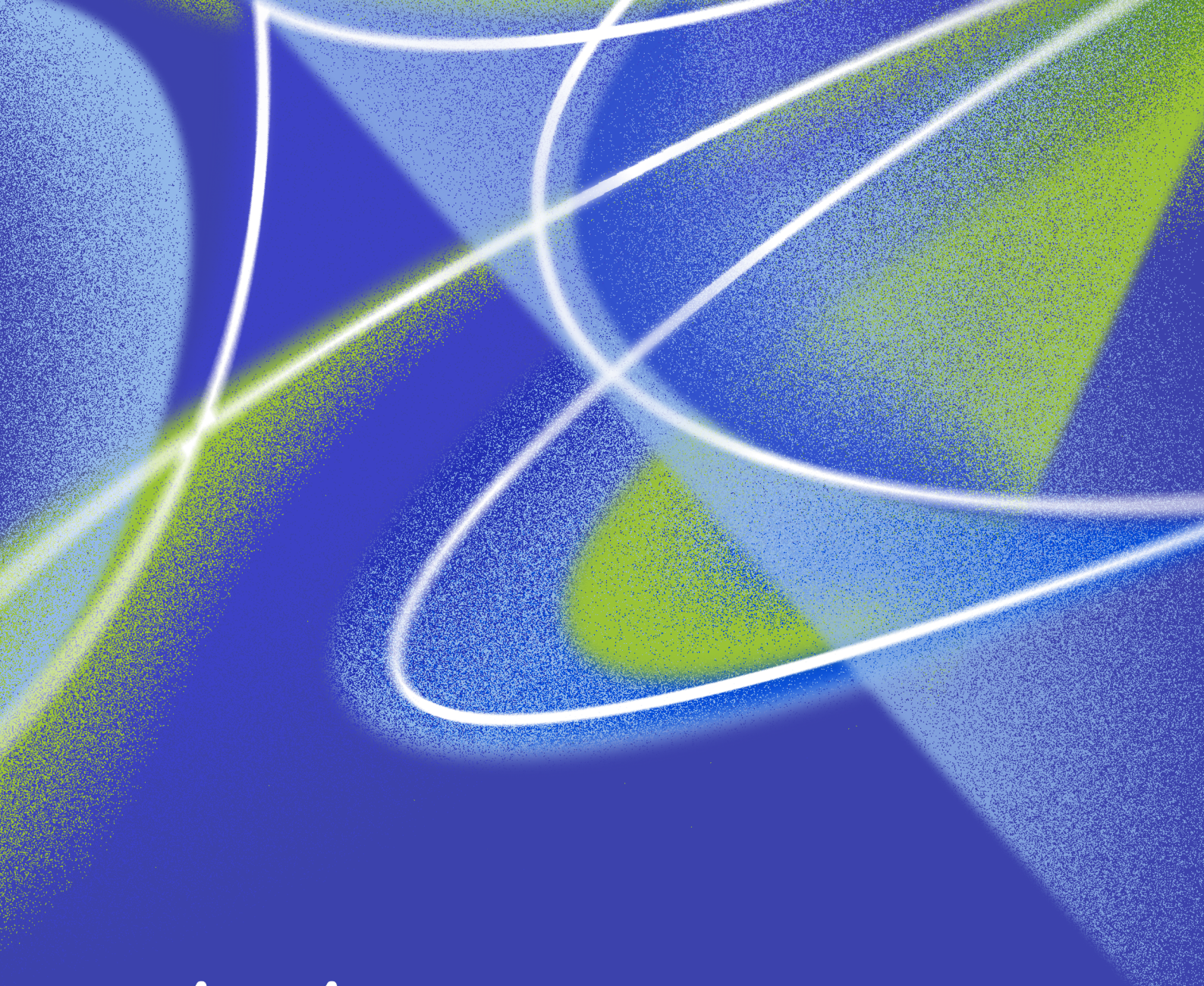

SPECTRUM AVAILABILITY PLAN

Version 2

Olympic and Paralympic Winter Games Milano Cortina 2026

January 2025

Published by Fondazione Milano Cortina 2026 - The Milano Cortina 2026 Organising Committee for the Olympic and Paralympic Winter Games - January 2025

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Disclaimer

This document has been jointly prepared by the Milano Cortina 2026 Spectrum Management Team and the Ministry of Enterprises and Made in Italy (MIMIT).

