Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Tesla, Inc.'s Request for Waiver of Sections 15.519(a) and 15.519(a)(2) of the Commission's Rules	)	ET Docket No. 25-101

ORDER

Adopted: February 18, 2026 **Released: February 18, 2026**

By Chief, Office of Engineering and Technology:

I. INTRODUCTION

1. By this order, we grant a request by Tesla, Inc. (Tesla) to waive Section 15.519(a) and 15.519(a)(2) of our rules governing ultrawideband (UWB) devices.[1] These rules require UWB devices to be hand-held while operating and prohibit use of antennas mounted on outdoor infrastructure, respectively.[2] For the reasons discussed below, we find there is good cause to grant Tesla's request.

II. BACKGROUND

2. The Tesla positioning system is an impulse UWB radio system that enables peer-to-peer communications between a UWB transceiver installed on an electric vehicle (EV) and a second UWB transceiver installed on a ground-level pad — which could be located outdoors — to achieve optimal positioning for the EV to charge wirelessly.[3] Prior to the UWB operation, the vehicular system uses Bluetooth technology for the vehicle to discover the location of the ground pad and engage in data exchange activities (which is not subject to the waiver).[4] When the vehicle approaches the ground pad, the UWB transceivers will operate to track the position of the vehicle to determine when the optimal position has been achieved over the pad before enabling wireless power charging.[5]

3. In its waiver request, Tesla states that the UWB signals occur only briefly when the vehicle approaches the ground pad; and mostly at ground level between the vehicle and the pad, and that the UWB signals are then significantly attenuated by the body of the vehicle positioned over the pad.[6] Thus, Tesla asserts, there is no practical ability to utilize its UWB sensors in the development of large

[1] *Tesla, Inc. Request for Waiver of Section 15.519(a), and 15.519(a)(2)) of the Commission's Rules*, ET Docket No. 25-101 (filed July 9, 2024) (Tesla Waiver Request). *See also* 47 CFR §§ 15.519(a) and 15.519(a)(2).

[2] *See* 47 CFR §§ 15.519(a) and 15.519(a)(2).

[3] Tesla Waiver Request at 1.

[4] *Id*. at 4.

[5] *Id.* at 5.

[6] *Id*. at 9-10.

communications systems that the rule on fixed outdoor infrastructure is clearly designed to prohibit.[7] It also asserts that grant of a waiver will serve the public interest by unleashing innovation and benefiting consumers.[8]

4. Tesla's positioning system will operate under the Commission's Part 15 rules governing the operation of UWB devices, which permits low-power radio frequency devices to operate without an individual license from the Commission.[9] Unlicensed transmitters using UWB technology, which are governed by Subpart F of Part 15, employ very narrow or short-duration pulses that result in very large transmission bandwidths.[10] UWB devices share frequency bands with authorized radio services and, like all unlicensed devices, may not cause harmful interference to authorized radio services and must accept interference that may be caused by the operation of other stations and devices.[11]

5. To enable its positioning system to obtain certification and conduct marketing, Tesla requests that we waive Section 15.519(a) and 15.519(a)(2) of the Commission's rules.[12] Section 15.519(a) requires UWB devices to be hand-held and not employ a fixed infrastructure.[13] Section 15.519(a)(2) prohibits the use of antennas mounted on outdoor infrastructure such as the outside of a building, telephone pole, or any fixed infrastructure.[14] According to Tesla, its system will employ directional planar antennas designed for frequencies ranging from 7.7 GHz to 8.3 GHz.[15] Because some of Tesla's UWB positioning devices will be installed on ground pads located outdoors, Tesla seeks a waiver of these rules.[16] We note that the 7.7 to 8.3 GHz band segment contains various federal government frequency assignments. More specifically, there are 3,528 government frequency assignments in the Government Master File. Approximately eighty percent of those assignments are for Fixed systems used to support the missions of the federal agencies.

6. The Office of Engineering and Technology (OET) issued a Public Notice on February 25, 2025, seeking comment on Tesla's waiver request.[17] In response, the Commission received three

[7] *Id*. at 10.

[8] *Id*. at 8.

[9] 47 CFR §§ 15.1 *et seq*.

[10] 47 CFR §§ 15.501-15.525. Several of these rules address specific UWB applications, such as ground penetrating radar, medical imaging, and surveillance systems, that are not directly applicable here. Tesla proposes to operate its devices under those parts of Subpart F that govern the authorization and use of handheld UWB systems. Tesla Waiver Request at 1.

