UNITED STATES OF AMERICA

PROPOSAL FOR THE WORK OF THE CONFERENCE

Agenda Item 1.18: *to consider a primary allocation to the radiolocation service for automotive applications in the 77.5-78.0 GHz frequency band in accordance with Resolution **654 (WRC-12)***;

Background Information: Resolution **654(WRC-12)** calls for WRC-15 to consider a primary allocation to the radiolocation service in the 77.5-78 GHz frequency band for automotive applications, based on appropriate technical, operational and regulatory studies, including sharing studies with services operating in the band and compatibility studies in nearby bands. The resolution also calls for evaluation of Intelligent Transportation System (ITS) safety-related applications that would benefit from global or regional harmonization.

At frequencies above 30 GHz, radio propagation decreases more rapidly with distance than at lower frequencies and antennas that can narrowly focus transmitted energy are practical and of modest size. While the limited range of such transmissions might appear to be a major disadvantage for many applications, it does allow the reuse of frequencies over very short distances and, thereby enables a higher concentration of transmitters to be located in a geographical area than is possible at lower frequencies.

There has been significant growth in the use of short range high-resolution radars including vehicular radar applications, and these systems are expected to become relatively commonplace because of consumer demand for increased vehicle safety. Studies have shown that the use of collision avoidance technology can prevent or lessen the severity of a significant number of traffic accidents. In certain parts of the world, short range automotive radars have successfully operated in this portion of the spectrum, particularly the frequency band 76-77 GHz, for many years without mitigation methods or deactivation methods and without increased reports of interference to other services.

The radiolocation service is allocated globally on primary basis in the frequency bands 76-77.5 GHz, and 78-81 GHz. The primary amateur and amateur-satellite allocations in the 77.5-78 GHz band were relocated from 75.5-76 GHz by action of WRC-03. The band is shared with the secondary radio astronomy and space research (space-to-Earth) services.

Obtaining a possible global primary radiolocation allocation in the frequency band 77.5-78 GHz provides for a harmonized, contiguous band for radiolocation service, short range high-resolution collision avoidance related to vehicular radar applications in the frequency band 76-81 GHz. Consistent with noting c of Resolution 654, the use of this band would not be considered a safety service as defined in No. 1.59 nor require additional protection mentioned in No. 4.10.

Proposals:

ADD **USA/1.18/1**

ARTICLE5

Frequency allocations

Section IV – Table of Frequency Allocations
(See No. **2.1**)

66-81 GHz

Allocation to services		
Region 1	**Region 2**	**Region 3**
…		
76-77.5	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	
77.5-78	AMATEUR AMATEUR-SATELLITE RADIOLOCATION ADD 5.A118 Radio astronomy Space research (space-to-Earth) 5.149	
78-79	RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth) 5.1495.560	
79-81	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	

ADD USA/AI 1.18/2

5.A118 The use of the 77.5-78 GHz frequency band by the radiolocation service is limited to short range radar surface applications, including automotive applications. The provisions of No. 4.10 do not apply.

Reasons: Harmonized worldwide bands for short range high-resolution radar applications would result in improved vehicle safety, and reduced traffic incidents. The use of the radiolocation service in this band would not be considered a safety service.

SUP USA/AI 1.18/3

RESOLUTION 654 (WRC-12)

Reasons: The required studies have been completed and this resolution is no longer needed.

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