

INTERNATIONAL TELECOMMUNICATION UNION

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PLENARY MEETING

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**Member States of the Inter-American Telecommunication Commission (CITEL)**

PROPOSALS FOR THE WORK OF THE CONFERENCE

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)**;

**A) BAND 470-698 MHz**

*{Editorial note - No changes are proposed to this section}*

**B) BAND 1427-1518 MHz**

**Background:**

Bearing in mind that IMT would be capable of providing end users with speeds equal to and even higher than those of existing optic-fiber connections, it is logical to consider that many new Internet connections and much of the increased user traffic anticipated for the coming years will be supported by IMT networks.

Many countries such as Brazil, Colombia and Mexico are looking into the actual usage of the L-band and are coming to the conclusion that the band is underused, and that the use of the band by the services mentioned above is not foreseen to increase in any significant manner in the near future. Other regions have already begun to examine this band for use by IMT. Some administrations in Europe, for example, are looking into the possibility of using parts of the L-band, for example 1375-1400 MHz paired with 1427-1452 MHz, for IMT, which could allow for frequency division duplex (FDD) services.<sup>1</sup>

In addition, the 1452 MHz to 1492 MHz frequency range at the L-band is now being harmonized for Supplemental Downlink (SDL) mobile applications by the European Conference of Postal and Telecommunications Administrations (CEPT).<sup>2</sup> At the 35<sup>th</sup> ECC meeting of the Electronic Communications Committee (ECC) of CEPT, in November 2013, a decision was approved on the “harmonized use of the frequency band 1452-1492 MHz for Mobile/Fixed Communications Network Supplemental Downlink (MFCN SDL)” resolving that the CEPT administrations should designate the frequency band 1452-1492 MHz to SDL.<sup>3</sup> This decision was approved with great support from the administrations, with 25 administrations indicating that they will implement the ECC Decision.

In conclusion, it is feasible the relocation of the systems operating in the 1427-1518 MHz frequency range so it is proposed the identification of this range for IMT.

In the United States, the 1435-1525 MHz band is used extensively for Aeronautical Telemetry (AMT); consequently, the United States has no intention of implementing IMT in the 1427-1518 MHz band.

In all three Regions, the band 1 400-1 427 MHz is allocated to the Earth exploration-satellite service (passive), radio astronomy, and space research (passive).

It is noted that under No. 5.340, “All emissions are prohibited in the following bands 1 400-1 427 MHz, ...”.

In addition, it is also noted that under No. 5.338A, “in the band 1 350-1 400 MHz, 1 427-1 452 MHz, ..., Resolution 750 (Rev. WRC-12) applies”. Resolution 750 (Rev. WRC-12) addresses the “compatibility between the Earth Exploration-Satellite Service (passive) and relevant active services.”

The 1 400-1 427 MHz band is allocated exclusively to passive systems. EESS (passive) systems in this band are used to measure soil moisture and sea salinity by measuring the radiation emitted from the surface of the Earth. Measurements are taken from various locations on Earth, including land and ocean to study

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<sup>1</sup> See ITU JTG 4-5-6-7, Contribution N. 82, France, “Possible Consideration of the Bands 1375-1400 MHz and 1427-1452 MHz under Agenda Item 1.1,” November 13, 2012.

<sup>2</sup> ECC/DEC.(13) CC on the “Harmonised use of the Frequency Band 1452-1492 MHz for Mobile/Fixed Communications Networks Supplemental Downlink (MFCN SDL) is available for download [here](#).

<sup>3</sup> See Minutes of the 35<sup>th</sup> ECC Meeting, FM 48(13)061 Doc. ECC (13)090 Rev. 2 available [here](#).

global water cycle. The data retrieved is used to provide meteorological information to all members of the World Meteorological Organization (WMO), including Environment Canada.

