

ITUEvents

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#ITUWRC

Panel Session 5
Satellite issues

WRC-23 agenda item 1.18

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Chairman WP 4C



Agenda Item 1.18

to consider studies relating to spectrum needs and potential new allocations to the mobile-satellite service for future development of narrowband mobile-satellite systems, in accordance with Resolution **248 (WRC-19)**

Responsible Group **WP 4C** **Chair : N. Kawai(J), SWG Chair : J. Manner (USA)**

Contributing Groups **WP 3M, WP 4A, WP 4B, WP 5A, WP 5B, WP 5C, WP 5D(*), WP 7B**

(*) There are overlapping frequency bands with agenda items 1.2 and 1.4 for which WP 5D is responsible.

Resolution 248 (WRC-19) 1/2

Studies relating to spectrum needs and potential new allocations to the mobile-satellite service in the frequency bands 1 695-1 710 MHz, 2 010-2 025 MHz, 3 300-3 315 MHz and 3 385-3 400 MHz for future development of narrowband mobile-satellite systems

resolves to invite ITU-R

- 1 to conduct studies on spectrum and operational requirements as well as system characteristics of low-data rate systems for the collection of data from, and management of, terrestrial devices in the MSS as described in *considering a)* and limited to the basic characteristics in *recognizing c)*;
- 2 to conduct sharing and compatibility studies with existing primary services to determine the suitability of new allocations to the MSS, with a view to protecting the primary services, in the following frequency bands and adjacent frequency bands:
 - 1 695-1 710 MHz in Region 2,
 - 2 010-2 025 MHz in Region 1,
 - 3 300-3 315 MHz, 3 385-3 400 MHz in Region 2;



Resolution 248 (WRC-19) 2/2

resolves to invite ITU-R (contd.)

3 to consider possible new primary or secondary allocations, with the necessary technical limitations, taking into account the characteristics described in recognizing c), to the MSS for non-GSO satellites operating low-data rate systems for the collection of data from, and management of, terrestrial devices based on the result of sharing and compatibility studies, while ensuring the protection of existing primary services in those frequency bands, and adjacent bands, without causing undue constraints on their further development,

invites WRC-23

to determine, on the basis of the studies conducted under the *resolves to invite ITU-R* above, appropriate regulatory actions,

invites administrations

to participate in the studies by submitting contributions to ITU-R.



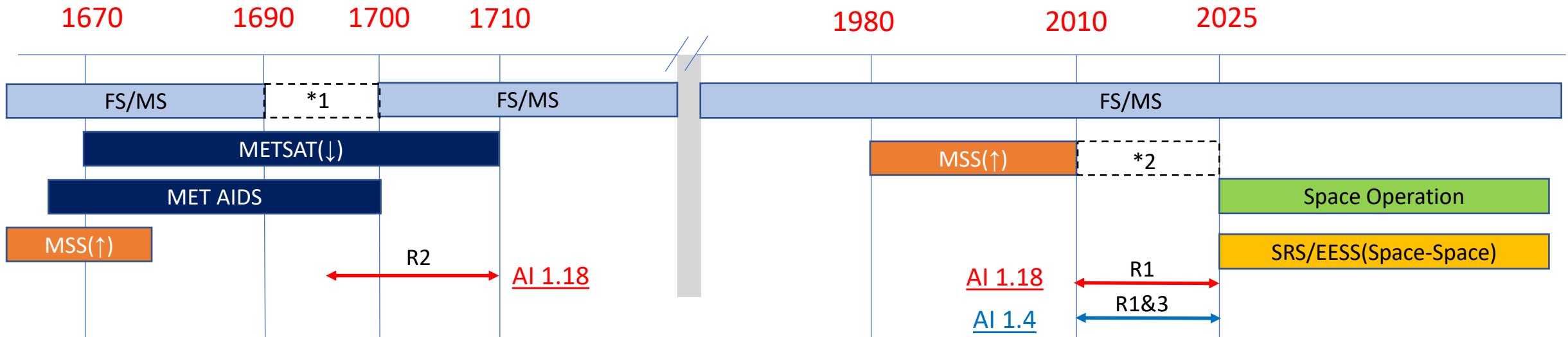
Frequency overlap

Quote from Corrigendum 1 to Addendum 1 of CA/251
(11 February 2021)

