

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

In the Matter of )  
 )  
Request for Updated Information and ) WT Docket No. 10-254  
Comment on Wireless Hearing Aid )  
Compatibility Regulations ) WT Docket No. 07-250

**COMMENTS OF IRIDIUM SATELLITE LLC**

Iridium Satellite LLC (“Iridium”) submits these comments in response to the *Public Notice* in the above-referenced proceeding wherein the Commission seeks to “refresh the record” on issues relating to the scope of hearing aid compatibility requirements.<sup>1</sup>

**I. INTRODUCTION**

In the *Public Notice*, the Commission makes a new proposal to apply its hearing aid compatibility (“HAC”) requirements to all wireless handsets, regardless of service, frequency, or technology.<sup>2</sup> The Commission thereby seems to propose to apply its HAC rules for the first time to all wireless handsets used with Mobile Satellite Services (“MSS”), regardless of whether the devices are used in a common carrier or private carrier system.<sup>3</sup> As it has before,<sup>4</sup> Iridium asserts that the Commission should not apply its HAC requirements to MSS systems not

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<sup>1</sup> Request for Updated Information and Comment on Wireless Hearing Aid Compatibility Regulations, *Public Notice*, WT Docket Nos. 07-250 and 10-25, DA 14-1688 (rel. Nov. 21, 2014) (“*Public Notice*”).

<sup>2</sup> *Id.* ¶ 8.

<sup>3</sup> *See id.* ¶ 9 (inquiring about the effect of the proposed rule change on communications “through a satellite”).

<sup>4</sup> Letter from R. Michael Senkowski, Counsel to Iridium, to Marlene H. Dortch, Secretary, Federal Communications Commission, WT Docket No. 07-250 (filed Jan. 27, 2014); Reply Comments of Iridium, WT Docket No. 07-250 (filed Nov. 22, 2010).

including an ancillary terrestrial component (“non-ATC MSS”). Various characteristics of non-ATC MSS – including the spectrum allocations, technologies, and target markets – are significantly different from terrestrial mobile services and demonstrate that the Commission’s HAC rules would be inappropriate for such systems.

## **II. THE COMMISSION SHOULD NOT APPLY HAC RULES TO NON-ATC MSS DEVICES.**

In the *Public Notice*, the Commission asks whether section 20.19 of its rules “should apply to all wireless handsets, regardless of the service, frequency, or technology with which they are used.”<sup>5</sup> Although Iridium supports the goal of making consumer devices and new technologies accessible to the hearing impaired, non-ATC MSS serve different markets – and operate under greater technical constraints – than the types of services and devices the HAC rules were designed to address. As evidenced by their design, functionality, marketing, distribution, and price, non-ATC MSS devices like Iridium’s typically are not intended for consumers. Because the costs and burdens of applying HAC requirements to non-ATC MSS operators would outweigh the public benefit, the Commission should maintain the HAC exemption for non-ATC MSS.

As Iridium explained in a 2014 letter, non-ATC MSS systems have material differences from terrestrial mobile services. For example, Iridium’s system has the following unique characteristics setting it apart from terrestrial commercial mobile radio services (“CMRS”) and consumer-oriented services:

- Limited amount (8.725 megahertz) of unpaired L-Band spectrum in which it conducts both uplink and downlink operations;
- A proprietary TDMA waveform used by no other satellite operator;

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<sup>5</sup> *Public Notice* ¶ 8. Section 20.19 governs the scope and application of hearing aid compatibility requirements. *See* 47 CFR § 20.19.

- Mobile devices that require transmitter power levels many times greater than CMRS devices and typically must be operated outdoors in order to maintain communications with the satellites;
- Each mobile device – including all voice handsets and machine-to-machine (“M2M”) transceivers – is treated as an individual Earth station for licensing purposes; Iridium is limited to 150,000 total common carrier stations under its current authorization and would need prior approval to operate more than this number in the United States;
- A truly global communications system covering the entire Earth, including polar regions;
- Due to the small volume of production, all voice handsets developed and manufactured in-house;
- Long lead time in product development and marketing cycles due to infrequent handset replacement and the longer time required to recoup upfront costs, due to the lower global sales volumes relative to commercial mobile systems;
- Handset distribution through third party vendors and no direct to consumer sales; and
- Marketing focusing on the government, public safety, emergency responder, commercial, and industrial markets, not individual consumers.

These unique characteristics of Iridium’s system stand in stark contrast to the consumer-oriented commercial mobile systems that are the focus of the HAC regime.

The Commission cannot remove or limit a HAC exemption without making four statutorily-mandated findings, which simply do not bear out in the case of non-ATC MSS operations. Specifically, the Hearing Aid Compatibility Act requires the FCC to determine that (i) the revocation or limitation of the exemption is in the public interest; (ii) continuation of the exemption would have an adverse effect on hearing-impaired individuals; (iii) compliance with the HAC requirements is technologically feasible; and (iv) compliance with the HAC requirements would not increase costs “to such an extent that the telephones to which the

exemption applies could not be successfully marketed.”<sup>6</sup> An analysis of these four factors reveals that the Commission should not revoke the exemption for non-ATC MSS devices.

