Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of
International Bureau Public Notice on Siting Methodologies for Earth Stations Seeking to Operate in the 24.75-25.25 MHz, 27.5-28.35 GHz, 37.5-40 GHz, 47.2-48.2 GHz, and 50.4-51.4 GHz Frequency Bands to Demonstrate Compliance with Section 25.136 IB Docket No. 17-172

CTIA COMMENTS IN OPPOSITION

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Bands to Demonstrate Compliance with Section )
25.136 )

CTIA COMMENTS IN OPPOSITION

I. INTRODUCTION AND SUMMARY.

CTIA\(^1\) respectfully submits these comments in opposition to the Satellite Industry
Association (“SIA”) Petition for Reconsideration\(^2\) (“Petition”) of the International Bureau’s
(“Bureau”) Public Notice (“Guidance PN”) in the above-captioned proceeding that provides
guidance on methodologies for implementing Section 25.136 of the Commission’s rules,\(^3\) and

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\(^1\) CTIA – The Wireless Association\(^*\) (“CTIA”) (www.ctia.org) represents the U.S. wireless
communications industry and the companies throughout the mobile ecosystem that enable Americans to
lead a 21st century connected life. The association’s members include wireless carriers, device
manufacturers, suppliers as well as apps and content companies. CTIA vigorously advocates at all levels
of government for policies that foster continued wireless innovation and investment. The association also
coordinates the industry’s voluntary best practices, hosts educational events that promote the wireless
industry and co-produces the industry’s leading wireless tradeshow. CTIA was founded in 1984 and is
based in Washington, D.C.

\(^2\) Satellite Industry Association, Petition for Reconsideration of International Public Notice on Siting
Methodologies for Earth Stations Seeking to Operate in the 24.75-25.25 GHz, 27.5-28.35 GHz, 37.5-40
GHz, 47.248.2 GHz, and 50.4-51.4 GHz Frequency Bands to Demonstrate Compliance with Section

\(^3\) International Bureau Issues Guidance on Siting Methodologies for Earth Stations Seeking to Operate in
the 24.75-25.25 MHz, 27.5-28.35 GHz, 37.5-40 GHz, 47.2-48.2 GHz, and 50.4-51.4 GHz Frequency
Bands to Demonstrate Compliance with Section 25.136, Public Notice, IB Docket No. 17-172, DA 20-

Access to high-band spectrum is an important part of the United States’ overall 5G strategy, as a mix of low-, mid-, and high-band spectrum is necessary to realize the full potential of 5G. The Commission has been a global leader in making high-band spectrum available for new, flexible wireless use in its \textit{Spectrum Frontiers} proceeding, auctioning nearly five gigahertz of high-band spectrum for billions of dollars over the past two years. In the \textit{Spectrum Frontiers} proceeding, the Commission adopted carefully balanced rules providing for additional Fixed-Satellite Service (“FSS”) earth station siting within the Upper Microwave Flexible Use Service (“UMFUS”) bands under very stringent limits to allow some flexibility to satellite interests without unduly impeding 5G deployment. To carry out this carefully balanced approach, the Commission directed the Bureau to issue a public notice seeking comment on methodologies to calculate earth station interference and protection zones and on best practices for siting earth stations in the UMFUS bands.\footnote{See \textit{Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, et al.}, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014, 8036 ¶ 54 n.120 (rel. July 14, 2016) (“\textit{First R&O}”).} The Bureau released the Public Notice seeking comment on these issues on June 21, 2017, and in June 2020 released the \textit{Guidance PN} based on that record.\footnote{International Bureau Seeks Comment on Implementing Earth Station Siting Methodologies, Public Notice, IB Docket No. 17-172, 32 FCC Rcd 5044 (rel. June 21, 2017).}

CTIA urges the Bureau to reaffirm the \textit{Guidance PN}, which provided sensible guidance on applications to site earth stations within the UMFUS bands in compliance with Section 25.136 of the Commission’s rules. The SIA Petition requests changes to the Bureau’s guidance that are inconsistent with Commission findings and decisions, impermissibly relies on facts or
arguments which have not previously been presented to the Commission, and fails to identify a procedural justification for reconsidering the Guidance PN.