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~~In accordance with No. 5.340, all emissions are prohibited in the band 1 400-1 427 MHz. Furthermore, the emission limits for systems in adjacent bands are currently specified in Resolution 750 (Rev. WRC-12). In particular, the band 1 400-1 427 MHz appears in Table 1-2 of Resolution 750 (Rev. WRC-12). Under resolves 2 of Resolution 750 (Rev. WRC-12), administrations are urged to "to take all reasonable steps to ensure that unwanted emissions of active service stations in the bands and services listed in Table 1-2... do not exceed the recommended maximum levels contained in that table, noting that EESS (passive) sensors provide worldwide measurements that benefit all countries, even if these sensors are not operated by their country."~~

~~According to Table 1-2 of Resolution 750 (Rev. WRC-12), mobile stations are currently recommended (not mandated) to limit the level of unwanted emission power into the 27 MHz of the EESS (passive) to -60 dBW. This value was derived from sharing studies contained in ITU-R Report SM.2092. It should be noted that Report ITU-R RS-2336 shows that in order to protect EESS (passive) systems, the unwanted emission levels as currently recommended in Resolution 750 (Rev. WRC-12) are not sufficient and therefore, it provided new emission limits.~~

~~Despite the current recommended (non-mandatory) limits included in Resolution 750 (Rev. WRC-12), passive systems have experienced harmful interference from active services currently operating in the adjacent bands. Due to the global nature of the measurements carried by EESS (passive) systems in the band 1 400-1 427 MHz, interference episodes from anywhere on Earth could potentially impact the use of the data for meteorological services in Canada or any other country.~~

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Furthermore, in the CPM textReport, various options exist with regards to the applicable method to be used to satisfy the agenda item with regards to Resolution 750 (Rev. WRC-12). One such option is Method C, Option C1a, which states:

*"Relevant mandatory unwanted emission levels in Resolution 750 (Rev. WRC-12) for the band 1 400-1 427 MHz consistent with DN Report ITU-R RS.[EESS-IMT 1.4 GHz]<sup>4</sup> will have to be included in the Radio Regulations to ensure the protection of EESS (passive)."*

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Report ITU-R RS.2336 shows that, in order to protect EESS (passive) systems, the unwanted emission level of -60 dBW/27 MHz as currently recommended in Resolution 750 (Rev. WRC-12) is not sufficient and that the following levels of unwanted emissions in the 1 400-1 427 MHz frequency band are required:

| <u>For base stations:</u> | <u>For user equipment:</u> |
|---------------------------|----------------------------|
| <u>-75 dBW/27 MHz</u>     | <u>-65 dBW/27 MHz</u>      |

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These limits assume a 50% apportionment between IMT systems and other systems that would operate in an adjacent band. CITEL believes that this 50% apportionment of interference with regard to other services sharing the 1427-1518 MHz band should not be taken into consideration when establishing a mandatory OOB limit. This apportionment was determined not to be necessary as administrations are likely to employ only IMT systems in adjacent bands if they open an adjacent band to these ubiquitous mobile systems. This would reduce the required mandatory unwanted emission levels by 3 dB from that determined in Report ITU-R RS.2336. CITEL therefore proposes updating Tables 1-1 and 1-2 in Resolution 750 (Rev. WRC-12), with the appropriate IMT OOB limits along with the existing mobile service OOB limits.

<sup>4</sup> DN Report ITU-R RS.[EESS-IMT 1.4 GHz] was subsequently approved by Study Group 7 (SG7) and attributed the name "Report ITU-R RS-2336"

It is noted that a mobile satellite service (MSS) has a primary allocation in the band 1518-1559 MHz. With an identification for IMT in the band 1427-1518 MHz, it may be necessary to address compatibility with the MSS in the adjacent band.

