

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

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| In the Matter of |) | |
| |) | |
| Amendment of Part 15 of the Commission's |) | ET Docket No. 14-165 |
| Rules for Unlicensed Operations in the |) | |
| Television Bands, Repurposed 600 MHz Band, |) | RM-11840 |
| 600 MHz Guard Bands and Duplex Gap, and |) | |
| Channel 37 |) | |

To: The Commission

COMMENTS OF GE HEALTHCARE

I. INTRODUCTION.

GE Healthcare ("GEHC") hereby submits the following comments in response to the Public Notice issued by the Federal Communications Commission ("FCC" or "Commission") in this proceeding.¹ The Commission seeks comment on a petition for rulemaking submitted by Microsoft, which proposes that certain revisions be made to the current White Space device ("WSD") rules.² GEHC supports the Commission's efforts to promote broadband connectivity in rural America. A measured approach will ensure that innovative broadband applications can flourish without harming existing WMTS operations on Channel 37.

GEHC seeks clarification to ensure that no revisions to the current rules will further endanger sensitive Wireless Medical Telemetry Services ("WMTS") operating on Channel 37.³

¹ *Consumer & Governmental Affairs Bureau Reference Information Center Petition for Rulemakings Filed*, Public Notice, Report No. 3127 (May 9, 2019).

² Microsoft Petition for Rulemaking, ET Docket No. 14-165 (May 3, 2019) ("*Microsoft Petition*").

³ GEHC and the WMTS Coalition have petitions for reconsideration pending to correct a number of technical issues relevant to Channel 37 in the current rules. *See* Petition for Reconsideration of GE Healthcare, GN Docket No. 12-268 (July 28, 2015); Petition for Reconsideration of the WMTS Coalition, GN Docket No. 12-268 (Dec. 23, 2015).

It is not clear whether Microsoft intends for its proposed rule changes to apply broadly across all available WSD channels, including Channel 37 and its adjacent channels. Microsoft limits its discussion to the potential impact of its proposals on broadcast operations alone. GEHC does not oppose Microsoft's proposed rule changes, provided they will not apply to operations in Channel 37 and adjacent channels. However, if Microsoft intends for its proposals to apply to Channel 37 and adjacent channels, GEHC opposes any increases to the currently permissible radiated power and antenna height above average terrain ("HAAT") limits.

II. THE COMMISSION HAS RECOGNIZED THE TRANSFORMATIVE POWER OF WMTS OPERATIONS AND HAS DIRECTED UNLICENSED OPERATIONS TO PROTECT CHANNEL 37 BY PRIORITIZING THE USE OF OTHER CHANNELS.

The healthcare industry has leveraged the Commission's previous spectrum allocations to create transformative technologies that improve patient experiences and outcomes. The Commission has observed that WMTS, in particular, offers patients "significant benefits . . . in terms of mobility and comfort" and represents a "significant tool" to reduce healthcare costs for patients and providers.⁴ WMTS is a life-saving technology that thousands of hospitals and patients rely on every day.⁵ A single incident of harmful interference could have severe negative consequences for patient monitoring (including fetal and heart monitoring), while sporadic instances can threaten healthcare professionals' confidence in the reliability and accuracy of WMTS.

The Commission has stated unequivocally that "unlicensed devices should only operate in [C]hannel 37 in areas where there are fewer than three channels available for unlicensed use

⁴ *Amendment of Parts 2 and 95 of the Commission's Rules to Create a Wireless Medical Telemetry Service*, Order, 16 FCC Rcd 4543, ¶ 2 (2001).

⁵ Comments of GE Healthcare, GN Docket No. 12-268, at 6 (Jan. 25, 2013) ("*GEHC NPRM Comments*").

between the UHF channels and the 600 MHz guard bands, including the duplex gap.”⁶ These narrow conditions for recommended use of Channel 37 reflect the Commission’s longstanding policy to protect “safety-of-life” WMTS. As the Commission has previously stated, “prioritizing the available channels in this manner will balance the interference protection needs of WMTS facilities against the needs of white space system operators to have sufficient spectrum on which to operate.”⁷ The Commission further required that one or two test phases be completed before permitting widespread WSD deployment on Channel 37.⁸ Other than testing by GEHC to determine the safeguards that would be necessary to protect WMTS on Channel 37, there has been no testing of limited WSD deployments on Channel 37. The Commission has therefore not issued a Public Notice informing interested parties that test phases are complete and that they may deploy WSDs nationwide on Channel 37.

Every effort should be made to mitigate interference risks to WMTS, including, at a minimum, the maintenance of interference protection rules designed with WMTS and other incumbent operations in mind. Any rule changes should comport with the Commission’s channel prioritization scheme, which directs WSD operators to avoid Channel 37 unless faced with insufficient spectrum in other channels. Moreover, the Commission should not permit nationwide WSD operations on Channel 37, as Microsoft has requested,⁹ until it completes the required test phases.

⁶ *Amendment of Part 15 of the Commission’s Rules for Unlicensed Operations in the Television Bands, Repurposed 600 MHz Band, 600 MHz Guard Bands and Duplex Gap, and Channel 37, et al.*, Report and Order, 30 FCC Rcd 9551 ¶ 219 (2015).

⁷ *Id.*

⁸ *Id.* at ¶ 221.

⁹ Letter from Paul Margie, Counsel to Microsoft Corp. to Marlene Dortch, Secretary, FCC, ET Docket No. 14-165 (May 16, 2019).

