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| **World Radiocommunication Conference (WRC-19)Sharm el-Sheikh, Egypt, 28 October – 22 November 2019** |  |
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| PLENARY MEETING | **Addendum 14 toDocument 75-E** |
|  | **7 October 2019** |
|  | **Original: English** |
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| Samoa (Independent State of) |
| Proposals for the work of the conference |
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| Agenda item 1.14 |

1.14 to consider, on the basis of ITU-R studies in accordance with Resolution **160 (WRC‑15)**, appropriate regulatory actions for high-altitude platform stations (HAPS), within existing fixed-service allocations;

Introduction

WRC-19 agenda item 1.14 considers, based on the spectrum requirements of HAPS, the review of current HAPS identifications and consideration of certain new bands to be identified for HAPS, on a regional or worldwide basis.

The following bands being considered under this agenda item for HAPS overlap with allocations to the fixed-satellite service (FSS) including the 27.9-28.2 GHz band, the 38-39.5 GHz band, and the 47.2-47.5/47.9-48.2 GHz bands. Only the 27.9-28.2 GHz Band bands is addressed here. The 300 MHz worth of in the 28 GHz range represent a quite small fraction of the overall spectrum (about 8 GHz) under consideration for new or revised HAPS identifications.

The 27.9-28.2 GHz band

The 27.9-28.2 GHz band is used today to provide satellite broadband connectivity around the world. There are over one hundred commercial Ka band satellites in orbit and many more under development. This portion of spectrum is one of the most efficiently used, with a high ratio of reuse. At present, there is also a HAPS identification (HAPS-to-ground) on secondary basis in the fixed service (FS) allocation in the band, available in twenty-three countries worldwide.[[1]](#footnote-1)

Within the scope of agenda item 1.14, the ITU-R has conducted sharing studies to address compatibility between FSS and HAPS, though limited to the HAPS-to-ground direction in the 27.9-28.2 GHz band. The results of these studies show that interference from the HAPS platform into the FSS space station receivers would be acceptable for the considered technical characteristics of the HAPS systems, provided emissions above the horizon from HAPS platforms are limited.

However, regarding potential interference from FSS earth station transmitters into receiving HAPS ground stations, all studies conducted by administrations and reported in ITU-R Working Party 5C sharing report for this frequency band concur on the need for separation distances to protect HAPS ground stations from interference that FSS earth stations generate in their antenna side lobes. These separation distances can be up to tens of kilometres. The ITU-R studies have not been able to provide reliable guidance on how to solve such separation distances, as deployment scenarios have not been taken into account, thereby making it extremely difficult to guarantee protection for HAPS ground receivers from interference generated by FSS earth stations.

In countries where HAPS in the FS is identified today, the identification is on a secondary basis as a consequence of which, the HAPS ground stations cannot claim protection from FSS earth station interference. The study Resolution for agenda item 1.14 (Resolution **160 (WRC-15)**) recognizes that no undue constraints are to be imposed on the future development of existing services by the introduction or possible extension of HAPS identifications. The required separation distances, considering the current and planned deployment of FSS earth stations in the 27.9-28.2 GHz band, indicate that sharing between both services with the same status of priority will not be feasible. If current HAPS identification in this band would be upgraded to primary status, appropriate regulatory condition shall be included by which HAPS ground stations cannot claim protection from FSS earth stations.

Therefore, the Administration of Samoa proposes the current regulatory status of the band is not modified, to ensure that HAPS shall not constrain the development of, cause harmful interference to, nor claim protection from, other services including FSS.

Position for agenda item 1.14 in the 27.9-28.2 GHz band

The Administration of Samoa is supportive of new technologies that seek to provide broadband connectivity in underserved regions and therefore support, the sharing and compatibility studies under agenda item 1.14 in accordance with Resolution **160 (WRC-15)** while ensuring the protection of existing services.

The Administration of Samoa recommends that any identification of additional HAPS spectrum in FS bands in the 27.9-28.2 GHz band under agenda item 1.14 should be made with regulatory conditions that HAPS ground stations cannot claim protection from FSS earth stations. This will ensure the avoidance of undue constrains to the future deployment of FSS. This position can be executed through Method No Change or Method 6B1 Option 2 in the CPM Report, or a potential modification of Method 6B1 Option 1 acknowledging that HAPS grounds cannot claim protection from FSS earth stations.

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1. In Bhutan, Cameroon, Korea (Rep. of), the Russian Federation, India, Indonesia, Iran (Islamic Republic of), Iraq, Japan, Kazakhstan, Malaysia, Maldives, Mongolia, Myanmar, Uzbekistan, Pakistan, the Philippines, Kyrgyzstan, the Dem. People’s Rep. of Korea, Sudan, Sri Lanka, Thailand and Viet Nam, the allocation to the fixed service in the band 27.9-28.2 GHz may also be used by high altitude platform stations (HAPS) within the territory of these countries. Such use of 300 MHz of the fixed-service allocation by HAPS in the above countries is further limited to operation in the HAPS-to-ground direction and shall not cause harmful interference to, nor claim protection from, other types of fixed-service systems or other co-primary services. Furthermore, the development of these other services shall not be constrained by HAPS. See Resolution **145 (Rev.WRC-12)**.     (WRC-12) [↑](#footnote-ref-1)