[11] 47 CFR § 15.5(b).

[12] Tesla Waiver Request at 1.

[13] 47 CFR § 15.519(a).

[14] 47 CFR § 15.519(a)(2). *See also Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission* Systems, First Report and Order, ET Docket 98-153, 17 FCC Rcd 7435, 7503, para 199 (2002) (*UWB First R&O*). The underlying purpose of the rule is to avoid development of large-scale communications systems that could adversely impact authorized services, and to ensure that the UWB devices would only transmit when it is sending information to an associated receiver.

[15] Letter from Subash Vegesna, Sr. Staff Regulatory Compliance Engineer, Tesla, Inc., to Marlene H. Dortch, Secretary, FCC, ET Docket No. 25-101 at 1 (filed Oct. 6, 2025) (Tesla ex parte). Tesla originally stated that it intended to operate in the slightly larger 7.5-8.5 GHz range. Tesla Waiver Request at 4-6.

[16] Tesla Waiver Request at 3.

[17] *Office of Engineering and Technology Seeks Comment on Tesla's Request for Waiver of Section 15.519(a) and 15.519(a)(2) of the Commission's Rule for Handheld UWB Systems*, Public Notice, ET Docket 25-101, DA 25-161 (Public Notice).

comments, all of which support granting the waiver request.[18] No commenter other than Tesla filed reply comments.[19]

III. DISCUSSION

7. We are authorized to grant a waiver under Section 1.3 of the Commission's rules if the petitioner demonstrates good cause for such action.[20] Good cause, in turn, may be found and a waiver granted "where particular facts would make strict compliance inconsistent with the public interest."[21] To make this public interest determination, the waiver cannot undermine the purpose of the rule and there must be a stronger public interest benefit in granting the waiver than in applying the rule.[22]

8. The technical and operational standards in Part 15 were adopted to ensure that UWB devices do not cause harmful interference to authorized radio services.[23] As discussed below, we find nothing in the waiver request to indicate that Tesla's devices would differ from other UWB devices such that they would pose an increased risk of causing harmful interference to authorized radio services. As an initial matter, we also note that, similar to all UWB devices, Tesla plans to design its positioning devices to emit a significantly low power signal.[24] The current rules allow power levels of -41.3 dBm in the 7.7 to 8.3 GHz range in which this device is requesting to operate, and Tesla is not seeking a waiver of these requirements.[25]

9. With respect to the rules for which it seeks a waiver, Tesla states that its system does not share the characteristics of a wide-area communications system – instead, it is designed to produce singular communications sessions between a driven vehicle and the associated parking ground pad. Moreover, the nature of the Tesla devices involve short range communications, during vehicle positioning over the pad, and primarily operates close to the ground.[26] The UWB feature of these devices would only operate when in close proximity of a ground pad.[27] The acknowledgement communications occur prior to any UWB emissions and utilize the Bluetooth Low Energy (BLE) protocol.[28] The device does not emit a

[18] The FiRa Consortium Comments, NXP USA, Inc. Comments, and Ultra Wide Band Alliance Comments.

[19] Tesla, Inc. Reply. As noted above, Tesla also filed an *ex parte* comment modifying the frequency band in which it plans to operate.

[20] 47 CFR § 1.3. *See also ICO Global Communications (Holdings) Limited v. FCC*, 428 F.3d 264 (D.C. Cir. 2005); *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164 (D.C. Cir. 1990); *WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969).

[21] *Northeast Cellular*, 897 F.2d at 1166; *see also ICO Global Communications*, 428 F.3d at 269 (quoting *Northeast Cellular*); *WAIT Radio*, 418 F.2d at 1157-59.

[22] *See, e.g.*, *WAIT Radio*, 418 F.2d at 1157 (stating that even though the overall objectives of a general rule have been adjudged to be in the public interest, it is possible that application of the rule to a specific case may not serve the public interest if an applicant's proposal does not undermine the public interest policy served by the rule); *Northeast Cellular*, 897 F.2d at 1166 (stating that in granting a waiver, an agency must explain why deviation from the general rule better serves the public interest than would strict adherence to the rule).

[23] *See UWB First R&O*, 17 FCC Rcd 7435 *passim* (2002); *see also* 47 CFR. §§ 15.501-15.525.

[24] Tesla Waiver Request at 6.

[25] *See* 47 CFR § 15.519.

[26] Tesla Waiver Request at 10.

[27] *Id*. at 4-6.

[28] *Id*.