III. GEHC NEITHER SUPPORTS NOR OPPOSES MICROSOFT’S PROPOSED RULE REVISIONS, PROVIDED MICROSOFT AND THE COMMISSION CLARIFY THAT ANY REVISIONS WILL NOT APPLY TO OPERATIONS IN CHANNEL 37 AND ADJACENT CHANNELS.

Microsoft requests a number of rule changes, but limits its discussion to the potential impact of these proposed rule changes on broadcast operations. GEHC does not oppose Microsoft’s proposals, but seeks clarification that Microsoft’s proposed rule changes will not apply in Channel 37, where WMTS operations are especially vulnerable to harmful interference. Any increase in permissible radiated power or antenna HAAT limits must not come at the expense of further degrading or harming WMTS operations on Channel 37. Microsoft should therefore clarify whether its proposals are intended to apply to all WSD operations regardless of channel. Absent clarification, GEHC will oppose the proposed changes to existing power and antenna HAAT limits.

Microsoft “proposes that the Commission increase its EIRP limit for fixed WSDs operating in less congested areas from 40 dBm to 42 dBm.”¹⁰ Microsoft suggests that its proposed rule changes will help promote broadband deployment in rural areas, but addresses only a single concern—broadcasters’ identification of possible sources of interference—as if that was the only issue implicated by its proposed rule changes.¹¹ But straightforward identification of interference alone does not provide adequate protections to WMTS operations utilizing Channel 37. Identifying the source of interference will not necessarily mitigate the actual harms incurred as a result of the interference. Any increase in interference threatens to erode healthcare professionals’ confidence in WMTS, negating the many benefits that WMTS offers to patients and healthcare providers.

¹⁰ Microsoft Petition at 4.

¹¹ *Id.*

Further, the proposed increase in EIRP limits from 40 dBm to 42 dBm would be inconsistent with the Commission's current rules for Channel 37 and adjacent channels. The Commission's rules currently limit fixed WSD operations on Channel 37 to 40 mW (16 dBm).¹² Operations in Channels 36 and 38 are also limited to 4 watts (36 dBm).¹³ Microsoft's proposal would represent a dramatic departure from the existing rules for fixed WSD operations on Channel 37.¹⁴

Microsoft additionally requests that the Commission consider "the feasibility of allowing first-adjacent operations at higher power [levels] for WSDs that comply with a more stringent out-of-band emissions mask."¹⁵ The Commission's existing rules require fixed WSDs operating at power levels greater than 100 mW to observe at least 6 MHz spectral separation or observe geographic separation distances from protected contours.¹⁶ Microsoft claims that these rules are overly restrictive and based on outdated assumptions. But Microsoft's claim of "highly inefficient use of spectrum" relies solely on an assessment of broadcaster uses.¹⁷ Microsoft further states that "WSDs must, of course, protect broadcasters from harmful interference," again singling out broadcasters but ignoring other valuable incumbent and protected uses such as WMTS.¹⁸

¹² See *Amendment of Part 15 of the Commission's Rules for Unlicensed Operations in the Television Bands, Repurposed 600 MHz Band, 600 MHz Guard Bands and Duplex Gap, and Channel 37, et al.*, Report and Order, 30 FCC Rcd 9551 ¶ 199 (2015).

¹³ *Id.* at ¶ 61.

¹⁴ See 47 C.F.R. § 15.712(j)(1).

¹⁵ Microsoft Petition at 7.

¹⁶ 47 C.F.R. § 15.712(a)(2).

¹⁷ Microsoft Petition at 6 (noting that "broadcasters are often dispersed throughout the band" and can therefore restrict far more spectrum than they actually use).

¹⁸ *Id.*

In addition to increases to permissible power limits, Microsoft requests that fixed WSDs be permitted to operate with antennas of up to 500 meters HAAT in less congested areas.¹⁹ Although Microsoft proposes conditions for operating at such HAAT ostensibly designed to protect incumbents, Microsoft again limits its discussion of the impact of its proposals to the impact on broadcast operations alone.²⁰

Microsoft's proposed rules may exacerbate potential gaps in the protected status of WMTS on Channel 37. As GEHC has noted elsewhere, the Commission's current rules do not provide the safeguards needed to protect WMTS operations under reasonable and foreseeable worst-case scenarios.²¹ If applied to Channel 37, Microsoft's proposed increases to the permissible WSD radiated power limits and antenna HAAT limits would increase the likelihood of harmful interference to WMTS operations.

IV. CONCLUSION.

GEHC does not oppose rules that both promote broadband operations and protect incumbent services like WMTS on Channel 37. Microsoft and the Commission should clarify whether the rule changes proposed by Microsoft were intended to apply broadly across all available WSD channels or solely to those channels below Channel 36. Any Commission decision to increase the permissible power and antenna height limits for WSDs must take into account the potential impact of such rule changes on vulnerable and valuable safety-of-life operations such as WMTS. Without further clarification that the proposed rules will not apply to Channel 37 or adjacent bands, the Commission should deny Microsoft's petition for rulemaking.

¹⁹ Microsoft Petition at 11.

²⁰ Microsoft Petition at 14 (WSD operators above 250 meters HAAT would be required to "identify all *broadcast contours* that would be within the applicable separation distance.") (emphasis added).

²¹ Petition for Reconsideration of GE Healthcare, GN Docket No. 12-268, at 1 (July 28, 2015).

Respectfully submitted,

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