

**UNITED STATES OF AMERICA****DRAFT PRELIMINARY VIEWS FOR WRC-15**

**Agenda Item 1.1:** to consider additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with Resolution **233 (WRC-12)**

**BACKGROUND:** A number of proposals have been introduced in ITU-R Working Party 5D specifying frequency ranges between 1000 and 1700 MHz as suitable for IMT/ mobile broadband. Among those, eight administrations or sector members have proposed that all or portions of the band 1435-1525 MHz be included as “suitable frequency ranges” for IMT/mobile broadband applications for purposes of initiating inter-service compatibility and sharing studies to be conducted by Joint Task Group 4-5-6-7 under 2015 World Radiocommunication Conference (WRC-15) Agenda Item 1.1.

The band 1435-1525 MHz has long been used for flight testing in the United States. Along with the band 2360-2390 MHz, it is in *the critical path* for aerospace research and development, and for certifying aircraft to safety standards. Flight testing requires real-time data for the protection of the pilot and aircrew, the test aircraft, and people and property on the ground. This data must be transmitted in protected radio bands to minimize the chance of interference/interruption to critical safety communications. In the event disaster strikes, and the aircraft is lost, the real-time data collected via radio telemetry enables engineers to more quickly isolate the cause, and effect the completion of design changes. Aeronautical mobile telemetry (“AMT”) spectrum also enables aerospace manufacturers to achieve material efficiencies in their test programs. It enables a test aircraft to clear multiple test points in a single flight.

Aerospace manufacturing is a multinational business. Manufacturing facilities are located in CITE nations, as well as facilities which supply essential parts and components for aircraft which undergo final assembly in neighboring countries. Thus, it is important for our Region that access to AMT spectrum remains assured and protected.

The international community has long protected spectrum resources (such as 1435-1525 MHz (herein referred to as the “L-band”) and 2360-2390 MHz) dedicated for flight testing. Prior to the 2003 World Radiocommunication Conference, the sharing possibilities between the L-band and Mobile Satellite Service (MSS) downlinks were studied intensively. Section 2.8.1.2.1(b) to the CPM Report for WRC-03 included the following:

“Studies submitted to the ITU-R show, in accordance with Recommendation ITU-R M.1459, that GSO MSS and aeronautical mobile telemetry are fundamentally incompatible under co-coverage scenarios, and that sharing is not feasible without causing harmful interference to AMT operations. AMT systems use low-gain transmit antennas (~2 dBi) and high gain (30 dBi) receive antennas. GSO MSS satellites use extremely high gain (~40 dBi) downlink antennas and mobile earth stations use low-gain (~2 dBi) receive antennas. This fundamental asymmetry in the competing

links precludes sharing if an MSS satellite is within line of sight of an AMT ground station and exceeds the protection levels in Recommendation ITU-R M.1459.

Without meeting the protection levels in Recommendation ITU-R M.1459, GSO MSS satellites in Region 1 and 3 visible to AMT ground stations in Region 2 will interfere with AMT operations.”

Subsequently, WRC-03 adopted a change to Article 21, Table 21-4, which established a “pfd fence” to protect flight test centers and ranges in the Continental United States in substance as follows: pfd limits consistent with Recommendation ITU-R M.1459 [-181 dB (W/m<sup>2</sup>) in 4 kHz at low elevation angles] to protect AMT systems west of 71° W, and more relaxed levels for AMT systems operating in Alaska, Hawaii and Puerto Rico.

**U.S. VIEW:** The use of the band 1435-1525 MHz for AMT systems is essential for the aerospace manufacturing industry in the Americas. Given this fact, the prior ITU-R studies, and the protection obligations for AMT in the Radio Regulations, it is unlikely that terrestrial broadband operations – whether from high-powered base stations or from ubiquitously-deployed user devices – will be able to co-exist with AMT in Region 2. Joint Task Group 4-5-6-7 should, accordingly, focus its limited time and resources on other bands where there is a realistic potential for terrestrial broadband to share spectrum.