

**Before the
DEPARTMENT OF COMMERCE
National Institute of Standards and Technology
Washington, DC 20230**

Study on People's Republic of China (PRC))
Policies and Influence in the Development) Docket No. 211026-0219
of International Standards for Emerging)
Technologies)

COMMENTS OF WI-FI ALLIANCE

Wi-Fi Alliance®^{1/} submits these comments in response to the Request for Information issued by the Department of Commerce National Institute of Standards and Technology (“NIST”) in the above-referenced proceeding.^{2/} In fulfilling its Congressionally-imposed mandate, NIST should find that under the circumstances described below, participation by companies associated with the People's Republic of China (“PRC”) can have a positive effect on global standards and certification-setting activities, as well as the U.S. economy and technology leadership.

^{1/} Wi-Fi®, the Wi-Fi logo, the Wi-Fi CERTIFIED logo, Wi-Fi Protected Access® (WPA), WiGig®, the Wi-Fi Protected Setup logo, Wi-Fi Direct®, Wi-Fi Alliance®, WMM®, Miracast®, Wi-Fi CERTIFIED Passpoint®, and Passpoint® are registered trademarks of Wi-Fi Alliance. Wi-Fi CERTIFIED™, Wi-Fi Protected Setup™, Wi-Fi Multimedia™, WPA2™, WPA3™, Wi-Fi CERTIFIED Miracast™, Wi-Fi ZONE™, the Wi-Fi ZONE logo, Wi-Fi Aware™, Wi-Fi CERTIFIED HaLow™, Wi-Fi HaLow™, Wi-Fi CERTIFIED WiGig™, Wi-Fi CERTIFIED Vantage™, Wi-Fi Vantage™, Wi-Fi CERTIFIED TimeSync™, Wi-Fi TimeSync™, Wi-Fi CERTIFIED Location™, Wi-Fi Location™, Wi-Fi CERTIFIED Home Design™, Wi-Fi Home Design™, Wi-Fi CERTIFIED Agile Multiband™, Wi-Fi Agile Multiband™, Wi-Fi CERTIFIED Optimized Connectivity™, Wi-Fi Optimized Connectivity™, Wi-Fi CERTIFIED EasyMesh™, Wi-Fi EasyMesh™, Wi-Fi CERTIFIED Enhanced Open™, Wi-Fi Enhanced Open™, Wi-Fi CERTIFIED Easy Connect™, Wi-Fi Easy Connect™, Wi-Fi CERTIFIED 6™ and the Wi-Fi Alliance logo are trademarks of Wi-Fi Alliance.

^{2/} *Study on People's Republic of China (PRC) Policies and Influence in the Development of International Standards for Emerging Technologies*, 86 Fed. Reg. 60801 (2021) (“*Emerging Technologies Study*”).

I. INTRODUCTION AND SUMMARY

The 2021 National Defense Authorization Act appropriately seeks information on the intersection of the efforts of international bodies engaged in developing and setting international standards for emerging technology and the apparent standardization strategy of the PRC.^{3/} The United States has already responsibly sought to limit security risks by restricting the export of technology to certain PRC-based companies while simultaneously recognizing that inclusion of those companies in standards development, including those in which Wi-Fi Alliance is engaged, can and will promote U.S. interests.^{4/} The study that NIST produces should recognize the important role that an international, rather than a fractured, standards-development ecosystem plays not only in the global marketplace but also for U.S. firms participating in that marketplace and should therefore facilitate PRC-associated companies' inclusion in those processes. That recognition should additionally include certification processes, which are integral to the implementation of standards. This result would be consistent with what Wi-Fi Alliance and others have asked the Department of Commerce's Bureau of Industry and Security ("BIS") to confirm – that certification programs are "standards" and entities that develop them, like Wi-Fi

^{3/} William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, Pub. L. No. 116-283 § 9414, 134 Stat. 3388, 4821 (providing that "[n]ot later than 180 days after the date of the enactment of this Act, the Director of the National Institute of Standards and Technology shall enter into an agreement with an appropriate entity with relevant expertise, as determined by the Director, to conduct a study and make recommendations with respect to the effect of the policies of the People's Republic of China and coordination among industrial entities within the People's Republic of China on international bodies engaged in developing and setting international standards for emerging technologies.").

^{4/} See *Addition of Entities to the Entity List*, 84 Fed. Reg. 22961 (2019); *Release of "Technology" to Certain Entities on the Entity List in the Context of Standards Organizations*, Interim Final Rule and Request for Comments, 85 Fed. Reg. 36719 (2020) ("*BIS IFR*").

