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**VIA ELECTRONIC FILING**

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

Attn: Office of Engineering and Technology

Re: *Supplemental Request for Waiver of Certain Technical Requirements for Operation of New U-NII-3 Devices in the U-NII-1 Band*

*Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band, ET Docket No. 13-49*

Dear Ms. Dortch:

Time Warner Cable Inc. ("TWC") hereby requests a waiver of certain technical requirements adopted in the above-referenced proceeding to permit the operation of new 5 GHz Unlicensed National Information Infrastructure ("U-NII") devices designed for the 5.725-5.825 GHz band (referred to as the "U-NII-3 band"), to operate at modified parameters in the 5.15-5.25 GHz band (referred to as the "U-NII-1 band").<sup>1</sup> Specifically, TWC seeks a waiver to permit operation of up to 10,000 new U-NII-3 devices in the U-NII-1 band with up to 250 mW of conducted power and a PSD of 11 dBm/MHz with a 6 dBi gain antenna.

In the *5 GHz Order*, the Commission modified the operational and technical requirements for U-NII devices operating in the U-NII-1 band to enable the provision of mobile wireless broadband services in this band. The Commission opened the U-NII-1 band to outdoor operations, permitting transmitter power levels up to 1 W,<sup>2</sup> provided such operations meet a PSD of 17 dBm/MHz with an allowance for a 6 dBi antenna gain (*i.e.* a total 36 dBm EIRP), and a maximum EIRP above 30 degrees elevation of 125 mW (21 dBm) EIRP.<sup>3</sup> The modified rules for the U-NII-1 band are intended to harmonize the requirements with the current requirements for operations in the 5.725-5.825 GHz band (referred to as the "U-NII-3 band"). As the Commission acknowledged, unlicensed devices certified to operate in the U-NII-3 band that are

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<sup>1</sup> *Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, First Report and Order, 29 FCC Rcd 4127 (2014) ("*5 GHz Order*").

<sup>2</sup> *Id.* at ¶ 34.

<sup>3</sup> *Id.* at ¶ 37.

currently in operation could potentially be reprogrammed to operate in the U-NII-1 band in accordance with the power limits and associated operational safeguards adopted in the *5 GHz Order*. For U-NII-3 band devices that are unable to comply with the U-NII-1 maximum EIRP limit (or for which the equipment manufacturers have not yet obtained the required permissive change to permit the up to 1 W of conducted power operations), the Commission established a streamlined procedure to request a waiver of the technical requirements for operation in the U-NII-1 band to allow U-NII-3 outdoor devices to operate with up to 250 mW of conducted power and a PSD of 11 dBm/MHz with a 6 dBI gain antenna.<sup>4</sup>

Concurrently with this filing, TWC has filed a waiver request consistent with these streamlined procedures to permit the operation of TWC's existing U-NII-3 systems in the U-NII-1 band using modified parameters.<sup>5</sup> While the majority of TWC's U-NII-3 devices can comply with the new U-NII-1 EIRP requirements adopted in the *5 GHz Order* to allow operation at up to 1 W of conducted power, some of TWC's currently deployed U-NII-3 systems require a waiver to allow operations at a lower power level, as contemplated by the Commission's adoption of streamlined waiver procedures for such cases. However, since TWC continues to deploy new 5 GHz Wi-Fi systems to meet the demands of its customers, it desires to have the ability to take advantage of the additional 5 GHz spectrum at U-NII-1 that the Commission made available for Wi-Fi operations in the *5 GHz Order* should it become necessary to do so before its equipment vendors have obtained the necessary certifications for new device operations in the U-NII-1 band. Consequently, TWC is seeking waiver authority for an additional 10,000 U-NII-3 devices that it has not yet deployed but might deploy in conjunction with its community Wi-Fi network development plans over the next 12 months. Thus, to the extent necessary, TWC seeks a second waiver to deploy and operate these future-deployed U-NII-3 devices in the U-NII-1 band at the 250 mW operational parameters that the Commission established for existing U-NII-3 systems. Like the systems covered by TWC's *Existing System U-NII-1 Waiver*, each of the devices subject to this waiver request will be able to be reprogrammed for operation in U-NII-1 at the 250 mW operational parameters prior to deployment. Further, the operating power of these devices will be capable of being adjusted through central network management systems currently managed by each of TWC's vendors, each of which currently support centralized power adjustment features as required by the Commission. If this waiver is granted, TWC will provide information on the location and number of deployed devices (not to exceed 10,000 in the aggregate) on a quarterly basis, or as requested by the Commission.

