



January 14, 2019

Commissioner Jessica Rosenworcel
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Dear Commissioner Rosenworcel:

On behalf of Comcast Corporation, thank you for your letter of December 12 to our Chairman and Chief Executive Officer, Brian Roberts, regarding our continued efforts in coordination with the Commission to address the scourge of illegal robocalls. As Senior Vice President and General Manager, Broadband, Automation and Communications at Comcast Cable, I have played a lead role in ensuring that tools mitigating these abusive calling practices are available to Comcast's customers, and Mr. Roberts thus has asked me to provide this response to your letter.

Comcast deeply appreciates the critical role the Commission has played—and is continuing to play—in giving voice providers the flexibility to deploy robocall mitigation tools for the benefit of consumers. In 2015, the Commission issued a ruling clarifying that voice providers may make call-blocking technology available to their customers who choose to use such technology to stop unwanted robocalls. Then, in 2017, the Commission adopted its *Robocall Blocking Order*, specifically permitting voice providers to block calls appearing to originate from invalid, unallocated, and unassigned numbers, as well as from numbers on the industry Do-Not-Originate (DNO) list. The Commission also has been active in promoting the development and implementation of the end-to-end call authentication protocol known as SHAKEN (Signature-based Handling of Asserted Information Using toKENs) and STIR (Secure Telephone Identity Revisited)—an initiative that Comcast has led on the industry side.¹ Separate from but in parallel with these efforts, the Commission's recent *Reassigned Numbers Order*, which set in motion the creation of a comprehensive database of number reassignments, provides yet another vehicle for reducing unwanted communications by enabling legitimate businesses to minimize inadvertent calls to wrong numbers.

¹ As noted in the letter of Comcast's Tony Werner to Chairman Pai on November 19, 2018, Comcast's Chris Wendt co-chairs the work group of the Alliance for Telecommunications Industry Solutions on the SHAKEN framework for caller ID authentication, is a primary author of the STIR specifications adopted by the Internet Engineering Task Force, and leads the development team pioneering an open source implementation of the specifications to promote testbeds and interoperability lab trials in the industry. Mr. Wendt also co-chaired the Authentication Work Group of the Robocall Strike Force, which was organized in 2016 to accelerate the development and adoption of new tools for mitigating fraudulent robocalls and has provided two detailed reports on those efforts to the Commission. Moreover, Comcast's Beth Choroser co-chaired the North American Numbering Council's Call Authentication Trust Anchor Working Group, which in May 2018 prepared a report for the Commission on the governance framework and timely deployment of the SHAKEN/STIR protocol.

Building off the Commission's multi-pronged efforts in this arena, and recognizing that consumers desire immediate relief from unwanted calls, we at Comcast seek to empower our customers with a variety of free tools and functionalities to mitigate robocalls. We currently offer free Nomorobo compatibility to all of our residential Xfinity Voice customers with Unlimited or Unlimited Select plans—representing 93 percent of our active residential voice customer base.² Nomorobo is a third-party cloud-based service that can be configured by consumers to block various types of robocalls, and was featured at the Commission's expo on robocall mitigation technologies in April 2018. We provide an easily accessible webpage instructing customers on how to activate the service,³ and we are continuing to see a steady rise in the number of customers who take advantage of this offering. We estimate that this service successfully blocks roughly 10 million unwanted robocalls bound for Comcast customers every month.

We also have begun implementing free tools at the network level that employ specific robocall mitigation techniques authorized by the Commission's 2017 *Robocall Blocking Order*. For our residential Xfinity Voice customers, we have configured edge devices on our voice network to implement blocking of calls from numbers on the industry DNO list, and we block thousands of fraudulent robocalls through this method each month. Also, in the near future, we plan to begin deployment of a centralized capability for blocking calls appearing to originate from certain invalid and unallocated numbers and bound for residential Xfinity Voice customers. By implementing such call blocking in a centralized fashion, we not only can block a significantly greater volume of fraudulent robocalls, but also can move swiftly to add or remove numbers or ranges of numbers to be blocked as the need arises. In conjunction with these efforts, Comcast is an active member of the Industry Traceback Group, a coordinated initiative to trace abusive calls to their source and to identify callers likely to be engaging in fraudulent activity.

Moreover, as described in greater detail in the letter from Comcast's Tony Werner to Chairman Pai on November 19, 2018, we are pursuing an aggressive timeline for implementing an end-to-end call authentication capability based on the SHAKEN/STIR protocol for our residential Xfinity Voice subscribers—another robocall mitigation tool that will come at no additional cost to our customers. Indeed, in addition to being at the forefront of developing the SHAKEN/STIR protocol, we are leading the way in deploying this technology. I am pleased to report that we have now implemented the capability to sign calls originating from our residential Xfinity Voice customers for our entire residential subscriber base. Moreover, by the end of March 2019, absent any unexpected difficulties, we expect to have implemented the capability to verify calls that contain a SHAKEN/STIR-compliant signature for our entire residential subscriber base. Accordingly, by that time, all calls originating from a Comcast residential subscriber and terminating with a Comcast residential subscriber will be able to be signed and

² For the small portion of our residential voice customers who subscribe to legacy plans that lack compatibility with Nomorobo's technology, we are actively exploring solutions to bring the benefits of Nomorobo to those customers.

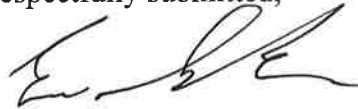
³ See Comcast, "How to Stop Unsolicited Robocalls to Your Home," <https://www.xfinity.com/support/articles/nomorobo>.

verified in accordance with the SHAKEN/STIR framework. Comcast's implementation of signing and verification capabilities by that time also will enable the company to begin interoperating with other voice providers that have implemented such capabilities—thus paving the way for industry-wide call authentication that will thwart illegal spoofers of caller ID information.

In addition to these tools for Comcast's Xfinity Voice residential customers,⁴ Comcast is actively raising awareness about available tools for Xfinity Mobile subscribers. Comcast maintains an easily accessible website providing Xfinity Mobile subscribers with lists of robocall mitigation apps available for iPhone and Android devices, and a large number of those apps are free to consumers.⁵ As for network-level blocking functionalities, Xfinity Mobile's status as a mobile virtual network operator (MVNO) offering provided over Verizon's cellular network means that it is reliant on Verizon's own implementation of such tools, and Comcast will continue to work closely with Verizon to ensure that Xfinity Mobile customers receive the same robocall protections as Verizon Wireless retail customers.

As reflected in the efforts described above, Comcast is fully committed to empowering its customers with tools to combat the rising tide of illegal robocalls. We very much appreciate your inquiry into these issues and look forward to continuing our close work with the Commission in putting an end to these abusive practices once and for all.

Respectfully submitted,



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Comcast Cable

cc: Brian Roberts, Chairman and CEO, Comcast Corporation

⁴ On the wireline side, because nearly all of the complaints Comcast receives regarding illegal spoofed robocalls are from our residential subscribers, we have prioritized implementation of robocall blocking tools for those subscribers. Comcast hopes to begin implementation of SHAKEN/STIR functionality for small business customers by the end of 2019 or the first half of 2020, followed by implementation for enterprise customers thereafter, and is actively exploring other robocall mitigation tools for these customers.

⁵ See Comcast, "How Do I Block Robocalls," <https://www.xfinity.com/mobile/support/article/360000902823/how-do-i-block-robocalls>.