UWB signal unless a valid acknowledgment is first exchanged over BLE.[29] The emitted UWB signal is extremely brief (sub 150 millisecond) and completely ceases after the vehicle has parked.[30]

10. Tesla's UWB ground pad devices only perform communications with a single vehicle at a time; communications between UWB devices installed on nearby ground pads would not be permitted under Tesla's system design.[31] Thus, even if multiple adjacent ground pads use the same Tesla products, the devices will not communicate over UWB with each other.[32] Based on these reasons, we find that each UWB ground pad would operate independently and that this implementation will not create a large-area communication system and thus will not raise the potential for causing harmful interference to authorized users of the band that had prompted the Commission to adopt the rules we are now being asked to waive.

11. We also note that a grant of this waiver does not relieve Tesla of its obligation to ensure that its devices operate consistent with the rules applicable to all unlicensed devices, including the requirement that they do not cause harmful interference to other users.[33]

12. For the above reasons, we conclude that Tesla has adequately demonstrated that its product will not undermine the purpose of the rule as it will not create the type of wide-area communications system that the Commission was concerned could cause harmful interference to authorized users of the band when it adopted the rules. Accordingly, even though the Tesla system would not be hand-held, and the system would include devices installed on fixed outdoor infrastructure (i.e., outdoor parking garages), a limited waiver of Sections 15.519(a) and 15.519(a)(2) of our rules is warranted.[34] As Tesla does not request a waiver of any other Part 15 rule, the product must be designed to comply with all other UWB technical limits in our rules, except for those we are waiving. We also note that based on the description of Tesla UWB device in its waiver request, certain aspects are consistent with previous waiver requests granted by OET.[35]

13. The Tesla positioning system mitigates the interference potential through several mechanisms. First, rapid signal attenuation due to propagation characteristics in the 7.7–8.3 GHz band, coupled with relatively low EIRP limits, will help to mitigate any potential for interference.[36] Secondly,

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[29] *Id*. at 4-5.

[30] In a typical application, the pad will be actively transmitting for about 704μs per ranging round (4 x 176μs) and a total of about 140.8ms (200 x 704μs) per localization sequence. The vehicle will be transmitting for about 352μs per ranging round (2 x 176μs) and a total of about 70.4ms (200 x 352μs) per localization sequence. Between two ranging rounds, there is an interval of 100ms. *Id.* at 6.

[31] *See* Tesla Waiver Request at 5.

[32] *Id*. at 4-5.

[33] *See, e.g.*, 47 CFR § 15.5(b).

[34] We note here that indoor installations and deployments, such as home garages or other enclosed environments, do not require a waiver because they do not involve antennas mounted on outdoor infrastructure. Thus, indoor installations of Tesla's positioning system would be fully compliant with our rules.

[35] *See* 35 FCC Rcd 12912; 35 FCC Rcd 11347; and 30 FCC Rcd 8377. *See also, In the Matter of Assa Abloy Group For Waiver of 15.519(a), and 15.519(a)(2) of the Commission's Rules Applicable to Ultra-Wideband Devices,* Waiver Order, ET Docket 21-267, (OET 2022).

[36] For example, the received interference power spectral density (PSD) at an Earth station with 0 dBi gain toward the horizon, caused by a Tesla positioning system operating at 7987.2 MHz with a maximum PSD of -41.3 dBm/MHz, at a distance of 800 meters, will be -149 dBm/MHz, assuming free space path loss. Similarly, for fixed links, the received interference PSD at a fixed directional antenna with 10 dBi gain towards the ground, due to a Tesla positioning system operating at 7987.2 MHz with a maximum PSD of -41.3 dBm/MHz, at a distance of 800 meters, will be -139 dBm/MHz, assuming free space path loss. For comparison, the thermal noise power density at room temperature is -114 dBm/MHz. Therefore, the maximum unwanted power from a Tesla positioning system transmitted into an Earth station receiver located 800 meters distant or greater will be at least 35 dB below the thermal noise floor. Similarly, a fixed receiver 800 meters away would receive a maximum unwanted power of 21

the nature and operation of the Tesla positioning system for charging stations will be relatively infrequent and only occur for a short duration. Systems installed at the charging locations will not operate continuously, instead only operating during the instances where a positioning event occurs. Finally, the structure of the vehicle being charged and the surrounding environmental clutter introduces further attenuation, both in the horizontal and vertical directions, which will correspondingly reduce the potential for harmful interference to a victim receiver outside of the charging station area.