Table 1 of Annex 4 to CA/251

1.2 (IMT) WP 5D	1.4 (HIBS) WP 5D	1.16 (non-GSO FSS ESIMs) WP 4A	1.17 (ISL) WP 4A	1.18 (narrowband MSS) WP 4C
	2 010-2 025 MHz (Regions 1 & 3)			2 010-2 025 MHz (Region 1)
3 300-3 400 MHz (Regions 1 & 2)				3 300-3 315 MHz 3 385-3 400 MHz (Region 2)
		27.5-29.1 GHz (E-s) 29.5-30 GHz (E-s)	27.5-30 GHz (s-s)	

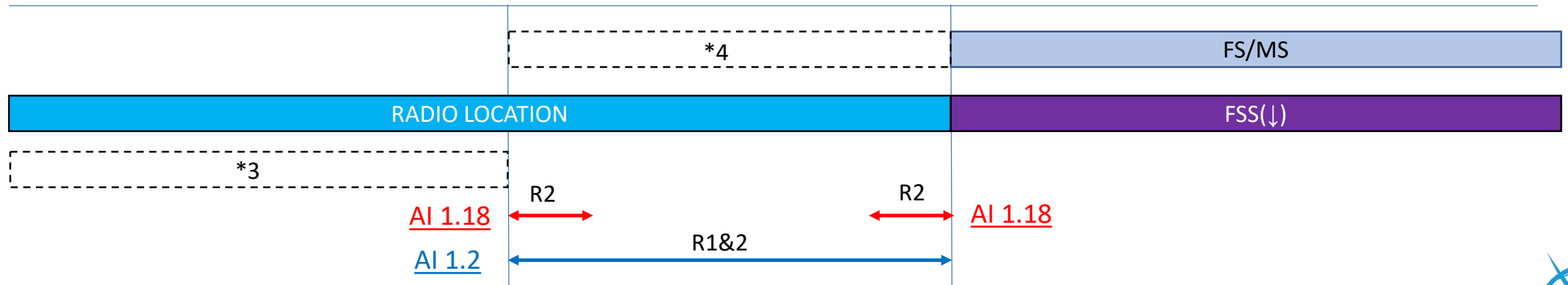
Spectrum overview



*1 Secondary allocation of FS/MS in R1
 *2 Primary allocation of MSS in R2

3300

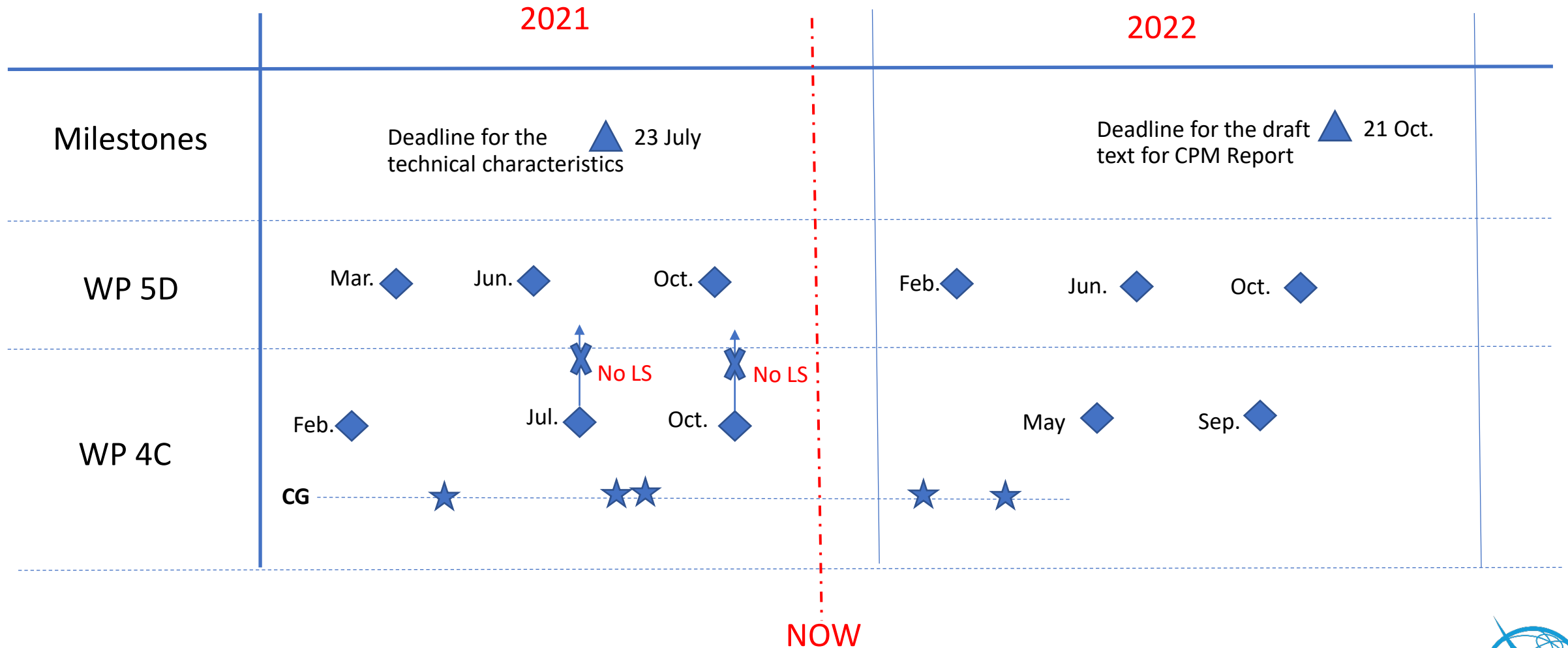
3400



*3 Secondary allocation of EESS and SRS
 *4 Secondary allocation of Amateur in R2&3 and FS/MS in R2



Timeline



Progress and outstanding issues(1/2)

- SWG 4C2 has been extensively working to develop the working document towards a preliminary draft new Report ITU-R M.[NB-MSS], in particular, technical characteristics of narrow-band MSS systems for their sharing and compatibility study of WRC-23 agenda item 1.4 at WP 5D.
- Unfortunately, due to complex nature of narrow-band MSS systems and the ambiguity of the language in Resolution 248, WP 4C did not agree, at July 2021 meeting, on a liaison statement to WP 5D containing technical characteristics of narrow band MSS systems before 23 July 2021.
- At 2021 October WP 4C meeting subsequent to 2 CG meetings, the technical and operational parameters developed by the multiple operators were extensively discussed but no agreement was reached to send a liaison statement to WP 5D.
- The main difficulty of this agenda item would be attributed to the ambiguity of recognizing c) of Resolution 248 (WRC-19) . See next page.

