 2018 through August 15, 2015, I corresponded with TIB, and Anke Bartsch, at email address anke.bartsch@tib.eu.

17. Exhibit 1039 is a true and correct copy of the correspondence with TIB, a certified translation of the correspondence, and a certificate of translation. *Id.* at 1-7.

18. On August 1, 2018, I asked TIB for a more detailed letter regarding the cataloguing of the Gils Dissertation. *Id.* at 2.

19. On August 14, 2018, I contacted Anke Bartsch again, reiterating my request above. *Id.*

20. On August 15, 2018, Dr. Andreas Lütjen, with the title of Division Management Acquisition and Cataloging, Department of Inventory Development and Metadata, responded to my email. Dr. Lütjen could not confirm the cataloguing procedure. However, he could confirm that, according to the metadata of TIB's composite cataloguing database, as seen in the screenshot attached to the correspondence:

> There are two categories marked in red, which contain a date. Both are local categories that only affect [TIB's] library. The category 4900 is the date of our first registration[, which was dated July 18, 1988].

Id. at 8.

Universitätsbibliothek Stuttgart

21. From August 2, 2018 until August 14, 2018, I corresponded with the University Library of Stuttgart and Mrs. Ingrid Eipper, an employee at the University Library of Stuttgart, at email address diss@ub.uni-stuttgart.de.

22. Exhibit 1040 is a true and correct copy of the correspondence with the University Library of Stuttgart and Mrs. Eipper, a certified translation of the correspondence, and a certificate of translation.

23. On or around August 2, 2018, I contacted the University Stuttgart Library and spoke with Ingrid Eipper, regarding the Library's record of the Gils Dissertation. On August 2, 2108, I sent an email confirming our conversation, upon which I asked her to provide an affidavit that the Gils Dissertation was publicly available. *Id.* at 2-3.

24. On August 9, 2018, Mrs. Eipper confirmed in an email that she was unable to provide a letter in the format requested unless she received approval from the legal advisor of the university. *Id.* at 2.

25. However, on August 9, 2018, Mrs. Eipper confirmed that the University Library of Stuttgart received the Gils Dissertation, with the shelfmark Diss. 1988/2295, in the year

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