14. To ensure that the UWB transmissions do not continue indefinitely or pose an increased risk of harmful interference, we are imposing certain operational conditions that constrain Tesla's UWB positioning system to parameters that limit the timing, direction, and duration of the system's emissions. As outlined in Tesla's request,[37] these are the operational parameters that were evaluated by Tesla, the FCC, and NTIA as both acceptable and necessary to permit efficient operation of the UWB positioning system while providing sufficient interference protection for incumbent and federal systems operating in the band. These conditions, originally proposed by Tesla outlining several operational requirements and restrictions are specified below.

15. Lastly, in recognition of the Earth Exploration-Satellite Service and the passive Radio Astronomy Service that operate in the frequency bands used by the Tesla positioning system, we are conditioning this waiver to include notification and coordination requirements when commercial outdoor charging stations utilizing Telsa's UWB positioning system operated charging stations are deployed.[38] While the design of the device – e.g., UWB transmissions occurring only when communications have already been established by a BLE connection, the shielding provided by the associated vehicle, and the positioning system's low power levels – coupled with the remote location of radio astronomy observatories give us confidence that harmful interference to Radio Astronomy observations is extremely unlikely to occur, we also recognize that commercial applications, such as, but not limited to, public charging points or fleet charging facilities, have the potential to be used much more frequently than typical at-home use. Accordingly, and out of an abundance of caution, we adopt this limited commercial deployment notification requirement.

16. For these reasons, we conclude that there is good cause to waive Section 15.519(a) and 15.519(a)(2) of Commission's rules to permit Tesla to obtain certification, market and operate its UWB positioning system. This waiver is conditioned on the following conditions:

1) The Tesla UWB devices may be certified as a modular grant by the Commission via an accredited Telecommunication Certification Body, and the certification application shall include a copy of this waiver order;
2) UWB operations subject to this waiver shall be initiated only after a Bluetooth (or similar technology) connection between the EV and the pad has been made;
3) UWB sessions subject to this waiver shall continue only until the vehicle is properly positioned over the pad;
4) The UWB session subject to this waiver shall be terminated when the electric vehicle is parked or when the user leaves the area by driving away from the pad;
5) The ranging cycle occurs no more frequently than once every 100 milliseconds;
6) The UWB system subject to this waiver shall transmit only when sending information to an associated receiver as described in condition 2;

dB below the thermal noise floor from a Tesla positioning system transmitter. This is based on a very conservative assumption of free space path loss and no accounting for clutter.

[37] Tesla Waiver Request at 11.

[38] By "commercial" we mean any non-residential application, including any charging facilities made available to the public for a fee, deployed by businesses for fleet charging (either their own or as a service), or deployed by Tesla for its own use.

7) UWB operations subject to this waiver shall be confined to the 7.7-8.3 GHz frequency range with a center frequency of 7,987.2 MHz;

8) Deployment of commercial outdoor charging stations within 800 m of the EESS sites listed below requires Tesla to notify NASA:[39]

Fairbanks, AK…….....	64°51′32.4″ N	147°51′28.8″ W
Fairbanks, AK…..……..	64°51′36.0″ N	147°50′49.2″ W
Fairbanks, AK…..……..	64°51′32.4″ N	147°51′14.4″ W
Fairbanks, AK…..…….	64°47′42.0″ N	147°32′16.8″ W
Fairbanks, AK…..…….	64°58′26.4″ N	147°30′36.0″ W
Fairbanks, AK…..…….....	64°58′26.4″ N	147°30′21.6″ W
Fairbanks, AK…..……..……..	64°58′22.8″ N	147°30′7.2″ W
Sioux Falls, SD……..…	43°44′10.0″ N	96°37′21.0″ W
Wallops Island, VA……..	37°56′45.0″ N	75°27′43.9″ W
Wallops Island, VA……..	37°55′30.0″ N	75°28′37.2″ W
Wallops Island, VA……..	37°55′33.6″ N	75°28′33.6″ W

Please notify NASA prior to deployment at Mr. Michael Evans, Frequency Assignment Program Manager, michael.a.evans-1@nasa.gov;

9) Deployment of commercial outdoor charging stations within 5 km of the RAS sites listed below requires Tesla to notify NSF and NASA.[40]

