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September 5, 2019

Via Overnight Delivery

Federal Communications Commission
Wireless Telecommunications Bureau
1270 Fairfield Road
Gettysburg, PA 17325-7245
Attn: Scot Stone

Re: Schneider Electric
Request for Waiver of Section 90.207(i) of the Commission's Rules
Expedited Action Requested

Dear Mr. Stone:

Pursuant to Sections 1.3 and 1.925 of the Federal Communications Commission's ("Commission") rules, Schneider Electric ("Schneider Electric" or "the Company"), through its undersigned counsel, hereby respectfully requests a waiver of Section 90.207(i) of the rules to permit the use of Schneider Electric's Trio Q telemetry data radio platform, which employs a Quadrature Amplitude Modulation ("QAM") radio module topology. As explained herein, grant of waiver will serve the public interest by promoting efficient use of Part 90 narrowband spectral resources. In addition, this request is consistent with recent Commission precedent granting similar waivers of Section 90.207(i) to allow QAM modulation.

I. Background

Schneider Electric is a subsidiary of Schneider Electric SE, a French multinational corporation headquartered in Rueil-Malmaison, France. Among other products and services, Schneider Electric produces wireless radio platforms used by utilities and other critical Infrastructure Industry ("CII") companies for industrial control. These entities depend on reliable robust communications to support safety of life, property, and the environment. Schneider Electric's wireless devices are designed to transmit data reliably over long distances and under harsh operating conditions. Its radio systems are used for mission critical industrial applications such as process control and distribution automation. The radios are vital to CII operations requirements.

Although CII companies have seen their bandwidth requirements increase over time as they transition to next generation and IP-enabled wireless services, licensed broadband spectrum is largely held by carriers for commercial services. As a result, CII companies have had to make more efficient use of available spectrum resources. This includes achieving higher throughputs from narrowband channels. The Commission has encouraged this efficiency by adopting minimum data rates of 4800 bps/6.25 kHz bandwidth for VHF and UHF Part 90 radios.[1]

To meet the needs of its customer base, Schneider Electric has developed a QAM radio module topology for its "Trio Q" radio platform. The Trio Q initially will be available to customers in the Part 90 VHF (150 MHz) and UHF (450 MHz) bands. Part 90 220-222 MHz and 800/900 MHz band functionality potentially will be made available in the future. The radio achieves a data rate of up to 60 kbps in a 12.5 kHz channel and 120 kbps in a 25 kHz channel, more than six times the Commission's narrowband equivalency rate.[2]

Currently under Section 90.207(i) of the Commission's rules, data telemetry operations are limited to A1D, A2D, F1D, or F2D emissions.[3] This limits a licensee's ability to use current wireless technology for high-speed telemetry applications. Accordingly, Schneider Electric requests a waiver of Section 90.207(i) of the Commission's rules to allow for the operation of data radio communication devices using a QAM radio module topology licensed using a D1D emission designator.

II. Request for Waiver of Section 90.207(i)

The Commission may grant a request for waiver if it is shown that:

> (i) The underlying purpose of the rule(s) would not be served or would be frustrated by application to the instant case, and that a grant of the requested waiver would be in the public interest; ***or***

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[1] *See e.g., 90.203(j).*

[2] *See* Schneider Electric, *Trio License Ra*dios, https://www.schneider-electric.com/en/product-range/61419-trio-licensed-radios/?subNodeId=9992842803en_WW (last visited August 30, 2019) ("Trio Q Data Radios are advanced, high-speed licensed digital data radios, providing both Ethernet and serial communications for complex and demanding applications in Point-to-Point and Point-to-Multipoint (Multiple Address Radio) Telemetry and remote SCADA systems.")

[3] 47 C.F.R. § 90.207(i). Section 2.201(c)(3) of the Commission's rules also permits phase modulation "G" whenever frequency modulation "F" is indicated.

(continued …)

(ii) In view of unique or unusual factual circumstances of the instant case, application of the rule(s) would be inequitable, unduly burdensome or contrary to the public interest, or the applicant has no reasonable alternative.[4]

Schneider Electric's request satisfies the Commission's waiver standard.

A. The Public Interest Supports Grant of a Waiver

Section 90.207(i) of the Commission's rules provides that "[f]or telemetry operations, when specifically authorized under this part, only A1D, A2D, F1D, or F2D emissions will be authorized."[5] QAM modulations (D1D emissions) are not included.[6]

A grant of Schneider Electric's waiver request favors the public interest. Radio services used to support CII operations play a vital role in ensuring the protection of life, property, and the environment while assisting the development and delivery of economic benefits. CII companies are increasingly seeking to migrate to IP-enabled technologies for remote monitoring and control applications. The Commission has not, however, made available to critical infrastructure exclusive spectrum suitable for licensed high-speed point-to-multipoint applications. Accordingly, licensees are increasingly seeking to make more efficient use of spectrum that is currently available, such as the Part 15 unlicensed bands and narrowband channels under Part 90. This is consistent with the Commission's rules regarding narrow-banding and the underlying purpose of the Commission's rules would not be frustrated by grant of waiver in the instant case.

B. Strict Application of Section 90.207(I) Would be Inequitable, Unduly Burdensome or Contrary to the Public Interest, and There is No Reasonable Alternative

Section 90.207(n) of the Commission's rules states that the Commission will consider requests for emissions that are not authorized under 90.207 on a case-by-case basis "to ensure that the requested emission will not cause more interference than other currently permitted

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[4] 47 C.F.R. § 1.925(b)(3) (emphasis added). *see also WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1969); *Thomas Radio v. FCC*, 716 F.2d 921 (D.C. Cir. 1983).

[5] 47 C.F.R. §90.207(i).