II. THE BUREAU SHOULD DENY THE PETITION AS THE PUBLIC NOTICE CONFORMS WITH COMMISSION ACTIONS AND PROVIDES NECESSARY GUIDANCE TO EARTH STATION APPLICANTS.

SIA makes several unfounded objections to the Guidance PN and requests that the Bureau issue numerous substantive modifications. Specifically, SIA asks that the Bureau: (1) eliminate limitations on earth station collocation that it says conflict with Commission rules; (2) revert to the definition of a “Highway” that it contends was adopted by the Commission; (3) allow applicants more flexibility in providing antenna pattern demonstrations; (4) permit the use of clear sky EIRP levels; and (5) remove the requirement to aggregate population values for all licensed points of communications. Each above-referenced request should be denied, as the record and Commission precedent demonstrate that the Guidance PN is consistent with the Commission’s rules and orders in the Spectrum Frontiers proceeding, and reconsideration would be contrary to the public interest and furtherance of the Commission’s stated goals.

A. The Public Notice Clarification on Collocation of Earth Stations Is Consistent with Commission Orders and Rules Adopted in the Spectrum Frontiers Proceeding.

SIA asserts that the Bureau “must revise the Public Notice’s language on collocating a new antenna with an existing earth station to conform to the Commission’s express intent.” Building on this argument, the Petition contends that the Bureau’s decision to count earth stations against the limit of total earth stations for a licensing area if the aggregate power flux density (“PFD”) contour or protection zone “contains areas outside the contour or protection zone.”

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7 SIA Petition at 5.
8 Id. at 7.
zone of the grandfathered earth station” conflicts with Section 25.136(a)(4)(i) of the Commission’s rules, which states that for purposes of calculating whether the numerical earth station limit has been reached, “multiple earth stations that are collocated with or at a location contiguous to each other shall be considered as one earth station.” However, as described in more detail below, this argument is unavailing and the Bureau should not make any changes to the guidance language, as the basis of the collocation rules was to allow for the placement of new earth stations that do not modify the aggregate PFD contour or protection zone.

Fundamentally, the Commission has determined that collocating earth stations at a location will count as a single earth station, but only when the aggregate PFD contour is not extended. As stated in the Spectrum Frontiers First R&O and reiterated in the Order on Reconsideration, a “location” in the context of complying with the numerical limit on earth stations refers to, “in the case of earth stations transmitting in the band, the contour within which one or more earth stations generate a power flux density (PFD) no more than -77 dBm/m²/MHz at 10 meters above ground level.” In consideration of this definition, the Order on Reconsideration notes that the rules do not preclude the expansion of earth station location contours or apply any numeric limits to the number of earth stations to be deployed at a location “provided that the deployment complies with other earth station siting limits in our rules.”

In other words, while the Commission found that any new earth stations that are collocated at a single location will be counted as a single earth station, if a proposed new earth

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9 Id.


11 See Order on Reconsideration at 11034 ¶ 139.
station would extend the underlying PFD contour, the new earth station will be counted as a new location for purposes of the overall limit of three earth station locations per licensed area. As such, the Bureau correctly recognized that the Commission’s decisions have carved out its stated policy objective that an extension of any contour will no longer fit the Commission’s definition of a single “location” and is therefore subject to the Commission’s rules and the limit on the number of earth station locations in a licensed area. All the Bureau did in its Guidance PN was apply this direction provided by the Commission. Therefore, there is no need to modify this statement, nor is it inconsistent with the guidance provided by the Commission to the Bureau.