VLBI Global Observing System (VGOS)		
VGOS - Goddard, MD…...……...	39°1′19.2″ N	76°49′38.3″ W
VGOS – Kokee, HI…..…….....	22°7′35.3″ N	159°39′53.9″ W
VGOS – Westford, MA…..……..…	42°36′46.8″ N	71°29′37.7″ W
VGOS – McDonald, TX…..…….	30°40′49.4″ N	104°1′25.1″ W
Hat Creek Radio Observatory		
Hat Creek, CA.....	40°49′4.0″ N	121°28′24.0″ E
Very Long Baseline Array (VLBA) Stations		
VLBA – Brewster, WA…….....	48°7′52.0″ N	119°40′59.9″ W
VLBA – Hancock, NH…….	42°56′1.0″ N	71°59′12.1″ W
VLBA – Kitt Peak, AZ…….	31°57′23.0″ N	111°36′45.0″ W
VLBA – Los Alamos, NM……	35°46′30.0″ N	106°14′44.2″ W
VLBA – Mauna Kea, HI…….....	19°48′5.0″ N	155°27′20.2″ W
VLBA – North Liberty, IA…….....	41°46′17.9″ N	91°34′26.9″ W
VLBA – Owens Valley, CA…….....	37°13′54.1″ N	118°16′36.8″ W
VLBA – Pie Town, NM……	34°18′4.0″ N	108°7′9.1″ W
VLBA – St. Croix, VI……	17°45′24.1″ N	64°35′1.0″ W
VLBA – Fort Davis, TX……	30°38′6.0″ N	103°56′40.9″ W

[39] We note that this notification distance is based on conservative estimates. Once systems are deployed, we could consider modifying these distances, if warranted, based on measurement data.

[40] *Id.*

Contact:

• NSF contact: esm@nsf.gov

• NASA POC: Mr. Michael Evans, Frequency Assignment Program Manager, michael.a.evans-1@nasa.gov;

10) Deployment of commercial charging stations within 20 km of the RAS Deep Synoptic Array sites listed below requires Tesla to notify NSF:[41]

Deep Synoptic Array (DSA-2000) sites		
Spring Valley, NV, …….....	39°33′23.8″ N	114°25′44.4″ W
Hot Creek Valley, NV ……	38°28′6.2″ N	116°15′37.4″ W
Big Smoky Valley, NV ...…….....	38°59′33.0″ N	117°3′54.7″ W
Burbank, NV…...……	38°34′45.5″ N	114°8′34.1″ W
Rock House, NV …….	40°26′8.2″ N	115°11′7.1″ W
Dolly Warden North, NV……	40°40′41.5″ N	114°26′15.4″ W
Pine Valley, NV……...	38°26′46.0″ N	113°43′49.4″ W

Contact: esm@nsf.gov;

11) Deployment of commercial charging stations within 30 km of the Very Large Array / Next Generation Very Large Array site listed below requires Tesla to notify NSF:[42]

VLA / ngVLA, NM……...	34° 04' 44" N	107° 37' 06" W

Contact NM Zone Regulatory Services (nmrdz@nrao.edu; please cc: esm@nsf.gov);

12) National Radio Quiet Zone (NRQZ): Coordination of commercial outdoor charging stations operating under this waiver is required for any operations within the NRQZ. The NRQZ consists of a rectangle between latitudes 37° 30'0.4" N and 39° 15'0.4" N and between longitudes 78° 29'59.0" W and 80° 29'59.2" W. (see 47 CFR § 1.924 (a)).
Contact: nrqz@nrao.edu; and

13) Puerto Rico Coordination Zone (PRCZ): Coordination of commercial outdoor charging stations operating under this waiver is required for any operations within 5 km of the Arecibo Observatory site at 18°20′39.5″ N, 66°45′9.7″ W. Notification is required between 5 and 10 km of the site. The PRCZ is further described at 47 CFR § 1.924 (d).
Contact: prcz@nrao.edu.

17. Accordingly, pursuant to authority in Sections 0.31, 0.241, and 1.3 of the Commission's rules, 47 C.F.R. §§ 0.21, 0.241, and 1.3, and Sections 4(i), 302, 303(e), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 302, 303(e), and 303(r), IT IS ORDERED that the Request for Waiver filed by Tesla, Inc. IS GRANTED consistent with the terms of this Order. This action is effective upon release of this Order**.**

[41] *Id.*

[42] *Id.*

18. IT IS FURTHER ORDERED that if no petitions for reconsiderations or applications for review are timely filed, this preceding SHALL BE TERMINATED, and ET Docket No. 25-101 IS CLOSED.

FEDERAL COMMUNICATIONS COMMISSION

Andrew C. Hendrickson
Chief, Office of Engineering and Technology