CEPT ECC
Electronic Communications Committee

ECC Decision (25)01

Designation of the frequency bands used by the Global Navigation Satellite System, Galileo, and Technical and operational measures for the use of the frequency band 1258-1300 MHz by the amateur and amateur-satellite services in order to protect the radionavigation-satellite service (space-to-Earth)

approved 27 June 2025

EXPLANATORY MEMORANDUM

1 INTRODUCTION

This Decision addresses the designation of the bands 1164-1215 MHz, 1258-1300 MHz and 1559-1610 MHz used by the Global Navigation Satellite System, Galileo, and the technical and operational measures for CEPT administrations authorising stations operating in the amateur and amateur-satellite services to protect systems of the radionavigation-satellite service (space-to-Earth) in the frequency band 1258-1300 MHz. The relevant measures are contained in Annex 1.

2 BACKGROUND

Galileo is Europe's Global Navigation Satellite System (GNSS) and provides accurate and reliable positioning and timing information through receiving terminals using the frequency bands 1164-1215 MHz, 1258-1300 MHz and 1559-1610 MHz.

The frequency range 1258-1300 MHz covered by this Decision is allocated on a primary basis to the RNSS and is used by the European Galileo system across the frequency range 1258.29-1299.21 MHz (known as E6), a portion of the Radio Navigation Satellite Service (RNSS) allocation 1215-1300 MHz. The same frequency range 1258.29-1299.21 MHz is in a part of the 1240-1300 MHz allocation to the amateur service and the amateur satellite service Earth-to-space (in the part 1260-1270 MHz), both on a secondary basis in the ITU Radio Regulations [1]. This band is further shared with the radiolocation (RLS), radionavigation (RNS) on a co-primary basis and with the Earth exploration-satellite service (EESS (active)) on a co-secondary basis.

ECC Report 359 [2], details studies that show that there is a potential for amateur station emissions in the range 1258-1300 MHz to be received in Galileo RNSS receivers at levels exceeding the receiver protection criteria defined by the Recommendation ITU-R M.1902-2 [3].

Between 2019 and 2023, ITU-R studied the global set of RNSS systems in the range 1240-1300 MHz, including additionally the Russian Federation system GLONASS, the Chinese Beidou (COMPASS) system and the Japanese QZSS. As a result of that work, Report ITU-R M.2513-1 [4] and Report ITU-R M.2532-0 [5] were published along with Recommendation ITU-R M.2164-0 [6].

With the implementation of the Galileo system, it has become necessary to study the operating conditions for applications and operating modes in the amateur and amateur satellite services to assess their potential for interference into the terrestrial RNSS receivers and ensure the protection of the RNSS whilst enabling continued use of this band and ensuring the continued development of both amateur and amateur satellite services in this band.

In order to ensure the protection of the RNSS, technical and operational measures have been considered that can allow the amateur and amateur satellite services to continue to operate in part of the band 1258-1300 MHz in a way that will reduce the potential for interference into Galileo RNSS receivers. These are detailed in Annex 1.

3 REQUIREMENT FOR AN ECC DECISION

The allocation or designation of a frequency band for its use by a service or a system under specified conditions in CEPT member countries is laid down by law, regulation or administrative action. The ECC recognises that for the successful global expansion and utilization of Galileo and its new services, confidence must be provided to GNSS users. An ECC Decision would provide this to the GNSS community by the designation of the band 1164-1215 MHz, 1258-1300 MHz and 1559-1610 MHz for the use of the RNSS system Galileo. An ECC Decision with the appropriate conditions detailed in Annex 1 would also give CEPT administrations more confidence that their national authorisations in the amateur and amateur satellite services would be less likely to cause interference to GNSS users.

In order to provide a clear regulatory framework for the protection of the RNSS whilst enabling continued use of the band 1240-1300 MHz by the amateur and amateur satellite services to ensure their continued long-term development in this band, an ECC Decision is necessary for the frequency range 1258-1300 MHz.

ECC recognises that:

- the authorisation regimes are decided at national level in particular in response to market demand;
- CEPT administrations need flexibility to adapt their use of the band 1258-1300 MHz to national circumstances due to the current usage implementation of RNSS and amateur stations alike;
- CEPT administrations need to maintain the possibility for operation/deployment of existing and future amateur stations;
- CEPT administrations need to protect RNSS in the band 1258-1300 MHz from the emissions of amateur and amateur satellite stations.