Alliance, are “standards organizations” and are therefore exempt from the prohibition on transfer of covered technology to certain PRC-associated companies under the *BIS IFR*.^{5/}

II. NIST APPROPRIATELY RECOGNIZES THE VALUE OF INTERNATIONAL STANDARDS

As NIST recognizes, industries use standardized processes to ensure that products are interoperable and built to work together seamlessly^{6/} – outcomes that are critical to the U.S. and global economies. This is precisely the role that Wi-Fi Alliance plays in the Wi-Fi ecosystem. Wi-Fi Alliance is a global network of companies that develop innovative Wi-Fi technologies and test programs that help expand the worldwide adoption of Wi-Fi through interoperability, security, and reliability.^{7/} Wi-Fi Alliance has over 900 member-companies from dozens of countries around the globe.^{8/} Through Wi-Fi Alliance’s work driving new technologies and applications for Wi-Fi use, consumers can be confident that the Wi-Fi devices they purchase will provide a high quality user experience. Since 1999, Wi-Fi Alliance has enabled worldwide Wi-Fi adoption by certifying interoperability for thousands of new Wi-Fi products each year.^{9/} It does this by developing specifications for particular products and certifications programs.

Wi-Fi Alliance principally engages in two activities related to standards development. *First*, it creates technical specifications for specific products or applications for product categories where the broader standards created by the Institute of Electrical and Electronics

^{5/} See Wi-Fi Alliance, Comment on FR Doc # 2020-13093, Docket ID BIS-2020-0017, Comment ID BIS-2020-0017-0007 (filed Aug. 14, 2020).

^{6/} *Emerging Technologies Study* at 60801.

^{7/} Who We Are, WI-FI ALLIANCE, <https://www.wi-fi.org/who-we-are> (last visited Dec. 6, 2021).

^{8/} Member Companies, WI-FI ALLIANCE, <https://www.wi-fi.org/membership/member-companies> (last visited Dec. 6, 2021).

^{9/} Who We Are: History, WI-FI ALLIANCE, <https://www.wi-fi.org/who-we-are/history> (last visited Dec. 6, 2021).

Engineers (“IEEE”) – the international organization that develops the technology underlying Wi-Fi – and others do not address a particular market need and where interoperability is required – for instance a smart home or smart vehicles.

Second, Wi-Fi Alliance develops certification programs to ensure that products satisfying IEEE standards or incorporating Wi-Fi Alliance specifications (or any other specifications or standards necessary for the Wi-Fi experience) can operate with other devices as intended.^{10/} Once a device is certified, a manufacturer can assert that the product has been successfully tested against Wi-Fi Alliance interoperability protocols.^{11/} Certification assures businesses and consumers that the devices they are buying and using are interoperable with each other and support a common set of features, security mechanisms, and both international and domestic use cases.^{12/} The combination of these Wi-Fi Alliance processes has resulted in a 20-year history of demonstrated interoperability and the widespread adoption and popularity of Wi-Fi.

As NIST further recognizes, the most effective standard and certification development platforms are international. As it explains, “[i]f each country or company did not adhere to the same standards, technologies would not be able to easily work with products designed by other companies or to work in other markets.”^{13/} Moreover, international standards development benefits global economies because “standards allow products to be designed and produced at scale and used worldwide, which facilitates global trade.”^{14/} And, in particular, NIST correctly observes that “the Wi-Fi standard provides the requirements for wireless local area networks and

^{10/} Certification: Programs, WI-FI ALLIANCE, <https://www.wi-fi.org/certification/programs> (last visited Dec. 6, 2021).

^{11/} *See id.*

^{12/} *See id.*

^{13/} *Emerging Technologies Study* at 60801.

^{14/} *Id.*

has facilitated the broad-based adoption of Wi-Fi wireless technology, which is now ubiquitous and has become indispensable for home networking, public internet connectivity, supporting the Internet of Things, and more.”^{15/}

III. THE U.S. GOVERNMENT MUST THEREFORE PROMOTE INTERNATIONAL PARTICIPATION IN STANDARDS AND CERTIFICATION DEVELOPMENT

NIST states that the PRC is promoting a plan that would “reduce China’s dependence on foreign technology and promote Chinese technological manufacturers in the global marketplace.”^{16/} NIST and other governmental entities – notably the Department of Commerce’s BIS – should seek to avoid that result. The development of separate and competing Chinese standards and certification processes at the expense of international alternatives is contrary to U.S. interests. Excluding Chinese companies from international standards and certification activities, which in the case of Wi-Fi are based in the U.S., would significantly risk U.S. leadership in Wi-Fi. It would also incentivize parallel Chinese-led efforts that could result in U.S. companies being effectively excluded from foreign markets.