ARTICLE 5

**Frequency allocations**

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

**MOD IAP/1.1/2**

**1 300-1 525 MHz**

| Allocation to services   |   |          |
|--|---|----------|
| Region 1   | Region 2  | Region 3 |
| <b>1 350-1 400</b><br>FIXED<br>MOBILE<br>RADIOLOCATION<br>5.149 5.338 5.338A 5.339   | <b>1 350-1 400</b><br>RADIOLOCATION 5.338A<br><br>5.149 5.334 5.339   |          |
| <b>1 400-1 427</b>   | EARTH EXPLORATION-SATELLITE (passive)<br>RADIO ASTRONOMY<br>SPACE RESEARCH (passive)<br>5.340 5.341   |          |
| <b>1 427-1 429</b>   | SPACE OPERATION (Earth-to-space)<br>FIXED<br>MOBILE except aeronautical mobile <a href="#">ADD 5.XXX</a><br>5.338A 5.341                        |          |
| <b>1 429-1 452</b><br>FIXED<br>MOBILE except aeronautical<br>mobile<br><a href="#">ADD 5.XXX</a><br>5.338A 5.341 5.342   | <b>1 429-1 452</b><br>FIXED<br>MOBILE 5.343 <a href="#">ADD 5.XXX</a><br><br>5.338A 5.341   |          |
| <b>1 452-1 492</b><br>FIXED<br>MOBILE except aeronautical<br>mobile <a href="#">ADD 5.XXX</a><br>BROADCASTING<br>BROADCASTING-SATELLITE<br>5.208B<br>5.341 5.342 5.345 | <b>1 452-1 492</b><br>FIXED<br>MOBILE 5.343 <a href="#">ADD 5.XXX</a><br>BROADCASTING<br>BROADCASTING-SATELLITE 5.208B<br><br>5.341 5.344 5.345 |          |

|  |  |  |
|--|--|--|
| <b>1 492-1 518</b><br>FIXED<br>MOBILE except aeronautical<br>mobile <a href="#">ADD 5.XXX</a><br>5.341 5.342 | <b>1 492-1 518</b><br>FIXED<br>MOBILE 5.343 <a href="#">ADD 5.XXX</a><br>5.341 5.344 | <b>1 492-1 518</b><br>FIXED<br>MOBILE <a href="#">ADD 5.XXX</a><br>5.341 |
|--|--|--|

**Reasons:** Identification of the band 1427-1518 MHz for IMT would assist in meeting the spectrum requirements for broadband both at the regional and world levels.

**ADD IAP/1.1/3**

**5.XXX** The frequency band 1427-1518 MHz is identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution 223 (Rev.WRC-15). This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations.

**Reasons:** Identification of the band 1427-1518 MHz for IMT would assist in meeting the spectrum requirements for broadband both at the regional and world levels.

**MOD IAP/1.1/4**

RESOLUTION 223 (REV.WRC-~~12~~15)

**Additional frequency bands identified for IMT**

The World Radiocommunication Conference (Geneva, [20122015](#)),

*considering*

- a) that International Mobile Telecommunications (IMT), including IMT-2000 and IMT-Advanced, is the ITU vision of global mobile access;
- b) that IMT systems provide telecommunication services on a worldwide scale regardless of location, network or terminal used;
- c) that IMT provides access to a wide range of telecommunication services supported by fixed telecommunication networks (e.g. PSTN/ISDN, high bit rate Internet access), and to other services which are specific to mobile users;
- d) that the technical characteristics of IMT are specified in ITU-R and ITU-T Recommendations, including Recommendations ITU-R M.1457 and ITU-R M.2012, which contain the detailed specifications of the terrestrial radio interfaces of IMT;
- e) that the evolution of IMT is being studied within ITU-R;
- f) that the review of IMT-2000 spectrum requirements at WRC-2000 concentrated on the bands below 3 GHz;
- g) that at WARC-92, 230 MHz of spectrum was identified for IMT-2000 in the bands 1 885-2 025 MHz and 2 110-2 200 MHz, including the bands 1 980-2 010 MHz and 2 170-2 200 MHz for the satellite component of IMT-2000, in No. **5.388** and under the provisions of Resolution **212 (Rev.WRC-07)**;
- h) that since WARC-92 there has been a tremendous growth in mobile communications including an increasing demand for broadband multimedia capability;

