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RESOLUTION 238 (WRC-15)

Studies on frequency-related matters for International Mobile Telecommunications identification including possible additional allocations to the mobile services on a primary basis in portion(s) of the frequency range between 24.25 and 86 GHz for the future development of International Mobile Telecommunications for 2020 and beyond

The World Radiocommunication Conference (Geneva, 2015),

considering

a) that International Mobile Telecommunications (IMT) is intended to provide telecommunication services on a worldwide scale, regardless of location and type of network or terminal;

b) that IMT systems have contributed to global economic and social development;

c) that IMT systems are now being evolved to provide diverse usage scenarios and applications such as enhanced mobile broadband, massive machine-type communications and ultra-reliable and low-latency communications;

d) that ultra-low latency and very high bit rate applications of IMT will require larger contiguous blocks of spectrum than those available in frequency bands that are currently identified for use by administrations wishing to implement IMT;

e) that it may be suitable to examine higher frequency bands for these larger blocks of spectrum;

f) that there is a need to continually take advantage of technological developments in order to increase the efficient use of spectrum and facilitate spectrum access;

g) that the properties of higher frequency bands, such as shorter wavelength, would better enable the use of advanced antenna systems including MIMO and beam-forming techniques in supporting enhanced broadband;

h) that ITU-T has initiated the study of network standardization for IMT for 2020 and beyond;

i) that adequate and timely availability of spectrum and supporting regulatory provisions is essential to realize the objectives in Recommendation ITU-R M.2083;

j) that harmonized worldwide bands and harmonized frequency arrangements for IMT are highly desirable in order to achieve global roaming and the benefits of economies of scale;

k) that identification of frequency bands allocated to mobile service for IMT may change the sharing situation regarding applications of services to which the frequency band is already allocated, and may require additional regulatory actions;

l) the need to protect existing services and to allow for their continued development when considering frequency bands for possible additional allocations to any service,

noting

a) that Resolution ITU-R 65 addresses the principles for the process of development of IMT for 2020 and beyond, and that Question ITU-R 77-7/5 considers the needs of developing countries in the development and implementation of IMT;

b) that Question ITU-R 229/5 seeks to address the further development of IMT;

c) that IMT encompasses both IMT-2000, IMT-Advanced, and IMT-2020 collectively, as described in Resolution ITU-R 56-2;

d) Recommendation ITU-R M.2083, on the framework and objectives of the future development of IMT for 2020 and beyond;

e) that Report ITU-R M.2320 addresses future technology trends of terrestrial IMT systems;

f) Report ITU-R M.2376, on technical feasibility of IMT in the frequency bands above 6 GHz;

g) that Report ITU-R M.2370 analyses trends impacting future IMT traffic growth beyond the year 2020 and estimates global traffic demands for the period 2020 to 2030;

h) that there are ongoing studies within ITU-R on the propagation characteristics for mobile systems in higher frequency bands;

i) the relevance of provisions in Nos. **5.340**, **5.516B**, **5.547** and **5.553**, which may need to be taken into account in studies;

j) that the FSS allocation in the frequency band 24.65-25.25 GHz was made by WRC-12,

recognizing

a) that there is a lead time between the allocation of frequency bands by world radiocommunication conferences and the deployment of systems in those bands, and that timely availability of wide and contiguous blocks of spectrum is therefore important to support the development of IMT;

b) that frequency bands allocated to passive services on an exclusive basis are not suitable for an allocation to the mobile service;

c) that any identification of frequency bands for IMT should take into account the use of the bands by other services and the evolving needs of these services;

d) that there should be no additional regulatory or technical constraints imposed to services to which the band is currently allocated on a primary basis,

resolves to invite ITU-R

1 to conduct and complete in time for WRC-19 the appropriate studies to determine the spectrum needs for the terrestrial component of IMT in the frequency range between 24.25 GHz and 86 GHz, taking into account:

– technical and operational characteristics of terrestrial IMT systems that would operate in this frequency range, including the evolution of IMT through advances in technology and spectrally efficient techniques;

– the deployment scenarios envisaged for IMT-2020 systems and the related requirements of high data traffic such as in dense urban areas and/or in peak times;

– the needs of developing countries;

– the time-frame in which spectrum would be needed;

2 to conduct and complete in time for WRC-19 the appropriate sharing and compatibility studies[1], taking into account the protection of services to which the band is allocated on a primary basis, for the frequency bands:

– 24.25-27.5 GHz[2], 37-40.5 GHz, 42.5-43.5 GHz, 45.5-47 GHz, 47.2-50.2 GHz, 50.4-52.6 GHz, 66-76 GHz and 81-86 GHz, which have allocations to the mobile service on a primary basis; and

– 31.8-33.4 GHz, 40.5-42.5 GHz and 47-47.2 GHz, which may require additional allocations to the mobile service on a primary basis,

further resolves

1 to invite CPM19-1 to define the date by which technical and operational characteristics needed for sharing and compatibility studies are to be available, to ensure that studies referred to in *resolves to invite ITU-R* can be completed in time for consideration at WRC-19;

2 to invite WRC-19 to consider, based on the results of the above studies, additional spectrum allocations to the mobile service on a primary basis and to consider identification of frequency bands for the terrestrial component of IMT; the bands to be considered being limited to part or all of the bands listed in *resolves to invite ITU-R* 2,

invites administrations

to participate actively in these studies by submitting contributions to ITU-R.

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1 Including studies with respect to services in adjacent bands, as appropriate.

2 When conducting studies in the band 24.5-27.5 GHz, to take into account the need to ensure the protection of existing earth stations and the deployment of future receiving earth stations under the EESS (space-to-Earth) and SRS (space-to-Earth) allocation in the frequency band 25.5-27 GHz.