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October 1, 2018

Via ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

**Re: Notice of Ex Parte Communication
WC Docket No. 18-89
ERRATA**

Dear Ms. Dortch:

Huawei Technologies Co., Ltd. and Huawei Technologies USA, Inc. (“Huawei”), by its undersigned counsel, herein files a corrected version of the Notice of Ex Parte Communication filed in the above referenced proceeding. The Notice has been corrected to reflect the meeting date, at Attachment A, as September 27, 2018 in lieu of September 28, 2018.

Respectfully

/s/

Andrew D. Lipman



Counsel for Huawei

Enclosure

cc (via email): see Attachment A

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**Re: Notice of Ex Parte Communication
WC Docket No. 18-89**

Dear Ms. Dortch:

Huawei Technologies Co., Ltd. and Huawei Technologies USA, Inc. (“Huawei”), by its undersigned counsel, hereby notifies the Commission of an *ex parte* communication on September 27, 2018, between representatives of Huawei, Huawei’s outside counsel, and several Federal Communications Commission (“FCC” or “Commission”) staff regarding the Notice of Proposed Rulemaking (“NPRM”) in the above-captioned docket.¹ A full list of attendees at each meeting is attached to this filing as Attachment A.

Huawei provided the Commission with background on its operations as a globally renowned private telecommunications company, which generates 60% of its revenue outside of mainland China and supports more than 500 telecommunications operators across more than 170 countries. Many of these countries are close allies of the United States. In the U.S., where Huawei’s share of the telecommunications infrastructure equipment market is small and equipment prices are resultantly higher than in other markets, Huawei primarily serves small carriers in rural and remote areas.

Huawei urged the Commission to consider the substantial costs of the NPRM, in particular its impact on carriers in rural and remote areas, many of whom are attracted to

¹ Notice of Proposed Rulemaking, *Protecting Against National Security Threats to the Communications Supply Chain Through FCC Programs*, WC Docket No. 18-89, 83 Fed. Reg. 19196 (pub. May 2, 2018).

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Marlene H. Dortch, Secretary
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Huawei as a result of Huawei's commitment to affordable, quality products and attentive customer service. As evidenced by selected quotes in the record, distributed during Huawei's meeting and attached hereto as Attachment B, some of these carriers would incur costs in the hundreds of millions in order to comply with the NPRM, and others would go out of business entirely. Furthermore, Huawei's lack of presence in the U.S. would raise prices, harm competition, hinder innovation, and ultimately delay 5G deployment.

Huawei explained that the purported benefits of the NPRM fail to justify these costs—and in fact are far overstated to begin with—because a blacklist on certain equipment vendors does not address the reality that cybersecurity risks arise from various points of vulnerabilities in an international supply chain. In response to a staff question as to the FCC's role in securing U.S. telecommunications equipment, Huawei emphasized that the global and complex nature of the telecommunications supply chain necessitates a comprehensive security framework to protect against threats. This framework should be developed as part of an inter-agency effort involving government entities with the authority and expertise to consider security issues. Huawei has been active in promoting cybersecurity both internally and alongside government bodies, and welcomes the opportunity to continue contributing to the development and promulgation of security standards and best practices.

To the extent you have questions or concerns, please feel free to contact the undersigned.

Respectfully

/s/

Andrew D. Lipman

Counsel for Huawei

cc (via email): See Attachment A

ATTACHMENT A

SEPTEMBER 27, 2018 MEETING ATTENDEES

FCC

Kris Monteith, Bureau Chief, WCB
Trent Harkrader, Deputy Bureau Chief, WCB
Joseph Calascione, Legal Advisor, WCB
Daniel Kahn, Division Chief, Competition Policy Division/WCB
Ramesh Nagarajan, Attorney Advisor, CPD/WCB
John Visclosky, Attorney Advisor, CPD/WCB
Aaron Garza, Special Counsel, TAPD/WCB
Troy Tanner, Deputy Chief, IB
David Krech, Associate Division Chief, Telecommunications Analysis Division/IB
Douglas Klein, Attorney, OGC
Charles Mathias, Associate Bureau Chief, WTB
David Plotinsky, Division Chief, Cybersecurity and Communications Reliability
Division, PSHSB

Huawei Technologies USA, Inc.

