WRC-15 Agenda Item 1.1

with Respect to Frequencies Above 6425 MHz

With respect to WRC-15 Agenda Item 1.1, IWG-2 considered two proposals for NOC for 6425 MHz and above: Document IWG-2/044R1 (see attachment) supported by: EchoStar Corporation, Globalstar, Inc., Harris Wiltshire Grannis, Inmarsat, Intelsat, Iridium, Lockheed Martin Corp., SES Americom, The Boeing Company and ViaSat, Inc., and Document WAC/076 from the National Telecommunication and Information Administration.

IWG-2 did not reach consensus on the proposals, and, therefore, forwards two views on how the FCC should handle this matter. While the two proposals referenced above are effectively identical, View A proponents are conveying Document IWG-2/044R1 for consideration by the WAC. Document IWG-2/044R1 could be easily reconciled with NTIA's Document WAC/076.

View B proponents believe that there is no need for a WRC-15 Agenda Item 1.1 proposal for NOC for bands above 6425 MHz. View B is supported by Alcatel-Lucent, AT&T, Ericsson, Intel Corporation, Motorola Mobility Inc., Nokia Solutions and Networks, Samsung, Sprint Corporation, and Telecommunications Management Group Inc. The rationale for their views on this matter is given below as "View B."

View A:

With respect to Agenda Item 1.1 approve the NOC proposal for bands above 6425 MHz as contained in Document IWG-2/044R1.

View A is supported by EchoStar Corporation, Globalstar, Inc., Harris Wiltshire Grannis, Inmarsat, Intelsat, Iridium, Lockheed Martin Corp., SES Americom, The Boeing Company and ViaSat, Inc.

WP 5D as the expert group on International Mobile Telecommunications (IMT) systems was tasked to identify "spectrum requirements for the mobile service, including suitable bands for IMT" from which JTG 4-5-6-7 was to conduct sharing/compatibility studies. WP 5D did not identify any bands above 6425 MHz for IMT, nor were studies on bands above 6425 GHz conducted in JTG 4-5-6-7. Thus, there are no ITU-R results supporting the identification of bands above 6425 MHz for IMT.

Despite the absence of ITU-R results supporting the identification of frequency bands above 6425 MHz for IMT, keen interest remains on the part of Korea, within CEPT, and on the part of several technology companies for identifying Ka-band frequencies in particular for IMT at the earliest opportunity potentially at WRC-15.

Noting that there are already frequencies above 6 GHz with primary mobile allocations where administrations are free to implement, at their leisure, the type of high-density small cell deployments some proponents wish to deploy, we recommend that FCC join NTIA in supporting a NOC proposal for bands above 6425 MHz under Agenda Item 1.1 for WRC-15. The support by the U.S. for a NOC proposal for bands above 6425 GHz under WRC-15 Agenda Item 1.1, would not be in conflict with any U.S. domestic or foreign policy, and would not prejudice any potential future U.S. actions related to this matter.

VIEW A ATTACHMENT

Document IWG-2/044R1

Draft
United States of America

PROPOSALS FOR THE WORK OF THE CONFERENCE
AGENDA ITEM 1.1

Agenda item 1.1

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

Conference Preparatory Meeting (CPM) 15-1 established a dedicated Joint Task Group (JTG-4-5-6-7) to address issues related to WRC-15 Agenda item 1.1 and 1.2. JTG 4-5-6-7 is responsible for developing draft CPM text and performing associated studies in accordance with the provisions of Resolution **233 (WRC-12)** regarding Agenda item 1.1. As part of its terms of reference, JTG 4-5-6-7 is to consider the results of studies from Working Party 5D on spectrum requirements for the mobile service, including suitable frequency ranges for IMT, from which JTG 4-5-6-7 is to conduct sharing studies for purposes of developing CPM text.

In Document 4-5-6-7/220, "Final input to Joint Task Group 4-5-6-7 on suitable frequency ranges WRC-15 Agenda Item 1.1", WP 5D has confirmed and provided to the JTG 4-5-6-7 its final input on suitable frequency ranges for IMT, which in their sum bounds the frequency range 410 MHz to 6 425 MHz as being suitable. Over several meetings, WP 5D discussed the suitability of frequencies above 6 425 MHz for IMT for consideration under WRC-15 Agenda Item 1.1.

