

**NATIONAL RADIO ASTRONOMY OBSERVATORY**

520 EDGEMONT ROAD CHARLOTTESVILLE, VA 22903

TELEPHONE 434-296-0211 FAX 434-296-0278

16 March 2018

**Before the**

**Federal Communications Commission**

**Washington, D.C. 20554**

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| In the Matter of  Office of Engineering and Technology seeks comment on Sensible Medical Innovations Ltd’s request for waiver of Part 15 Ultra-Wideband rules for a medical imaging system | **)**  **)**  **)**  **)**  **)**  **)**  ) | ET Docket No. 18-39 |

**Comments of the National Radio Astronomy Observatory**

**Introduction**

1. Here, the National Radio Astronomy Observatory (NRAO) provides comments responding to the Office of Engineering and Technology request for comment on Sensible Medical Innovations (SMI) Ltd’s request for waiver of the Commission’s Part 15 Ultra-Wideband rules for a medical imaging system. The Observatory apologizes for its tardiness in filing this contribution.

1. The National Radio Astronomy Observatory and its sister observatories the Green Bank Observatory (<http://greenbankobservatory.org/>) and the Long Baseline Observatory (<https://public.lbo.us)> are operated by Associated Universities, Inc. (<http://www.aui.edu>) under cooperative agreement with the National Science Foundation. Their facilities include the Jansky Very Large Array (VLA) in New Mexico, the 100m Robert C. Byrd Green Bank Telescope (GBT) in West Virginia and the 10-element Very Long Baseline Array (VLBA) that is distributed from St. Croix to Hawaii. All of these facilities and the [Arecibo Observatory in Puerto Rico](http://www.naic.edu/) use portions of the spectrum that is proposed for use by the SMI medical imaging device.

**The passive service band at 1400 – 1427 MHz should not be used**

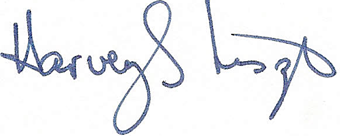
1. The waiver request makes no mention of the passive service band at 1400 – 1427 MHz which is protected by footnote US 246 to the US Table of Frequency Allocations, and by RR. No. 5.340 internationally. Emissions are forbidden in the band and the device for which SMI seeks a waiver should - indeed must - avoid placing its emissions within the band.
2. Formal considerations aside, the 1400-1427 MHz band is used for global climate measurement from satellite-borne sensors, and is subject to lamentable levels of interference from both intentional and unintentional radiators over much of the globe (although, thankfully, not in the US); see, for instance, [ITU-R Report RS. 2315](https://www.itu.int/pub/R-REP-RS/publications.aspx?lang=en&parent=R-REP-RS.2315). The FCC should take whatever steps it can to lessen the incidence of interference to remote sensing in this band, for instance by requiring the SMI device to comply with US 246 and RR. No. 5.340.

**Use of other radio astronomy bands should be coordinated**

1. The radio astronomy service has primary frequency allocations at 1610.6 – 1613.8 MHz and 1660 – 1668 MHz, and SMI use of frequencies within or near these bands should be coordinated with radio astronomy operations. This could be done following the precedent of the protocols previously established for coordination between the Wireless Medical Telemetry Service and radio astronomy operations in the 608-614 MHz band.

Respectfully submitted,

National Radio Astronomy Observatory



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Harvey S. Liszt

Astronomer and Spectrum Manager

Correspondence may be directed to:

Dr. Harvey S. Liszt (hliszt@nrao.edu)

Spectrum Manager

National Radio Astronomy Observatory

520 Edgemont Road

Charlottesville, VA 22903