Ruijun (Regent) Zhang, VP, Public Affairs and Communications
Dennis J. Amari, Director, Federal & Regulatory Affairs
Donald A. (Andy) Purdy, Chief Security Officer
Tom Dowding, SVP, Wireless Business
Madhav Bhatta, VP, Wireline Solution
Yanjian (William) Xiang, Legal Director

Huawei Technologies Co., Ltd

Zhiyong (Alan) Fan, VP, IP Strategy and International Legal Policy
Ming (Jessie) Luo, Senior Counsel, Privacy Compliance

Huawei Outside Counsel: Morgan Lewis & Bockius LLP

Andrew D. Lipman, Partner
Catherine Kuersten, Associate

Huawei Outside Counsel: Jones Day

Glen Nager, Partner

ATTACHMENT B

DOCKET NO. 18-89
June 2, 2018 Comments
SELECTED QUOTES IN THE RECORD

A. Huawei's Presence Provides Necessary Competition

Huawei: Declaration of Tom Dowding:



- “Huawei’s entry into the U.S. Market provided much-needed competition.
- The U.S. infrastructure market is less competitive than that of other countries as the market is dominated by only two major telecom equipment suppliers (Ericsson and Nokia).
- As a result of the lack of competition, equipment prices in the US market in general tend to be about 20-30% higher than they are in other developed regions, for example in Europe.
- However, various studies have shown that the United States’ telecommunication infrastructure is falling behind those in other developed countries ... In [Speedtest’s] 2018 rankings, the U.S. ranked #44 for mobile network speed and #9 for fixed broadband. A 2016 report shows the mobile network speed of United States is about 2/3 of China’s.”

Huawei: Declaration of Allan Shampine

- “In the last several years, Huawei spent more than Ericsson and Nokia combined [in research and development].
- Eliminating these restrictions and allowing Huawei an opportunity to compete in the provision of telecommunications infrastructure equipment in the United States could reduce the concentration of the industry, increase competition, reduce prices, and encourage increased deployment by carriers. Given the upcoming 5G deployments and the benefits of improved telecommunications for the economy as a whole, the benefits to consumers of increased competition for infrastructure equipment could be substantial.
- Given the prospect of massive 5G investment and deployment over the next few years, additional competition in the provision of 5G infrastructure equipment could be of particular benefit to both U.S. carriers and U.S. consumers.”

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B. The NPRM's Approach Fails to Provide a Meaningful Solution for Cybersecurity Risks

Rural Broadband Alliance, Domain5 Whitepaper

- “[T]he exclusion of any single vendor or set of vendors from participating in U.S. carrier network contracts does little to address the actual risks.
- ALL major telecom vendors employ equipment and devices having significant development and manufacturing operations located in China
- A more effective approach would be to create a telecommunications security framework that precludes the need for telecom carriers to trust any vendor’s technology solution.

Huawei

- “[T]he Commission fails to explain why Huawei’s equipment should be prohibited while Nokia’s equipment is allowed. Nokia, too, has ties to China. Unlike Huawei (a private company), that joint venture is directly supervised by the State-Owned Assets Supervision and Administration Commission of the State Council.”
- “Indeed, despite Huawei’s minimal presence in the U.S., it is reported that cybersecurity attacks in the U.S. have significantly increased in recent years, suggesting that the vulnerabilities are nested in existing American networks built by other vendors.”

C. Huawei's Robust Cybersecurity Policies Follow Global Best Practices

Huawei: Declaration of John Suffolk

- “[F]ar from Huawei being a risk to security, we are in fact a champion of best practices, a champion of openness and transparency and a champion of protecting user data. As stated by our Founder ‘we will never put the commercial interests of our company ahead of security.’”

Huawei: Declaration of Donald A. Purdy, Jr.

- “Since 2011, Huawei has established, implemented, and improved a transparent global assurance program (the Program) for cybersecurity and privacy.
- The Program reflects a strong cybersecurity and privacy commitment by Huawei’s top corporate leadership, and leadership of the various business groups and units, to protect customer data and access to customer networks; to ensure that Huawei and its employees comply with government mandates, customer requirements, and Huawei policy and practices; and to fulfill Huawei’s commitment through a program of end-to-end assurance and internal compliance.
- Cybersecurity and privacy are key components of the overall compliance requirements of Huawei US, derived from Huawei’s global policy and process, United States statutes and regulations, customer requirements, and Huawei US

policy and procedure.”