B. Guidance on the Definition of Roadways Is Consistent with the Plain Language of the Commission’s Rules.

The clarification in the Guidance PN that applicants should consult state sources in addition to federal Department of Transportation maps to ensure that a proposed earth station’s exclusion zone does not overlap with any of the prohibited roadways is consistent with the existing rules in Section 25.136. Specifically, the Commission’s rules provide that an earth station’s exclusion zone should not cross any road classified as an “Interstate, Other Freeways and Expressways, or Other Principal Arterial,” and specifically point to 23 C.F.R. 470.105(b), which states, “[t]he State transportation agency shall have the primary responsibility for developing and updating a statewide highway functional classification in rural and urban areas to determine functional usage of the existing roads and streets.” Although SIA has more recently argued that consulting with state-level agencies would be unnecessary and impose an additional administrative burden, the fact that state transportation agencies have the primary responsibility

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for making these determinations demonstrates that the Bureau’s guidance would be beneficial. For example, this will allow satellite entities to know any changes to classifications established by state authorities that would affect earth station planning. Accordingly, the Guidance PN provides that in interpreting this rule for roads classified as “Other Freeways and Expressways or Other Principal Arterials,” in addition to consulting the Department of Transportation Highway Administration Office of Planning, Environment, and Realty’s Executive Information System (“HEPGIS”) map, applicants should consult state sources to “ensure that roads that intersect the contour are not designated by a state transportation agency as Other Freeways and Expressways, or Other Principal Arterials.”¹⁵

SIA argues that the Guidance PN departs from the definition of “Interstate, Other Freeways and Expressways, or Other Principal Arterial” roads adopted in the Spectrum Frontiers proceeding, and that the Bureau should revert to the original definition of highways and arterial roads in Section 25.136(a)(4)(iii) of the Commission’s rules and described in previous decisions.¹⁶ This interpretation is misguided. The Guidance PN’s clarification on the interpretation of roadways classified as “Other Freeways and Expressways or Other Principal Arterial” is consistent with the plain language of Section 25.136. The Bureau noted this guidance was intended to “provide applicants with a better understanding of the Bureau’s expectations regarding earth station applications subject to section 25.136 of the Commission’s rules.”¹⁷ This clarification serves the public interest, is consistent with the Commission’s rules, and does not warrant modification.

¹⁵ See Guidance PN at 5.
¹⁶ SIA Petition at 9.
¹⁷ Guidance PN at 2.

The SIA Petition also advocates for modifications to the Bureau’s guidance on antenna patterns, EIRP data qualifications, and population values. For each, SIA argues that the Bureau should consider new facts presented in its Petition and make the above referenced changes in furtherance of the public interest. These requested modifications are not consistent with the Commission’s intent, would be contrary to the public interest, and should be rejected.

Antenna Patterns Used for Demonstrations. SIA urges the Bureau to alter its guidance on antenna gain patterns to allow applicants to rely on standard masks specified in Section 25.209 of the Commission’s rules. The Guidance PN provides that demonstrations should generally rely on measured gain patterns, but calculated gain patterns may be used in applications when measured patterns are unavailable. Further, the Guidance PN provides that demonstrations may also rely on the Section 25.209 mask, but applicants should update their demonstration with a measured gain pattern when certifying completion of earth station construction under the rules. In doing so, the Bureau has allowed some flexibility to satellite applicants but has required them to update any demonstration that relies on the Section 25.209 mask with actual measured data. This is a reasonable approach, and SIA has provided no basis for any changes to this clarification. Markedly, use of the standard Section 25.209 mask without requiring measured data at some point would not accurately describe the operation of the satellite earth station or reflect compliance with the limits in Section 25.136, and should therefore be rejected.

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18 SIA Petition at 11.
19 Guidance PN at 3.
20 Id.
Clear Sky EIRP. SIA further claims that the Bureau should allow earth station applicants to rely on EIRP data reflecting clear sky conditions.\(^{21}\) The *Guidance PN* clarifies that demonstrations should take into account worst case input power density and not just input power density during clear sky conditions.\(^{22}\) And, where an application relies on clear sky conditions, the applicant should explain with detail why that assumption is appropriate for the specific circumstances and location.\(^{23}\) In clarifying these parameters, the Bureau has rightfully required satellite earth stations to accurately define their EIRP data, but has made provisions to allow for satellite applicants to use clear sky calculations if properly justified. There is no reason for the Bureau to revisit this conclusion as it ensures that the interference environment associated with earth stations is properly defined and allows satellite parties flexibility so long as they validate the use of clear sky conditions.