- i) that the bands identified for IMT are currently used by mobile systems or applications of other radiocommunication services;
- j) that Recommendation ITU-R M.1308 addresses the evolution of existing mobile communication systems to IMT-2000, and that Recommendation ITU-R M.1645 addresses the evolution of the IMT systems and maps out their future development;
- k) that harmonized worldwide bands for IMT are desirable in order to achieve global roaming and the benefits of economies of scale;
- l) that the bands 1 710-1 885 MHz and 2 500-2 690 MHz are allocated to a variety of services in accordance with the relevant provisions of the Radio Regulations;
- m) that the band 2 300-2 400 MHz is allocated to the mobile service on a co-primary basis in the three ITU Regions;
- n) that the band 2 300-2 400 MHz, or portions thereof, is used extensively in a number of administrations by other services including the aeronautical mobile service for telemetry in accordance with the relevant provisions in the Radio Regulations;
- o) that IMT has already been deployed or is being considered for deployment in some countries in the band 1 710-1 885 MHz, 2 300-2 400 MHz and 2 500-2 690 MHz and equipment is readily available;
- p) that the bands, or parts of the bands, 1 710-1 885 MHz, 2 300-2 400 MHz and 2 500-2 690 MHz are identified for use by administrations wishing to implement IMT;
- q) that technological advancement and user needs will promote innovation and accelerate the delivery of advanced communication applications to consumers;
- r) that changes in technology may lead to the further development of communication applications, including IMT;
- s) that timely availability of spectrum is important to support future applications;
- t) that IMT systems are envisaged to provide increased peak data rates and capacity that may require a larger bandwidth;
- u) that ITU-R studies forecasted that additional spectrum may be required to support the future services of IMT and to accommodate future user requirements and network deployments,  
*emphasizing*
  - a) that flexibility must be afforded to administrations:
    - to determine, at a national level, how much spectrum to make available for IMT from within the identified bands;
    - to develop their own transition plans, if necessary, tailored to meet their specific deployment of existing systems;
    - to have the ability for the identified bands to be used by all services having allocations in those bands;
    - to determine the timing of availability and use of the bands identified for IMT, in order to meet particular user demand and other national considerations;
  - b) that the particular needs of developing countries must be met;
  - c) that Recommendation ITU-R M.819 describes the objectives to be met by IMT-2000 in order to meet the needs of developing countries,

*noting*

- a) Resolutions **224 (Rev.WRC-12)** and **225 (Rev.WRC-12)**, which also relate to IMT;
- b) that the sharing implications between services sharing the bands identified for IMT in No. **5.384A**, as relevant, will need further study in ITU-R;
- c) that studies regarding the availability of the band 2 300-2 400 MHz for IMT are being conducted in many countries, the results of which could have implications for the use of those bands in those countries;
- d) that, due to differing requirements, not all administrations may need all of the IMT bands identified at WRC-07, or, due to the usage by and investment in existing services, may not be able to implement IMT in all of those bands;
- e) that the spectrum for IMT identified by WRC-07 may not completely satisfy the expected requirements of some administrations;
- f) that currently operating mobile communication systems may evolve to IMT in their existing bands;
- g) that services such as fixed, mobile (second-generation systems), space operations, space research and aeronautical mobile are in operation or planned in the band 1 710-1 885 MHz, or in portions of that band;
- h) that in the band 2 300-2 400 MHz, or portions of that band, there are services such as the fixed, mobile, amateur and radiolocation service which are currently in operation or planned to be in operation in the future;
- i) that services such as broadcasting-satellite, broadcasting-satellite (sound), mobile-satellite (in Region 3) and fixed (including multipoint distribution/communication systems) are in operation or planned in the band 2 500-2 690 MHz, or in portions of that band;
- j) that the identification of several bands for IMT allows administrations to choose the best band or parts of bands for their circumstances;
- k) that ITU-R has identified additional work to address further developments in IMT;
- l) that the IMT terrestrial radio interfaces as defined in Recommendations ITU-R M.1457 and ITU-R M.2012 are expected to evolve within the framework of ITU-R beyond those initially specified, to provide enhanced services and services beyond those envisaged in the initial implementation;
- m) that the identification of a band for IMT does not establish priority in the Radio Regulations and does not preclude the use of the band for any application of the services to which they are allocated;
- n) that the provisions of Nos. **5.317A**, **5.384A** and **5.388** do not prevent administrations from having the choice to implement other technologies in the frequency bands identified for IMT, based on national requirements,

*recognizing*

that for some administrations the only way of implementing IMT would be spectrum refarming, requiring significant financial investment,

*resolves*

1 to invite administrations implementing IMT or planning to implement IMT to make available, based on user demand and other national considerations, additional bands or portions of

the bands above 1 GHz identified in Nos. ~~5.XXX~~ and ~~5.384A~~ for the terrestrial component of IMT; due consideration should be given to the benefits of harmonized utilization of the spectrum for the terrestrial component of IMT, taking into account the services to which the frequency band is currently allocated;