D. The Proposed Rule Will Harm Huawei Customers

Competitive Carriers Association: Steve K. Berry, President and CEO

- “The services provided by the targeted companies are almost always less expensive and can be more reliable than their market competitors.”

SI Wireless: Michael Beehn, CEO of MobileNation

- SI Wireless provides mobile phone and broadband services to approximately 20,000 customers across the western portions of Kentucky and Tennessee.
- “SI Wireless’s core network infrastructure is constructed with and depends on Huawei equipment. SI Wireless chose Huawei because it delivered excellent quality and was the most cost-effective option for a rural network deployment. SI Wireless has been in business for approximately 8 years and in that time we have been impressed with the performance of Huawei equipment. Huawei also is our primary provider of on-the-ground customer services, such as installation of new and upgrade equipment, repairs of equipment, etc. Huawei is highly cost-effective and it provides excellent customer service.”

Viaero Wireless: Frank DiReco: Founder, President & CEO

- “Viaero provides mobile telephone, SMS, and wireless broadband services to nearly 110,000 customers and approximately 1.5 million unique roaming customers per month across Eastern Colorado, Western Kansas, Nebraska and parts of Wyoming and South Dakota.
- Approximately 80% of equipment, including core, wireless, microwave, and fiber, was manufactured by Huawei. Viaero chose Huawei because it was the most cost-effective option and the most reliable product and excellent customer service. Before contracting with Huawei, Viaero worked with a more expensive vendor whose product never was able to successfully deploy in our markets. Huawei’s services have been much better, which has resulted in better network performance and less downtime.”

James Valley Telecommunication (JVT): James Groft, CEO

- “JVT provides voice, mobile telephone, video, and broadband services to nearly 10,000 customers in South Dakota.
- 100% of our wireless core and wireless radios were manufactured by Huawei. JVT chose Huawei because it was the most cost-effective option with a 40% savings versus the 2nd most cost-effective option. Huawei is also consequently our primary provider of customer support services, such as installation of new equipment and software upgrades. Huawei is highly cost-effective and it provides excellent customer service. Before contracting with Huawei, JVT had a series of terrible

experiences with another, higher priced vendor. Huawei's service record, while not perfect, has resulted in fewer and less severe coverage outages for our customers. Huawei is there when our customers need them.”

United Telephone Association (“United”): Todd Houseman, General Manager/CEO

- “United provides mobile telephone, SMS, and wireless broadband services to nearly 20,000 customers in 17 southwest Kansas counties.
- The wireless network deployed by United consists primarily of Huawei equipment. Six years ago United chose Huawei due to two main factors. First, at the time, they were the only company manufacturing equipment that allowed United to fully utilize its spectrum holdings. The technical solution offered by Huawei was superior to other equipment manufacturers. Second, Huawei was by far the most cost effective.”

Nemont: Michael D. Kilgore, CEO and General Manager

- “Nemont provides mobile telephone, SMS, and wireless broadband services to nearly 000 customers across northeast and southcentral Montana, and northwest North Dakota through its wholly own subsidiary, Sagebrush Cellular, Inc.
- Nemont also provides wireline telephone and broadband access to approximately 20,000 customers in the States of Montana, North Dakota, and Wyoming.
- Nemont's wireless network is made up largely of Huawei equipment; over 70%, including the core and RAN networks was manufactured by Huawei.
- Nemont selected Huawei 12, as our wireless vendor due to its technical capabilities, customer support, and cost effectiveness.”
- Sagebrush, a wholly owned subsidiary of Nemont Telephone Cooperative, Inc., is a commercial mobile radio service (“CMRS”) provider offering service in northeast and south central Montana, as well as portions of northwest North Dakota.
- In 2010, Sagebrush upgraded its wireless network from 1x to 3G, selecting Huawei as its equipment vendor. Sagebrush selected Huawei over competing vendors Ericsson and Lucent, based largely on substantial cost savings in initial deployment and ongoing support services, and after completing due diligence on the quality of Huawei equipment, its support services, and the potential impact on national security.
- When Sagebrush solicited bids in 2010 for its network, it found the cost of Lucent equipment to be twice the cost of Huawei equipment and the cost of Ericsson equipment to be nearly four times the cost of Huawei equipment.
- Since contracting with Huawei, Sagebrush has experienced reliable service and no network outages, cyber attacks, or other network security issues. Over the years, Sagebrush has continued to deploy Huawei equipment and has also deployed a Huawei LTE network.
- Were Sagebrush to lose USF funding as a result of the proposed rule, it estimates the cost of replacing its network at around \$57 million.