*Population Values for GSO Earth Stations with Multiple Points of Communication.*

Lastly, SIA urges the Bureau to remove the requirement to aggregate population values for earth stations communicating with GSO satellite networks.\(^{24}\) The *Guidance PN* clarifies that earth stations communicating with GSO space stations should provide an analysis based on the antenna pointing angles toward the points of communication requested in their earth station applications and demonstrate that the aggregate affected population corresponding to all points of communication does not exceed the applicable limits in Section 25.136.\(^{25}\) SIA argues that an

\(^{21}\) SIA Petition at 12.

\(^{22}\) *Guidance PN* at 3.

\(^{23}\) *Id.* at 3 (noting for example, an applicant could submit a demonstration showing that, for the particular location and system configuration, there will be a high probability that fading between the earth station and the satellite will be highly correlated with fading within the earth station contour, and applicants should describe any additional assumptions that were made in conducting their section 25.136 analysis).

\(^{24}\) SIA Petition at 13.

\(^{25}\) *Guidance PN* at 2-3.
earth station can only communicate with one geostationary satellite at any given time, and therefore, it is sufficient for applicants to show that the affected population for each point of communication individually complies with the rule.\textsuperscript{26} That view misinterprets the Commission’s rules.

Section 25.136 of the Commission’s rules allows a limited number of earth stations impacting a limited area to operate within an UMFUS license area without providing interference protection to the UMFUS licensee.\textsuperscript{27} An UMFUS licensee will have to plan its deployments around the authorized PFD contours of the authorized earth stations, which effectively creates an exclusion zone in that area. The modification proposed by SIA would increase the impact of a given earth station on the population covered by the PFD contours of the earth station and could permit the covered population to exceed the limits in the Commission’s rules. Notably, the Commission specifically stated in the \textit{Spectrum Frontiers First R&O} that its rules would allow for “multiple FSS earth stations that could, for instance, be serving different satellites in the geostationary orbit, as long as these earth stations, \textit{in the aggregate}, do not cause the interference zone to exceed the limits we adopt today.”\textsuperscript{28} SIA’s requested modification would flatly contradict the Commission’s intent in adopting Section 25.136 to limit the proliferation of satellite exclusion zones, and SIA’s request should be rejected.

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\textsuperscript{26} See SIA Petition at 14.
\textsuperscript{27} See 47 C.F.R. § 25.136(a).
\textsuperscript{28} First R&O at 8037 ¶ 55 (emphasis added).
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III. THE PUBLIC NOTICE IS NOT PROCEDURALLY DEFECTIVE AND SHOULD BE MAINTAINED BY THE BUREAU.

In building its case for reconsideration, SIA claims that elements of the Guidance PN are inconsistent with administrative law and FCC precedent. Specifically, the Petition asserts that the Guidance PN departs from the Commission’s Spectrum Frontiers decisions on treatment of collocated earth stations or is based on an inadequate record and is procedurally flawed. Each of these claims falls short.

First, the Petition asserts that the Bureau, acting on delegated authority, exceeded its authority by departing from or going beyond established Commission rules and policies. Specifically, SIA claims that the Bureau lacked clear direction to act in issuing the Guidance PN as the Spectrum Frontiers First R&O only directed the Bureau to “issue a public notice seeking comment.” Contrary to SIA’s statements, it is clear that the Bureau appropriately sought comment and issued guidance following direction from the Commission.