2 to acknowledge that the differences in the texts of Nos. ~~5.XXX~~, ~~5.384A~~ and ~~5.388~~ do not confer differences in regulatory status,

*invites ITU-R*

1 ~~to study the implications of sharing of IMT with other applications and services in the band 2 300 2 400 MHz and the implementation, sharing and frequency arrangements of IMT in the band 2 300 2 400 MHz;~~

~~2~~ to develop harmonized frequency arrangements for the ~~2 300 2 400~~ 427-1 518 MHz band for operation of ~~the terrestrial component of~~ IMT, taking into account the results of the sharing studies;

3 to continue its studies on further enhancements of IMT, including the provision of Internet Protocol (IP)-based applications that may require unbalanced radio resources between the mobile and base stations;

4 to continue providing guidance to ensure that IMT can meet the telecommunication needs of the developing countries and rural areas in the context of the studies referred to above;

5 to include these frequency arrangements and the results of these studies in one or more ITU-R Recommendations.

**Reasons:**

**MOD IAP/1.1/5**

**RESOLUTION 750 (REV.WRC-~~1215~~)**

**Compatibility between the Earth exploration-satellite service (passive) and relevant active services**

The World Radiocommunication Conference (Geneva, 2012),

*considering*

a) that primary allocations have been made to various space services such as the fixed-satellite service (Earth-to-space), the space operation service (Earth-to-space) and the inter-satellite service and/or to terrestrial services such as the fixed service, the mobile service and the radiolocation service, hereinafter referred to as “active services”, in bands adjacent or nearby to bands allocated to the Earth exploration-satellite service (EESS) (passive) subject to No. ~~5.340~~;

b) that unwanted emissions from active services have the potential to cause unacceptable interference to EESS (passive) sensors;

c) that, for technical or operational reasons, the general limits in Appendix 3 may be insufficient in protecting the EESS (passive) in specific bands;

d) that, in many cases, the frequencies used by EESS (passive) sensors are chosen to study natural phenomena producing radio emissions at frequencies fixed by the laws of nature, and therefore shifting frequency to avoid or mitigate interference problems is not possible;



- e) that the band 1 400-1 427 MHz is used for measuring soil moisture, and also for measuring sea-surface salinity and vegetation biomass;
- f) that long-term protection of the EESS in the bands 23.6-24 GHz, 31.3-31.5 GHz, 50.2-50.4 GHz, 52.6-54.25 GHz and 86-92 GHz is vital to weather prediction and disaster management, and measurements at several frequencies must be made simultaneously in order to isolate and retrieve each individual contribution;
- g) that, in many cases, the bands adjacent or nearby to passive service bands are used and will continue to be used for various active service applications;
- h) that it is necessary to ensure equitable burden sharing for achieving compatibility between active and passive services operating in adjacent or nearby bands,

*noting*

- a) that the compatibility studies between relevant active and passive services operating in adjacent and nearby bands are documented in Report ITU-R SM.2092;
- b) that Report ITU-R F.2239 provides the results of studies covering various scenarios between the fixed service, operating in the frequency band 81-86 GHz and/or 92-94 GHz, and the Earth exploration-satellite service (passive), operating in the band 86-92 GHz;
- c) that Recommendation ITU-R RS.1029 provides the interference criteria for satellite passive remote sensing,

*noting further*

that, for the purpose of this Resolution:

- point-to-point communication is defined as radiocommunication provided by a link, for example a radio-relay link, between two stations located at specified fixed points;
- point-to-multipoint communication is defined as radiocommunication provided by links between a single station located at a specified fixed point (also called “hub station”) and a number of stations located at specified fixed points (also called “customer stations”),

*recognizing*

that studies documented in Report ITU-R SM.2092 do not consider point-to-multipoint communication links in the fixed service in the bands 1 350-1 400 MHz and 1 427-1 452 MHz,

*resolves*

- 1 that unwanted emissions of stations brought into use in the bands and services listed in Table 1-1 below shall not exceed the corresponding limits in that table, subject to the specified conditions;
- 2 to urge administrations to take all reasonable steps to ensure that unwanted emissions of active service stations in the bands and services listed in Table 1-2 below do not exceed the recommended maximum levels contained in that table, noting that EESS (passive) sensors provide worldwide measurements that benefit all countries, even if these sensors are not operated by their country;
- 3 that the Radiocommunication Bureau shall not make any examination or finding with respect to compliance with this Resolution under either Article **9** or **11**.