- Sagebrush projects that with current funding, and the increased costs of a replacement network, its network would be reduced by almost two-thirds, shrinking from 161 to 55 cell sites, while the size of its coverage area would be reduced by over two-thirds, a loss of 11,700 square miles of coverage.
- In some areas where Sagebrush is the only wireless carrier, 911 service as well as voice and mobile broadband service will be lost. In addition, Sagebrush covers 173 miles of the U.S.-Canadian border and provides service to more than 75 Border Patrol and U.S. Customs agents. Ironically, a measure intended to preserve national security would instead jeopardize it by depriving these important border security personnel of critical wireless service.
- Sagebrush has spent extensive time trying to find one shred of evidence that demonstrates any wrongdoing by Huawei and, to date, has been unable to uncover any hard fact.

Union Telephone Company d/b/a Union Wireless (“Union”): Eric J. Woody, Chief Technical and Operations Officer

- “Union provides mobile telephone, SMS, and wireless broadband services to nearly 40,000 customers across Wyoming, Colorado, Utah and Idaho.
- Approximately 75% of Union’s network equipment, including core, wireless, and microwave, was manufactured by Huawei. Union chose Huawei because it was the most cost- effective option as well as the only vendor who actually responded to my request for proposal at the time. It was necessary to change network vendors due to continued service interruptions, lack of timely support and excessive support costs. Again, Huawei is highly cost-effective and it has provided Union with excellent customer service. Before contracting with Huawei, Union had a series of terrible experiences with another, higher priced vendor. Huawei’s service record has resulted in fewer and less severe coverage outages for our customers.”

Mark Twain Communications Company (MTCC)

- “MTCC’s parent is Mark Twain Rural Telephone Company (the “Cooperative”). The Cooperative is a rural telephone cooperative that was formed in 1953 to provide rural telephone service to subscribers in rural areas surrounding the city of Hurdland in in Knox County, Missouri. The Cooperative and MTCC serve northeast Missouri.”
- “MTCC chose Huawei as its vendor for several reasons, the most relevant of which are the affordability and reliability of its equipment. Given MTCC’s size and financial status, purchasing the equipment necessary to construct the Network from Huawei was its only option at the time, as the cost of such equipment from other vendors used by large nationwide wireless providers was prohibitive.”
- “If MTCC’s current Network equipment is later determined to be in violation of the proposed rule, MTCC will incur debilitating costs to purchase a new core for switching, base stations, CPE, etc.”

- “In fact, MTCC believes that requiring USF recipients to expend extensive financial and other resources to rebuild their networks actually results in such companies having fewer resources to invest in national security with respect to their own telecommunications networks.”

NTCA - The Rural Broadband Association

- The FCC’s proposal could leave the U.S. behind in 5G deployment because Huawei and ZTE are key suppliers.

WTA – Advocates for Rural Broadband

- “[O]ne member stated that when choosing vendors for their recent 4G deployment it considered several other well-known vendors that sell globally. However, the member noted those vendors were simply unaffordable at two to four times the cost of using Huawei. The member also noted that one prominent alternative vendor did not even give it a price quote for the deployment only stating that a small company “would be unable to afford them.” The WTA member company moved forward with Huawei and has been using Huawei equipment throughout its 4G deployment. The company has spent more than \$25 million on Huawei equipment for its wireless network except for its participation in the Verizon Wireless LTE in Rural America program and its fixed wireless networks. The company stated that because of its business plan, it expects to continue using the equipment from the Huawei deployment for five to seven years and that it has a maintenance agreement with Huawei through 2021. The company stated that it goes to great lengths to test the equipment for security issues and has never encountered an issue that it is aware of that has threatened the security of its customers or the nation. The company added that Huawei’s equipment is efficient and works very well for the company’s purposes, especially at the reduced cost. The WTA member also indicated that Huawei’s customer service has been exceptional and that Huawei representatives are readily available to address any issues that need resolving with its products.”
- “Another WTA member chose Huawei four years ago when another vendor fell behind on a critical network upgrade, and the member added that Huawei put an emphasis on getting the problem fixed before worrying about getting paid. The member added “Huawei has treated us better than anybody.” The member also lamented about the lack of competition in the market noting that four years ago, there were five suppliers, but today there are only two.”