The Commission has authority under its rules to waive requirements not mandated by statute where strict compliance would not be in the public interest, provided that it articulates

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<sup>4</sup> *Id.* at ¶ 41. TWC understands that before U-NII-1 operations pursuant to a waiver are permitted, the equipment must comply with the software security requirements set forth in Sections 2.1033(b)(13) and 15.407(i)(1) of the rules to prevent unauthorized device modifications. *See 5 GHz Order* at ¶ 40.

<sup>5</sup> Time Warner Cable Inc., Request for Waiver of Certain Technical Requirements for Operation in U-NII-1 Band, ET Docket No. 13-49 (filed July 1, 2014) ("*Existing System U-NII-1 Waiver*").

identifiable standards for exercising that authority.<sup>6</sup> In the *5 GHz Order*, the Commission acknowledged the benefits of rapidly deploying equipment for more flexible operation in the U-NII-1 band to support the establishment of the streamlined waiver procedures.<sup>7</sup> Likewise, in this case, although the systems at issue here have not yet been deployed, allowing TWC to expand the use of U-NII-1 equipment to operate in the U-NII-1 would increase the opportunities for TWC to provide expanded Wi-Fi offerings to its customers on an expedited basis. In addition, the Commission has already found that the technical parameters at which TWC proposes to operate these devices would not cause harmful interference to other users in the band.<sup>8</sup> Moreover, the Commission concluded in the *5 GHz Order* that waiver requests meeting these technical parameters and made within a short period of time, *i.e.*, within 30 days of the effective date of the *5 GHz Order*, are likely to serve the public interest given the limited departure from the new technical requirements for the U-NII-1 band.<sup>9</sup> TWC is filing this request for waiver within 30 days of the effective date of the *5 GHz Order*, so that the Commission will be able to (i) factor in these additional devices that will be deployed in the near-term, (ii) assess the total number of devices subject to waiver requests, and (iii) confirm that other users of the band will not be harmed. Thus, the Commission's finding of good cause for requests within the 30-day window applies similarly to these additional devices that have not yet been deployed.

A limited waiver of the technical requirements for operations in the U-NII-1 band in this case would serve the public interest and is warranted by the negligible risk of harmful interference from a relatively small number of devices operating at lower power levels than adopted for the band in the *5 GHz Order*. TWC respectfully requests that OET act promptly to grant TWC such a waiver. TWC also acknowledges that the equipment subject to this waiver request must, upon receiving such waiver, demonstrate compliance with the technical requirements through the equipment certification process by filing a permissive change request including the approved waiver.<sup>10</sup>

Should you have any questions about this waiver request or TWC's 5 GHz U-NII operations, please do not hesitate to contact the undersigned at 202-370-4222 or at [Terri.Natoli@TWCable.com](mailto:Terri.Natoli@TWCable.com).

Respectfully submitted,

/s/

Terri B. Natoli

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<sup>6</sup> See 47 C.F.R. § 1.3; *see also NetworkIP, LLC v. FCC*, 548 F.3d 116, 127 (D.C. Cir. 2008); *Ne. Cellular Tel. Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990); *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969).

<sup>7</sup> *5 GHz Order* at ¶ 39.

<sup>8</sup> *Id.* at ¶ 41.

<sup>9</sup> *Id.*

<sup>10</sup> *Id.* at ¶ 42.