Today’s Wi-Fi marketplace – driven by Wi-Fi Alliance activities – is characterized by a single set of interoperability criteria. This promotes economies of scale and scope and allows all parts of the technological ecosystem to work together. The alternative – a separate and competing exclusively Chinese-dominated standard or set of certification criteria – may create redundant or conflicting certification programs and standards, leading to a fractured marketplace that would disadvantage U.S. and global consumers and other companies alike. In addition, American companies may not be able to participate meaningfully in the development of a Chinese Wi-Fi standard, and those Chinese developmental processes may not incorporate

^{15/} *Id.*

^{16/} *Id.* at 60802.

important due process, justification, and pro-competition policies and procedures. But even if U.S. companies are able to participate and incorporate such technologies in their products, the costs of developing two versions of Wi-Fi on connected devices will be passed on to consumers in both countries.

While NIST expresses concern about the PRC setting global standards to the detriment of U.S.-based and other companies, that will not occur in U.S.-based voluntary consensus standards bodies (“VCSBs”), in which Chinese companies should be permitted to participate. This is because the U.S.-recognized criteria for VCSBs, which also characterize Wi-Fi Alliance activities, are openness, balance, due process, appeals process, and consensus.^{17/} These criteria help ensure that no single entity or group of entities – in this case companies that are associated with the PRC – can dominate the standards or certification development process.

- Under the OMB Circular A-119, *openness* requires that “[t]he procedures or processes used are open to interested parties. Such parties are provided meaningful opportunities to participate in standards development on a non-discriminatory basis. The procedures or processes for participating in standards development and for developing the standard are transparent.”^{18/}
- Similarly, OMB Circular A-119 defines *balance* as “meaningful involvement from a broad range of parties, with no single interest dominating the decision-making.”^{19/}

^{17/} These criteria are set forth and defined by the Office of Management and Budget (“OMB”) Circular A-119. OMB Circular A-119: Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities, Office of Management and Budget, <https://www.whitehouse.gov/wp-content/uploads/2017/11/Circular-119-1.pdf>.

^{18/} *Id.* at 16.

^{19/} *Id.*

- OMB Circular A-119 also provides that *due process* “shall include documented and publically available policies and procedures, adequate notice of meetings and standards development, sufficient time to review drafts and prepare views and objections, access to views and objections of other participants, and a fair and impartial process for resolving conflicting views.”^{20/}
- And, an *appeal process* should “be available for the impartial handling of procedural appeals.”^{21/}
- Finally, OMB Circular A-119’s *consensus* standard requires (i) an organization to reach “general agreement, but not necessarily unanimity” and that (ii) “during the development of consensus, comments and objections are considered using fair, impartial, open, and transparent processes.”^{22/}

These criteria all help ensure that no one entity – including entities that may be associated with the PRC – can control the standard-setting or certification process. Wi-Fi Alliance operates pursuant to these guidelines, and NIST should find that any entity that does should be qualified to invite participation from PRC-associated entities.

Just as NIST need not be concerned about PRC-associated companies dominating standard-setting or certification processes when those processes demonstrate OMB Circular A-119 and similar characteristics, it also does not need to be concerned about the national security and foreign policy implications of PRC-affiliated company participation in Wi-Fi Alliance in particular. *First*, certification programs are based on existing and open Wi-Fi standards. *Second*,

^{20/} *Id.*

^{21/} *Id.*

^{22/} *Id.*

the Department of Commerce has already determined there is no security risk or adverse public policy implications from permitting Chinese companies to engage in standards development for the type of technology for which Wi-Fi Alliance develops certification programs,^{23/} and the development of certification programs for interoperability is an extension of that activity. In fact, BIS has sought industry input on these precise issues.^{24/} Wi-Fi Alliance expects BIS to recognize the benefit of PRC-associated company participation in certification activities for the reasons noted above, and NIST should reach a similar conclusion here.

IV. CONCLUSION

NIST should continue to recognize the vital role that international standards and certification processes play in a global economy and technological ecosystem like the Wi-Fi industry. NIST's study should conclude that including Chinese participation in those processes is an important step in developing broadly adopted technologies, which will not only benefit consumers and industry internationally but will also help ensure continued American leadership in Wi-Fi technology with no risk to U.S. national security.

Respectfully submitted,

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^{23/} See *BIS IFR* at 36719.

^{24/} *Id.* at 36719-20.