The Spectrum Frontiers First R&O directed the Bureau to “issue a public notice seeking comment on the appropriate methodology to calculate the 0.1 percent population limit and further details regarding earth station interference zone calculation (including propagation models, e.g. free space versus probabilistic)” and also to “seek comment on best practices for earth station siting to minimize the impact on UMFU services, colocation of earth stations, and accommodating multiple earth station interference zones without exceeding 0.1 percent of population in a given county.” Accordingly, as stated by the Bureau, the Guidance PN was

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29 See SIA Petition at 14.
30 See id. at 4.
31 See id. at 14-15.
32 See id. at 15.
33 First R&O at 8036 ¶ 54 n.120.
informed by comments, *ex parte* presentations, and the Bureau’s experience in processing earth
station applications and was intended to clarify “the Commission’s expectations regarding the
demonstrations required under section 25.136 to promote consistency among filings, while still
providing reasonable flexibility to FSS earth station applicants.” The Bureau acted within its
authority by issuing the notice and guidance on best practices for earth station siting to minimize
the impact on UMFUS services.

SIA also vaguely argues that the statement in the Guidance PN that collocated earth
stations will count as a new earth station if the PFD contour would extend beyond the contour of
the grandfathered stations contour “contradicts the language adopted by the Commission in
Section 25.136,” in violation of the Bureau’s authority. However, as explained in detail above,
the language in the Guidance PN is entirely consistent with the Commission’s rules and orders in
the Spectrum Frontiers proceeding requiring that new deployment of collocated earth stations
comply with the other earth station siting limits in the Commission’s rules.

Second, SIA makes multiple assertions regarding violation of the Administrative
Procedures Act ("APA"), claiming that even if action had been taken at the Commission level,
the Guidance PN would be in violation of the APA. The Petition claims that the 2017 Public
Notice failed to seek comment on “a number of the issues discussed in the Public Notice.” But
the Guidance PN is simply that – guidance available to earth station applicants in demonstrating
compliance with the Commission’s rules when applying to site an earth station within the

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34 *Guidance PN* at 1 (citing 2017 Public Notice and noting multiple comments and *ex parte* presentations in the record).
35 *Id.*
36 See SIA Petition at 15.
37 See *id.* at 16.
38 *Id.*
UMFUS bands. The *Guidance PN* makes no new rules, and is entirely consistent with the Commission’s existing rules and Orders. Moreover, language in the *Guidance PN* makes clear that it is offering general guidance and serves an interpretive purpose, rather than engaging in rulemaking that would be subject to the notice and comment procedures under the APA.

SIA’s arguments overlook a critical section of the *Guidance PN* titled “Earth Station Application Guidance,” which specifically lays out the intended application of the document for procedural purposes. Notably, it provides that, “[t]he guidance outlined in this Public Notice is intended to provide applicants with a better understanding of the Bureau’s expectations regarding earth station applications subject to section 25.136 of the Commission’s rules,” and that “in issuing this guidance, we seek to allow applicants flexibility in how they demonstrate compliance with this rule, ease the application preparation process, and facilitate efficient Commission review. All applications will be assessed on a case-by-case basis.” This language specifically provides that the *Guidance PN* is intended to inform applicants of the Bureau’s expectations, not to create new rules, and in addition, the Bureau will allow flexibility in demonstrating compliance with the Commission’s rules while assessing applications on a case-by-case basis.

As such, the *Guidance PN* serves as a general policy statement for interpretive purposes, rather than as a final legislative rule, and is therefore exempt from specific notice and comment requirements under the APA. And as explained above, each aspect of the *Guidance PN* that SIA challenges is entirely consistent with the Commission’s existing rules and precedent; the

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39 See *Guidance PN* at 2.
40 *Id.*
Guidance PN made no new rules and did not depart from Commission precedent. These facts make clear that the Bureau’s actions were consistent with Commission direction and precedent, as well as the requirements of the APA.

IV. CONCLUSION.

Consistent with the foregoing, CTIA urges the Bureau to reaffirm its sensible guidance regarding earth station siting methodologies by rejecting SIA’s Petition in this proceeding.

Respectfully submitted,

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