Progress and outstanding issues(2/2)

Recognizing c) of Resolution 248 (WRC-19)

that the studies envisaged under resolves to invite the ITU Radiocommunication Sector in this Resolution are to be limited to those systems with space stations that have a maximum equivalent isotropically radiated power (e.i.r.p.) of 27 dBW or less, with a beamwidth of no more than 120 degrees;



At the WP 4C meeting in October, operators, under SWG 4C2, developed a table to illustrate technical characteristics of representative narrowband MSS systems, which contains 2 LEO systems (satellite altitudes of 500km and 1000km) and 1 MEO system (satellite altitudes of 6000km or 10000km). However, it was not finalized due to the ambiguity in the interpretation of the maximum e.i.r.p. of 27 dBW, which could be understood either per satellite basis or per system basis under Resolution 248.

Next step

WP 4C did agree to form a corresponding group(*1) to focus on advancing the work on

(i) the technical and operational parameters and system characteristics to be used for sharing and compatibility studies for protection of services to which the bands are allocated and those adjacent, in accordance with Resolution 248 (WRC-19); and

(ii) further efforts with a view to enable WP 4C to duly and appropriately address the objectives of this agenda item.

(*1) The meeting of correspondence group will be held as follows:

- CG Meeting #1: 25 January 2022, 1330 to 1615 hours GVA time
- CG Meeting #2: 8 March 2022, 1330 to 1615 hours GVA time