

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: The World Radiocommunication Conference 2012 (WRC-12) adopted WRC-15 Agenda Item 1.1 in an effort to meet the dramatic increase in demand for mobile broadband applications. Radio Local Area Networks (RLANs) have become an important component of broadband connectivity for consumers and businesses. The volume of traffic over the RLAN networks is growing as it supports local area networks as well as data offloading for mobile networks. Data traffic over RLANs is expected to grow even more as devices such as tablets are sold that connect to the internet solely through RLANs.

The World Radiocommunication Conference-2003 (WRC-03) allocated the bands 5150-5350 MHz and 5470-5725 MHz on a primary basis to the mobile service for the implementation of wireless access systems including RLANs, subject to Resolution 229 (Rev. WRC-12) (see No.5446A). Resolution 229 (Rev. WRC-12) establishes the regulatory, operational and technical provisions that ensure compatibility with the primary services in the subject bands. The WRC-03 action has enabled significant growth of RLANs while ensuring protection of other services.

RLANs have been utilized to provide local area access to the Internet for over a decade. Over that period, RLAN technology has evolved to provide higher data rates. However, wired and wireless broadband connections into the home or business also have increased data rates as fiber is now closer to the premise, 3G deployments are being replaced by LTE, etc. Therefore, it is crucial for RLAN technology to continue to evolve to support these increased data rates.

The newest RLAN evolution, IEEE 802.11ac, can support higher speeds with a theoretical maximum speed of 3.6 Gbps and actual throughputs for end users of greater than 2 Gbps. However, these throughputs depend on the availability of wide spectrum channels. IEEE 802.11ac will utilize 80 to 160 MHz wide channels compared to 20-40 MHz channels utilized by today's RLAN technologies.

In addition to distributing local area internet traffic and providing offloading of data for mobile networks, RLANs can also be utilized for direct device to device connectivity. For example, content can be streamed over RLANs from a smart device to a larger screen or support data back-up directly to servers.

The increasing traffic on RLAN networks, wider channel sizes to support higher data rates, and device to device connectivity have created a need for additional spectrum. The 5350-5470 MHz band is particularly attractive for RLANs for several reasons:

- RLAN devices already operate in spectrum immediately adjacent to the 5350-5470 MHz band (i.e. 5150-5350 MHz and 5470-5725 MHz). The allocation of 5350-5470 MHz would be relatively easy in terms of equipment cost and complexity.
- A new international allocation to the Mobile service for 5350-5470 MHz would facilitate contiguous spectrum for RLANs, which would increase the number of non-overlapping channels available for use. The contiguous spectrum would enable two additional 80 MHz channels as well as one additional 160 MHz channel. (Note: the increase in channels is greater than the corresponding increase in spectrum since a more efficient band plan could be implemented.)
- Currently, the 5350-5460MHz and 5350-5470 MHz bands are allocated to the following services: Earth Exploration-Satellite (active), Radiolocation, Aeronautical Radionavigation, Space Research (active), and Radionavigation. Many of these services also operate in 5470-5725 MHz, where Dynamic Frequency Selection (DFS) has already been employed to protect incumbent services.

In order to ensure protection of the existing services in the band 5350-5470 MHz, it will be important to document the results of compatibility studies in modifications to the Resolution 229 (Rev. WRC-12) and associated ITU-R recommendations, particularly Recommendation ITU-R M.1652-1.

U.S. VIEW: The United States supports studies towards a possible primary allocation to the mobile service in the 5350-5470 MHz frequency range for the implementation of wireless access systems including radio local area networks (RLANs) and the corresponding revision of Resolution 229 (Rev. WRC-12) in order to ensure protection of the existing services.