TABLE 1-1

| EESS (passive) band    | Active service band    | Active service                        | Limits of unwanted emission power from active service stations in a specified bandwidth within the EESS (passive) band <sup>1</sup>   |
|------------------------|------------------------|---------------------------------------|---|
| <u>1 400-1 427 MHz</u> | <u>1 427-1 452 MHz</u> | <u>Mobile</u>                         | <p><u>For IMT base stations:</u><br/> <u>-7572 dBW/27 MHz</u><br/>                     [Editor's note: This may have to be revised if both bands around 1400 - 1427 MHz are used for IMT.]</p> <p><u>For IMT user equipment:</u><br/> <u>-6562 dBW/27 MHz</u><br/>                     [Editor's note: These may have to be revised if both bands around 1400 - 1427 MHz are used for IMT.]</p>                   |
| 23.6-24.0 GHz          | 22.55-23.55 GHz        | Inter-satellite                       | -36 dBW in any 200 MHz of the EESS (passive) band for non-geostationary (non-GSO) inter-satellite service (ISS) systems for which complete advance publication information is received by the Bureau before 1 January 2020, and -46 dBW in any 200 MHz of the EESS (passive) band for non-GSO ISS systems for which complete advance publication information is received by the Bureau on or after 1 January 2020 |
| 31.3-31.5 GHz          | 31-31.3 GHz            | Fixed (excluding HAPS)                | For stations brought into use after 1 January 2012: -38 dBW in any 100 MHz of the EESS (passive) band. This limit does not apply to stations that have been authorized prior to 1 January 2012  |
| 50.2-50.4 GHz          | 49.7-50.2 GHz          | Fixed-satellite (E-to-s) <sup>2</sup> | For stations brought into use after the date of entry into force of the Final Acts of WRC-07:<br>-10 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain greater than or equal to 57 dBi<br>-20 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain less than 57 dBi  |
| 50.2-50.4 GHz          | 50.4-50.9 GHz          | Fixed-satellite (E-to-s) <sup>2</sup> | For stations brought into use after the date of entry into force of the Final Acts of WRC-07:<br>-10 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain greater than or equal to 57 dBi<br>-20 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain less than 57 dBi  |
| 52.6-54.25 GHz         | 51.4-52.6 GHz          | Fixed                                 | For stations brought into use after the date of entry into force of the Final Acts of WRC-07:<br>-33 dBW in any 100 MHz of the EESS (passive) band  |

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<sup>1</sup> The unwanted emission power level is to be understood here as the level measured at the antenna port.

<sup>2</sup> The limits apply under clear-sky conditions. During fading conditions, the limits may be exceeded by earth stations when using uplink power control.

<sup>3</sup> The average single-entry unwanted emission power level into 1400-1427 MHz from all IMT stations (base stations or mobile stations) operating in the 1427-1452 MHz frequency range in any 100 sq. km. area shall not exceed the limits given in Table 1-1 at any time. The unwanted emission power level of any individual IMT station within a particular 100 sq. km. area may be adjusted as long as the average single-entry unwanted emission power level from all IMT stations within that 100 sq. km. area does not exceed the corresponding value in Table 1-1. (Averaging to be done on a watts per 27 MHz basis for the individual IMT stations.)