ECC DECISION OF 27 JUNE 2025 ON TECHNICAL AND OPERATIONAL MEASURES FOR THE USE OF THE FREQUENCY BAND 1258-1300 MHZ BY THE AMATEUR AND AMATEUR-SATELLITE SERVICES IN ORDER TO PROTECT THE RADIONAVIGATION-SATELLITE SERVICE (SPACE-TO-EARTH) (ECC DECISION (25)01)

"The European Conference of Postal and Telecommunications Administrations,

considering

a) that the frequency band 1240-1300 MHz is allocated worldwide to the Radionavigation-satellite service (RNSS) (space-to-Earth) and (space-to-space) on a primary basis;

b) that the frequency band 1240-1300 MHz is also allocated worldwide to the amateur service on a secondary basis;

c) that the amateur-satellite service (Earth-to-space) may operate in the frequency band 1260-1270 MHz under the provisions of RR No. **5.282**;

d) that the frequency band 1240-1300 MHz is also allocated worldwide to the Earth exploration-satellite service (active), radiolocation service (RR No. **5.329** applies) and the space research service (active) on a primary basis;

e) that additional services are also allocated on a primary basis in some countries under RR Nos. **5.330** (fixed and mobile services) and **5.331** (radionavigation service) within the frequency band 1215-1300 MHz;

f) that the amateur and amateur-satellite services continually develop their use of the frequency band 1240-1300 MHz in accordance with RR Nos. **1.56** and **1.57**;

g) that the maximum power of amateur stations is fixed by the administrations concerned, as stipulated in RR No. **25.7**;

h) that the International Amateur Radio Union (IARU) develops, maintains and publishes detailed band plans for the operation and development of the amateur and amateur-satellite services;

i) that ECC Report 359 [2] provides studies and measurements that show that there is a potential for amateur station emissions in the range 1258-1300 MHz to be received in Galileo RNSS receivers at levels exceeding the receiver protection criteria defined by the Recommendation ITU-R M.1902-2 [3];

j) that ECC Report 359 provides detailed information on the current applications in the amateur and amateur satellite services that operate in the band 1240-1300 MHz including current deployment information and activity estimates for various types of existing amateur stations;

k) that ECC Report 359 highlights that CEPT administrations have authorised an installed base of operational permanent amateur stations (i.e. repeater and propagation beacon installations) across the region;

l) that Report ITU-R M.2532-0 [5] provides information on the applications and operational characteristics of the use of the band 1240-1300 MHz by the amateur and amateur-satellite services;

m) that Report ITU-R M.2513-1 [4] provides studies and measurements regarding the amateur and amateur-satellite services transmissions and their potential to cause harmful interference to radionavigation-satellite service (RNSS) (space-to-Earth) that may, under certain conditions, exceed the protection criteria given in Recommendation ITU-R M.1902-2 [3];

n) that Recommendation ITU-R M.1902-2 [3] provides the characteristics and protection criteria for RNSS (space-to-Earth) receivers operating in the band 1215-1300 MHz;

o) that Recommendation ITU-R M.2164-0 [6] provides guidance on technical and operational measures for administrations authorising stations operating in the amateur and amateur-satellite services to protect the radionavigation-satellite service (space-to-Earth) in the frequency band 1240-1300 MHz;

p) that RNSS systems using the frequency band 1240-1300 MHz are operational, or becoming operational, worldwide, with the aim of supporting a wide range of new satellite positioning applications;

DECIDES

1. that CEPT administrations shall designate the bands 1164-1215 MHz, 1258-1300 MHz, 1559-1610 MHz for the use of the RNSS system, Galileo;

2. that CEPT administrations allowing operations of the amateur and amateur-satellite services across their territory in all or part of the frequency band 1258-1300 MHz shall use the technical and operational measures described in Annex 1 in order to protect RNSS (space-to-Earth);

3. that this Decision enters into force on 27 June 2025;

4. that the preferred date for implementation of this Decision shall be 27 December 2025;

5. that CEPT administrations shall communicate the national measures implementing this Decision to the ECC Chair and the Office when this ECC Decision is nationally implemented."