[6] G1D (QPSK modulation) is also not included, but in a 2014 Order, the Commission clarified that G1D emissions are permitted for Part 90 telemetry operations. Order, WT Docket No. 13-188, 29 FCC Rcd 2898 (Mar. 19, 2014) [hereinafter "4RF Order"] ("Consequently, we hereby clarify that Section 90.207(i) should be read to permit G1D (and G2D) emissions for Part 90 telemetry operations.").

(continued ...)

emissions."[7] However, the Commission's case-by-case consideration of alternative emissions specifically excludes emissions used for telemetry applications under Section 90.207(i).

It is unclear from the history of Section 90.207 whether telemetry devices are intentionally excluded from the emissions flexibility afforded to other applications or whether telemetry is treated differently only because Section 90.207 was updated in a piecemeal fashion over the course of several decades. What is clear is that Section 90.207(i)'s restriction of telemetry devices to A1D, A2D, F1D, or F2D emissions is outdated and excludes next generation devices such as Schneider Electric's Trio Q radio platform that will enable users to achieve higher data rates than currently available. Data rates from the Trio Q greatly exceed the 4800 bps/6.25 kHz bandwidth standard adopted by the Commission in its recent narrowbanding initiative and thus further promote.[8] Failure to grant the relief requested will prevent prospective users from adopting spectrally-efficient technologies that promote Commission bandwidth utilization objectives.

Schneider is only requesting a waiver to allow the use of QAM modulation. It is not requesting a waiver of bandwidth limitations, emissions masks, or other technical rules and intends to meet all other Part 90 requirements. Schneider Electric's equipment will be tested and certified by a telecommunications certification body consistent with Part 2 of the Commission's rules. In addition, the Commission has already authorized QAM emissions to be used by other Part 90 radios. The use of QAM emissions by the Trio Q will not cause more interference than other currently permitted emissions.

C. Grant of Waiver is Consistent with Recent Precedent

The Commission has authorized use of D1D emissions for QAM modulations in response to several previous waiver requests. In 2014, the Commission granted a waiver to 4RF Limited to permit use of D1D emissions for telemetry radios ("4RF Order").[9] In the 4RF Order, the Commission concluded that permitting 4RF's telemetry equipment to be operated using QAM modulations "will promote the efficient use of limited spectrum resources, and can improve the effectiveness of critical infrastructure operations that protect life, property, and the environment."[10] In 2015, the Commission granted a waiver to GE MDS, LLC to permit use of

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[7] 47 C.F.R. §90.207(n).

[8] *See e.g.*, 90.203(j).

[9] *See* 4RF Limited, Request for Waiver of Part 90 Rules to Permit Use of Certain Emission Designators for Telemetry Radios, *Order*, DA 14-368 (Rel. Mar. 19, 2014).

[10] *Id.* at para 4.

(continued ...)

D1D emissions for its telemetry radios. The Commission stated that "grant of a waiver would not frustrate the underlying purposes of the emission designator rules and would serve the public interest."[11] Most recently, the Commission granted a waiver to XetaWave for its Xeta radio platform.[12]

The recent waivers follow earlier Commission precedent, authorizing the use of DID emissions that are not authorized under the Rules.[13] Schneider Electric is aware of no issues that have resulted from the grant of waiver to these other entities.

Similar to the aforementioned 4RF, GE MDS, XetaWave, and LoJack systems, Schneider Electric's telemetry radio communication devices will improve efficient use of spectral resources, which greatly benefits the public interest and greatly exceeds the Commission's current narrow-banding benchmark. Accordingly, a grant of this waiver request is appropriate.

Schneider Electric agrees to be subject to the same conditions imposed in the 4RF Order, namely that License applications must reference any Commission Order granting waiver by DA number and that no license applications will be granted until Schneider Electric obtains equipment authorization.

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[11] *See* Letter from Scot Stone, Deputy Chief, Mobility Division, Wireless Telecommunications Bureau, to Greg Kunkle, Keller and Heckman LLP, regarding GE MDS, LLC, Request for Waiver of Section 90.207(i) of the Commission's Rules, DA 15-593 (May 18, 2015). Similar to the GE MDS and XetaWave waivers, it is our understanding that this Request for Waiver may be granted without public notice or comment.

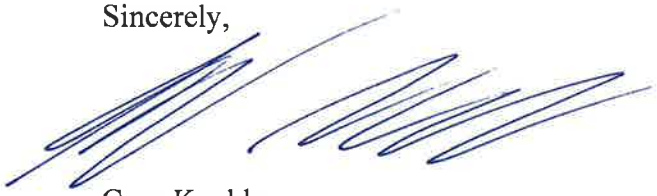
[12] See Equipment Authorization FCC ID PEJ-XETA2, Class II Permissive Change, Waiver (filed 8/1/2017).

[13] In 2005, the Commission granted LoJack Corporation's (LoJack) Part 90 waiver finding that LoJack's use of D1D emissions "would not frustrate the rule's underlying purpose." LoJack had previously been limited to F1D and F2D emissions. *See* LoJack Corp., *Order*, DA 05-3340, 37 CR 769 (Dec. 29, 2005). The Commission also found that "use of these additional emission designators will provide greater efficiencies during LoJack's redesign of its system, both presently and as it transitions to narrowband operations."

* * *

For the foregoing reasons, Schneider Electric respectfully requests a waiver of Section 90.207(i) of the Commission's rules to permit the use of D1D emissions for its Trio Q radio telemetry communication devices. Because this filing mirrors previous waivers granted by the Commission on an expedited basis, Schneider Electric requests similar expedited processing.

Sincerely,



Greg Kunkle

Counsel for Schneider Electric