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TABLE 1-2

| EESS (passive) band | Active service band    | Active service             | Recommended maximum level of unwanted emission power from active service stations in a specified bandwidth within the EESS (passive) band <sup>1</sup>  |  |
|---------------------|------------------------|----------------------------|---|--|
| 1 400-1 427 MHz     | 1 350-1 400 MHz        | Radiolocation <sup>2</sup> | -29 dBW in the 27 MHz of the EESS (passive) band  |  |
|                     |                        | Fixed                      | -45 dBW in the 27 MHz of the EESS (passive) band for point-to-point   |  |
|                     |                        | Mobile                     | -60 dBW in the 27 MHz of the EESS (passive) band for mobile service stations except transportable radio-relay stations<br>-45 dBW in the 27 MHz of the EESS (passive) band for transportable radio-relay stations |  |
|                     | 1 400-1 427 MHz        | 1 427-1 429 MHz            | Space operation (E-to-s)  | -36 dBW in the 27 MHz of the EESS (passive) band   |
|                     |                        | 1 427-1 429 MHz            | Mobile except aeronautical mobile   | -60 dBW in the 27 MHz of the EESS (passive) band for mobile service stations except <a href="#">IMT stations and</a> transportable radio-relay stations <sup>3</sup><br>-45 dBW in the 27 MHz of the EESS (passive) band for transportable radio-relay stations  |
|                     |                        |                            | Fixed   | -45 dBW in the 27 MHz of the EESS (passive) band for point-to-point  |
|                     |                        | 1 429-1 452 MHz            | Mobile  | -60 dBW in the 27 MHz of the EESS (passive) band for mobile service stations except <a href="#">IMT stations and</a> transportable radio-relay stations <sup>3</sup><br>-45 dBW in the 27 MHz of the EESS (passive) band for transportable radio-relay stations<br>-28 dBW in the 27 MHz of the EESS (passive) band for aeronautical telemetry stations <sup>4</sup> |
|                     |                        |                            | Fixed   | -45 dBW in the 27 MHz of the EESS (passive) band for point-to-point  |
|                     | 31.3-31.5 GHz          | 30.0-31.0 GHz              | Fixed-satellite (E-to-s) <sup>5</sup>   | -9 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain greater than or equal to 56 dBi<br>-20 dBW into the 200 MHz of the EESS (passive) band for earth stations having an antenna gain less than 56 dBi   |
|                     | 86-92 GHz <sup>6</sup> | 81-86 GHz                  | Fixed   | -41 - 14( $f - 86$ ) dBW/100 MHz for $86.05 \leq f \leq 87$ GHz<br>-55 dBW/100 MHz for $87 \leq f \leq 91.95$ GHz<br>where $f$ is the centre frequency of the 100 MHz reference bandwidth expressed in GHz   |
| 92-94 GHz           |                        | Fixed                      | -41 - 14( $92 - f$ ) dBW/100 MHz for $91 \leq f \leq 91.95$ GHz<br>-55 dBW/100 MHz for $86.05 \leq f \leq 91$ GHz<br>where $f$ is the centre frequency of the 100 MHz reference bandwidth expressed in GHz        |  |

<sup>1</sup> The unwanted emission power level is to be understood here as the level measured at the antenna port.

<sup>2</sup> The mean power is to be understood here as the total power measured at the antenna port (or an equivalent thereof) in the band 1 400-1 427 MHz, averaged over a period of the order of 5 s.

<sup>3</sup> Stations of the mobile service for cellular systems, including those complying with Recommendation ITU-R M.1457 or IMT standards, are likely to meet this unwanted emission power level.

<sup>4</sup> The band 1 429-1 435 MHz is also allocated to the aeronautical mobile service in eight Region 1

administrations on a primary basis exclusively for the purposes of aeronautical telemetry within their national territory (No. **5.342**).

<sup>5</sup> The recommended maximum levels apply under clear-sky conditions. During fading conditions, these levels may be exceeded by earth stations when using uplink power control.

<sup>6</sup> Other maximum unwanted emission levels may be developed based on different scenarios provided in Report ITU-R F.2239 for the band 86-92 GHz.

**Reasons:** Appropriate unwanted emission limits are required to protect EESS passive systems operating in the band 1 400-1 427 MHz from IMT stations operating in the adjacent band. Canada is currently assessing the impact of the new limits. As such, in the proposal above, the unwanted emission limits contained in Report ITU-R RS-2336 are currently shown in square brackets.

## ARTICLE 5

### Frequency allocations

#### Section IV – Table of Frequency Allocations

(See No. **2.1**)

**MOD IAP/1.1/6**

**5.338A** In the bands 1 350-1 400 MHz, 1 427-1 452 MHz, 22.55-23.55 GHz, 30-31.3 GHz, 49.7-50.2 GHz, 50.4-50.9 GHz, 51.4-52.6 GHz, 81-86 GHz and 92-94 GHz, Resolution **750**

(**Rev.WRC-1215**) applies. (WRC-1215)