Note:

Please check the Office documentation database https://docdb.cept.org/ for the up to date position on the implementation of this and other ECC Decisions.

ANNEX 1: TECHNICAL AND OPERATIONAL MEASURES FOR THE USE OF THE FREQUENCY BAND 1258-1300 MHZ BY THE AMATEUR AND AMATEUR-SATELLITE SERVICES IN ORDER TO PROTECT THE RADIONAVIGATION-SATELLITE SERVICE (SPACE-TO-EARTH)

This Annex provides technical and operational measures to be used by CEPT administrations allowing operations of the amateur and amateur-satellite services across their territory in all or parts of the frequency band 1258-1300 MHz in order to protect RNSS.

In order to account for amateur service installations that are authorised and operational in the frequency range 1258-1296 MHz in many CEPT countries, administrations may, on national level, define a transitional period, to comply with this annex, with the expectation this could take up to three years according to national circumstances.

a) For narrowband (bandwidth ≤ 150 kHz) applications operating in the amateur service:
   i) 1258-1296 MHz: Maximum value of *e.i.r.p.*[1] = −17 dBW;
   ii) 1296-1298 MHz: Maximum transmitter power[2] = 17 dBW;
   iii) 1298-1300 MHz: Maximum transmitter power[2] = 22 dBW.

   For narrowband Earth-Moon-Earth applications in the amateur service using a symmetric high-performance antenna (e.g. boresight gain at least 30 dBi) pointing at least 15 degrees above the horizontal:

   iv) 1298-1300 MHz: Maximum transmitter power[2] = 27 dBW

b) For narrowband applications operating in the amateur-satellite service (Earth-to-space) (bandwidth ≤ 150 kHz):
   i) 1260-1262 MHz:

   Maximum value of *e.i.r.p.*[1]:

−3 dBW	for 0° ≤ θ < 15°
17 dBW	for 15° ≤ θ < 55°
26.8 dBW	for 55° ≤ θ < 90°

   where θ = elevation angle of amateur station antenna

   ii) 1262-1270 MHz: Maximum value of *e.i.r.p.*[1] = −17 dBW

c) For broadband (bandwidth > 150 kHz), including amateur television (ATV), applications operating in the amateur service:
   i) 1258-1300 MHz: Maximum value of *e.i.r.p.*[1] = −17 dBW/1MHz

d) When amateur and amateur-satellite station antennas are installed at much higher antenna heights compared to the representative values contained in Report ITU-R M.2513-1 [4] (representative antenna height above ground is 25 m), further constraints or limitations in addition to those listed in the above points a) to c) may need to be considered by CEPT administrations, in particular for cases of the amateur station category referred to as “permanent installations” such as repeaters and propagation beacons.

e) In addition to point b) above, in case of an increase of the current use of the frequency band 1260-1270 MHz by amateur satellite uplinks, CEPT administrations may consider applying a limitation to the duty cycle of relevant amateur satellite operations.

---

1 Where *e.i.r.p.* refers to the radiated power of the amateur station.

2 Where maximum power means either peak envelope power or carrier power (as appropriate) delivered by the transmitter to the amateur station antenna.

ANNEX 2: LIST OF REFERENCES

[1] ITU Radio Regulations, Edition of 2024

[2] ECC Report 359: “Coexistence between the radionavigation-satellite and the amateur services in the frequency range 1240-1300 MHz”, approved September 2024

[3] Recommendation ITU-R M.1902-2 (01/2022): “Characteristics and protection criteria for receiving earth stations in the radionavigation-satellite service (space-to-Earth) operating in the band 1 215-1 300 MHz”

[4] Report ITU-R M.2513-1 (05/2024): “Studies regarding the protection of the primary radionavigation-satellite service (space-to-Earth) by the secondary amateur and amateur-satellite services in the frequency band 1 240-1 300 MHz”

[5] Report ITU-R M.2532-0 (09/2023): “Amateur and amateur-satellite services characteristics and usage in the 1 240-1 300 MHz frequency band”

[6] Recommendation ITU-R M.2164-0 (11/2023): “Guidance on technical and operational measures for the use of the frequency band 1 240-1 300 MHz by the amateur and amateur-satellite service in order to protect the radionavigation-satellite service (space-to-Earth)”