However, as noted in Document 4-5-6-7/220, WP 5D did not include frequencies above 6425 MHz as suitable for IMT under WRC-15 under Agenda Item 1.1, as WP 5D stated that, "Working Party 5D indicated that it is continuing to consider the frequency ranges above 6 GHz in terms of their suitability for IMT".

In addition, as noted in Document 4-5-6-7/220, "WP 5D also confirms it is continuing to study the frequency ranges above 6 GHz in the light of the evolution of technology and services, in addition to the already acknowledged suitable frequency ranges in the bands below 6 GHz."

In consequence, WP 5D did not provide IMT system characteristics and deployment parameters in those frequencies and no sharing studies were conducted in any band above 6 425 MHz between IMT systems and the existing systems or applications operating in frequencies above 6 425 M Hz.

Therefore, the United States maintains that WRC-15 should not address mobile service allocations or IMT identification in any bands above 6 425 MHz under WRC-15 Agenda Item 1.1.

Proposal:

ARTICLE 5

Frequency allocations

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

NOC USA/AI 1.1/1

5 570 -7 250 MHz

Allocation to services		
Region 1	**Region 2**	**Region 3**
…		
5 925 -6 700	FIXED 5.457 FIXED-SATELLITE (Earth-to-space) 5.457A 5.457B MOBILE 5.457C 5.149 5.440 5.458	
6 700-7 075	FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.441 MOBILE 5.458 5.458A 5.458B 5.458C	
…		

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248-3 000 GHz

Allocation to services		
Region 1	**Region 2**	**Region 3**
…		
275-3 000	(Not allocated) 5.565	
…		

Reasons:

This proposal for NOC applies for 6425 MHz and above. WP 5D did not include any frequencies above 6 425 MHz as suitable for IMT, and WP 5D did not provide to JTG 4-5-6-7 IMT system characteristics and deployment parameters in those frequencies. In consequence, no sharing studies were conducted in JTG 4-5-6-7 for any band above 6 425 MHz. Therefore, WRC-15 should not address mobile service allocations or IMT identification in any bands above 6 425 MHz under Agenda Item 1.1.

View B:

The United States of America does not need a NOC proposal on bands above 6425 MHz for WRC-15 Agenda Item 1.1.

View B is supported by Alcatel-Lucent, AT&T, Ericsson, Intel Corporation, Motorola Mobility Inc., Nokia Solutions and Networks, Samsung, Sprint Corporation, and Telecommunications Management Group Inc.

INTRODUCTION

Documents WAC/076 and IWG-2/044r1 provide draft United States WRC-15 Agenda Item 1.1 proposals for NOC for all bands above 6425 MHz. The companies listed above present View B, which advocates for no proposal regarding these bands due to a lack of any actual proposed candidate bands above 6425 MHz as well as the potential for misperceptions regarding the United States position on the possibility of IMT in these bands in the future.

GROWING DEMAND FOR MOBILE BROADBAND

According to ITU statistics, "Mobile broadband remains the fastest growing market segment, with continuous double-digit growth rates in 2014. Mobile broadband is growing fastest in developing countries, where 2013/2014 growth rates are expected to be twice as high as in developed countries (26% compared with 11.5%). By end 2014, the number of mobile-broadband subscriptions will reach 2.3 billion globally, almost 5 times as many as just six years earlier (in 2008)."[1]

Based upon the tremendous growth in demand for wireless broadband, the United States National Broadband plan (2010) recommended making "500 megahertz of spectrum newly available for broadband within 10 years, of which 300 megahertz should be made available for mobile use within five years."[2] As we now approach the 5 year deadline, nowhere near 300 MHz of spectrum newly available for broadband has been made available for mobile use.

Meanwhile, demand for mobile broadband continues to grow. In order to meet this demand, operators need access to additional spectrum and technological advances must continue. Access to additional spectrum for terrestrial mobile broadband applications is being considered under WRC-15 Agenda Item 1.1. Technological developments are also occurring: one of the key enabling features for future IMT includes potential utilization of higher frequency bands.

