

ITUEvents

1st ITU Inter-regional information session (IRIS) on WRC-27 Preparations

**3 - 5 December 2025
Geneva, Switzerland**

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#ITUWRC**

**Information on
WRC-27 agenda item
1.17**

Bruno Espinosa, WP 7C Chair



1.17 to consider regulatory provisions for receive-only space weather sensors and their protection in the Radio Regulations, taking into account the results of ITU Radiocommunication Sector studies, in accordance with Resolution **682 (WRC-23)**

RESOLUTION 682 (WRC-23)

Consideration of regulatory provisions and potential primary allocations

to the meteorological aids service (space weather) to accommodate receive-only space weather sensor applications in the Radio Regulations

resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference

1 studies on spectrum needs and appropriate protection criteria for receive-only space weather sensors, as well as system characteristics, as appropriate, taking into account *noting a*);

2 sharing and compatibility studies pertaining to potential new primary allocations to MetAids (space weather) in the following frequency bands for receive-only sensors, taking into account *further resolves 2*: 27.5-28.0 MHz; 29.7-30.2 MHz; 32.2-32.6 MHz; 37.5-38.325 MHz; 73.0-74.6 MHz; 608-614 MHz;

3 studies on possible regulatory provisions of the Radio Regulations to accommodate the possibility for an administration that desires to notify a receive-only space weather sensor station to be included in the Master International Frequency Register,

further resolves

2 that any possible new primary MetAids (space weather) allocations to be made under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference 2* shall not claim protection from, or constrain the future development of, incumbent services in these frequency bands or in adjacent bands,

invites the 2027 world radiocommunication conference

to take appropriate actions, including potential new primary receive-only MetAids (space weather) allocations, based on the results of the studies under *resolves to invite the ITU Radiocommunication Sector to complete in time for the 2027 world radiocommunication conference*, taking into account *further resolves 2*,

AI 1.17 Background

- WRC-23 designated space weather observations to the MetAids, to operate under the subset MetAids (space weather), as per RR Article **29B**.
- WRC-23 adopted Resolution **675 (WRC-23)**, which highlights the importance of space weather observations.
 - space weather data is critical for forecasting and providing alerts of space weather events and important to understanding the physical processes to develop prediction models for space weather events and their impacts on societal-infrastructure services
 - vital to understand how space weather could affect space systems and human space flight, electric power transmission, high-frequency radiocommunications, and global navigation satellite system (GNSS) signals
- Report [ITU-R RS 2456-1](#), provides information on Space weather sensor systems using radio spectrum. Currently under revision within WP 7C.

AI 1.17 Protection criteria of Rx-only SW sensors

- [Working document](#) towards PDN Recommendation under development in WP 7C
 - Focus on receive-only sensors in the bands subject to Resolution **682 (WRC-23)**: 27.5-28.0 MHz; 29.7-30.2 MHz; 32.2-32.6 MHz; 37.5-38.325 MHz; 73.0-74.6 MHz; 608-614 MHz
 - Protection criteria depending upon the type of instrument and the time of observation:
 - Riometers in bands below 100 MHz;
 - Solar flux monitors around 610 MHz;
 - Solar Spectrometers in bands below 100 MHz and in 608-614 MHz;
 - Interplanetary Scintillation in bands below 100 MHz.

AI 1.17 Studies

- [Working document](#) towards draft new Report under development in WP 7C
 - Spectrum needs for receive-only sensors in the bands subject to Resolution **682 (WRC-23)**: Riometers, Solar radio flux monitors, solar spectrograph systems, Interplanetary Scintillation
 - Consideration related to notification of frequency assignments related to Receive-only MetAids (space weather) stations
 - Sharing and compatibility (impact on SW receive-only sensors) to assess the usability of new allocations to MetAids (space weather)

Annex 1	amateur and amateur-satellite services in 27.5-28.0 MHz and 29.7-30.2 MHz
Annex 2	aeronautical radionavigation and radionavigation services in 73.0-74.6 MHz and 608-614 MHz
Annex 3	fixed service in 27.5-28.0 MHz, 29.7-30.2 MHz, 32.2-32.6 MHz, 37.5-38.325 MHz, 73.0-74.6 MHz, and 608-614 MHz
Annex 4	IMT systems in 608-614 MHz
Annex 5	terrestrial broadcasting service in 73.0-74.6 MHz and 608-614 MHz
Annex 6	land mobile service in bands to be listed.

AI 1.17 draft CPM Text

[Draft CPM Text](#) under development in WP 7C

- Method A:
 - new primary allocations to the MetAids (space weather) in the 27.5-28.0 MHz, 29.7-30.2 MHz, 32.2-32.6 MHz, 37.5-38.325 MHz, 73.0-74.6 MHz, and 608-614 MHz frequency bands,
 - addition of **footnotes on a band-by-band basis** stipulating that these new primary allocations shall not claim protection from, nor constrain the future development of, incumbent services in these frequency bands or in adjacent bands.
 - modifications of [RR Article 1 and] RR Appendix 4 to allow for registration of space weather stations in the MIFR.
- Method B:
 - new primary allocations to the MetAids (space weather) in the 27.5-28.0 MHz, 29.7-30.2 MHz, 32.2-32.6 MHz, 37.5-38.325 MHz, 73.0-74.6 MHz, and 608-614 MHz frequency bands,
 - addition of **a generic footnote** stipulating that these new primary allocations shall not claim protection from, nor constrain the future development of, incumbent existing services in these frequency bands or in adjacent bands.
- Limitation to **ground-based** receive-only sensors under discussion.