- (1) *Hearing aid compatible devices for non-ATC MSS applications may not be technologically feasible.*

It remains unclear that creating hearing aid compatible devices is technologically feasible in the non-ATC MSS space. Every MSS system is unique and would require a full technical evaluation that takes into account the specific characteristics of each system, including waveform, antenna characteristics, frequency band, transmitter power, etc. HAC compliance may not even be possible for non-ATC MSS devices. In addition to being distinct from each other, non-ATC MSS handsets are materially different from those used with terrestrial wireless systems, for which the HAC specifications have been developed. For example, in order to maintain communications with satellites operating in low-Earth orbit at 760 km altitude, Iridium’s handsets operate at significantly higher power than commercial mobile devices. These characteristics, combined with the use of proprietary waveforms, raise substantial questions about the technological feasibility of applying the HAC rules to MSS devices, as illustrated by the difficulties in achieving HAC compliance for GSM devices and the need to test such devices at lower power level for 1900 MHz services. Before the Commission can remove or limit the HAC exemption for non-ATC MSS, the technological feasibility must be verified and the Commission must develop the record to reflect this feasibility.

- (2) *Requiring hearing aid compatibility would increase costs of non-ATC MSS devices to the point that Iridium could not successfully market them.*

Even if HAC compliance were technologically feasible for non-ATC MSS handsets, the costs would be significant and could prevent Iridium and other non-ATC MSS operators from

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<sup>6</sup> 47 USC § 610(b)(2)(B).

successfully marketing the devices. Because each MSS system is unique, non-ATC MSS operators do not have the ability to collaborate in developing new technologies as CMRS carriers do. In addition, because of the small volume of production, all of Iridium's handsets are manufactured in house, as opposed to by major third party OEMs. As such, the costs to develop and produce HAC-compliant products will be much larger, and will be spread over a much smaller market of users, than technologies developed by Iridium's CMRS counterparts. Moreover, many of Iridium's users are government and public safety entities with limited budgetary flexibility. A non-ATC MSS operator like Iridium could face significant challenges to successfully marketing its products if it must incur the considerable costs of applying HAC requirements to its devices.

*(3) Maintaining the exemption for non-ATC MSS devices would not have an adverse effect on the hearing impaired, and revoking it would not be in the public interest.*

The Commission's stated rationale for expanding the scope of its HAC rules is framed entirely around the impact of the rules on consumers. For example, the Commission observes that "[c]onsumers . . . may focus more on a particular handset's functionality than on the network technology that it utilizes;"<sup>7</sup> and it seeks comment on whether its new proposal "would be more consistent with consumer expectations."<sup>8</sup> However, as discussed above, non-ATC MSS devices like Iridium's typically are not consumer devices. Because of the unique characteristics and non-consumer nature of non-ATC MSS, maintaining the HAC exemption would not have an adverse impact on the hearing impaired or disserve the public interest.

Non-ATC MSS devices largely are marketed to government, public safety, professional, and industrial entities for specialized applications or operations in particular environments, not to

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<sup>7</sup> *Public Notice* ¶ 7.

<sup>8</sup> *Id.* ¶ 8.

the general public for everyday consumer use. For this reason, the general public has not developed a reliance on, or particular expectations about, non-ATC MSS the way it has for terrestrial services. The Commission therefore does not have the same public interest basis for eliminating the exemption for non-ATC MSS as it did when it revoked the digital CMRS exemption in 2003.<sup>9</sup> Moreover, the non-ATC MSS industry increasingly is moving away from voice services and focusing instead on M2M applications and data transmission. For example, while use of Iridium's system has grown substantially in recent years, and is expected to keep growing with the launch of its next generation satellite system Iridium NEXT, Iridium expects to see this growth in its high-speed data, M2M, aviation, public safety, and enterprise markets. And even where non-ATC MSS is used for voice services, the hearing impaired generally have access to the communications through other means, such as through third-party peripheral devices like headsets. For the foregoing reasons, maintaining the HAC exemption for non-ATC MSS would have a minimal impact on the hearing impaired, and there would be little public interest benefit to removing the exemption.

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<sup>9</sup> See Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309, Report and Order, 18 FCC Rcd 16753, 16755 ¶ 4 (2003) (citing "our society's increased reliance on wireless phones" as one reason that removing the HAC exemption for digital CMRS handsets would serve the public interest).

### III. CONCLUSION

Because of the unique characteristics and technical restraints of non-ATC MSS, the Commission was correct in exempting this category of devices from the hearing aid compatibility requirements. The record in the current proceeding does not support a finding that the four statutory criteria necessary for revocation are satisfied, and an analysis of these four factors points to maintaining the exemption. As such, Iridium respectfully requests that the Commission continue to exempt non-ATC MSS devices from the HAC requirements.

Respectfully Submitted,

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