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[1] The World in ICT 2014: ICT Facts and Figures
http://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2014-e.pdf

[2] Page xii http://transition.fcc.gov/national-broadband-plan/national-broadband-plan-executive-summary.pdf

Therefore, the companies supporting View B feel it is important for the United States to take steps to identify spectrum for IMT in bands below 6425 MHz under WRC-15 Agenda Item 1.1 as well as to not develop unnecessary proposals that could inadvertently create the perception that the United States is opposed to consideration of higher frequency bands to address the longer-term spectrum needs of IMT.

STATUS OF HIGHER FREQUENCIES UNDER WRC-15 AI 1.1

As part of its preparations for WRC-15 Agenda Item 1.1, WP5D discussed the suitability of various frequency ranges both below and above 6 425 MHz for IMT. In its "Final input to Joint Task Group 4-5-6-7 on suitable frequency ranges WRC-15 Agenda item 1.1" (Document 4-5-6-7/220), WP5D provided a subset of frequency ranges between 410 MHz to 6 425 MHz as being suitable for IMT.

Joint Task Group 4-5-6-7 recently concluded its work on the development of CPM text for WRC-15 AI 1.1. Section 4.2, which details potential candidate bands, is also limited to bands between 470 MHz and 6425 MHz. In addition, no studies were performed in Joint Task Group 4-5-6-7 on any bands above 6425 MHz.

WRC-15 Agenda Item 1.1 proposals have not included any bands above 6425 MHz in Regional Preparatory Group deliberations or at the national level. The only proposals related to bands above 6425 MHz are for possible agenda items for future conferences.[3]

In summary, there is nothing to indicate that WRC-15 will consider bands above 6425 MHz under Agenda Item 1.1.

INTEREST IN HIGHER BANDS/ TECHNICAL FEASIBILTY

However, there is strong interest in the possibility of IMT utilizing frequencies above 6425 MHz in the longer term. In Document 4-5-6-7/220, "WP5D also confirms it is continuing to study the frequency ranges above 6 GHz in the light of the evolution of technology and services, in addition to the already acknowledged suitable frequency ranges in the bands below 6 GHz." Currently, WP5D is developing a Preliminary Draft New Recommendation ITU-R M.[IMT.VISION], which addresses the framework and objectives of the future development of

[3] For example, CEPT deliberations regarding WRC-15 Agenda Item 1.1 do not include any consideration of bands above 6425 MHz for WRC-15 Agenda Item 1.1. See the results of the most recent CEPT deliberations at http://www.cept.org/ecc/groups/ecc/cpg/page/cept-briefs-and-ecps-for-wrc-15

The only consideration of these bands is under Agenda Item 10 addressing future conference agenda items. See:
http://www.cept.org/files/4200/Presentation_Regional%20org%20%20April%202014-May2014.pdf

IMT for 2020 and beyond that fulfil the needs of future service scenarios and use cases for both the evolutionary path of existing IMT as well as for new IMT system capabilities.
WP5D is also developing a Preliminary Draft New Report ITU-R M.[IMT.ABOVE 6 GHz] to provide "information on the technical feasibility of IMT in the bands above 6 GHz." In addition, the FCC Technical Advisory Committee "Spectrum Frontiers Working Group" is chartered to look at "what spectrum bands have the potential to become the new "beachfronts". As part of its studies of higher frequency bands, the working group has made specific recommendations to the FCC including domestic activities supporting evaluation of mobile broadband feasibility and adoption of appropriate service rules to encourage further investment in key technologies and promising services. The Working Group also recommended "the Commission to take a leadership role in the relevant ITU discussions without compromising other key US positions and objectives.

View B Position

We, the above signed companies, believe that there is no need for a WRC-15 Agenda Item 1.1 proposal for NOC for bands above 6425 MHz. No country has proposed bands above 6 425 MHz as part of the WRC-15 Agenda Item 1.1 preparations. Sending a proposal for NOC for bands that are not being proposed will cause, at best, some confusion. However, there is cause for serious concern that sending a WRC-15 AI 1.1 proposal for no change on bands above 6425 MHz could easily cause the perception that the United States of America is opposed to further work and/or potential future use of higher frequencies bands to address growing demand for mobile broadband services in the longer term. Therefore, we respectfully submit that the United States of America should not pursue a proposal on bands above 6425 MHz for WRC-15 Agenda Item 1.1.