It is designed as a resource for stakeholders involved in spectrum planning, including the allocation of frequencies and radio equipment. However, it is important to emphasize that the detailed inventory of available bands and their corresponding availability for the duration of the Games is provisional and subject to potential adjustments. These adjustments may result from the dynamic nature of radio-frequency services, the introduction of new technologies, or the unpredictability of certain safety and security requirements.

It should be noted that the frequency availability reported in this document does not guarantee the successful assignment of each frequency-request application, as demand may exceed availability, and sharing between services will further reduce the overall capacity.

According to the Italian National Table of Frequency Allocation (Piano Nazionale di Ripartizione delle Frequenze, PNRF), frequency bands can be shared by multiple services, each of which may be assigned a priority (primary or secondary). For services with the same priority, the use of frequencies for temporary links must ensure they neither cause interference to, nor claim protection from, already authorised users. To minimise the risk of interference among all spectrum users in the areas involved in the Milano Cortina 2026 event, prior coordination is required. In some cases, this coordination may also involve the Ministry of Defence and must be successfully completed before authorisation can be granted.

Frequencies under the exclusive or shared management of the Ministry of Defense (MoD) must be coordinated on a case-by-case basis, with priority given to the services required to ensure the security of the event. As a result, there is a risk of not being granted permission to use.

Finally, it should be noted that, given the unique nature of an event such as Milano Cortina 2026, MIMIT retains the authority to issue derogations from these guidelines and to assign additional frequencies not covered in this document, in full compliance with the national and international regulatory framework.

1. INTRODUCTION

1.1. Background

The Olympic and Paralympic Winter Games Milano Cortina 2026 will take place from 6 February to 15 March 2026. The event is expected to bring together approximately 3,500 athletes from over 90 countries, around 10,000 accredited media personnel, 18,000 volunteers, and millions of spectators. Milano Cortina 2026 represents a major challenge for spectrum management, marking one of the most extensive operations of its kind in Italy since the Torino 2006 Winter Games.

1.2. Updates to previous version

This document represents an update of the previous version 1.0, published on 07/06/24. The changes in the available frequencies and the related availability indicators reflect natural developments in the spectrum landscape, improvements in the analysis methodology, and the findings of a dedicated survey campaign.

1.3. Purpose

The Spectrum Availability Plan for Milano Cortina 2026 is targeted at all accredited stakeholders who are entitled to request a temporary frequency license. It provides comprehensive guidelines and conditions for the use of wireless equipment during the Games, including the inventory of available frequency bands and the conditions for their assignment. The document includes details on all permitted wireless services and their technical specifications, such as frequency bands, bandwidths, and power levels. Its primary goal is to promote orderly spectrum usage by informing stakeholders about available spectrum, spectrum application procedures and policies, the implementation of “test and tag”, and the enforcement of radio-spectrum monitoring.

To anticipate the spectrum needs for Milano Cortina 2026, studies conducted by the Fondazione Milano Cortina 2026 Spectrum Management Team and MIMIT are based on data from previous Winter Games and other major international sports events hosted in Italy. The frequency bands

outlined in this guide were selected considering the anticipated requirements and the current spectrum allocation and assignment framework in Italy.

MIMIT is responsible for ensuring the absence of harmful interference between the wireless systems involved in the Games and between these systems and other wireless systems already in operation across the country. To meet this objective, the frequency bands presented in this guide are allocated for specific uses by specific radio-frequency equipment.

To comply with Italian spectrum regulations, all stakeholders and entities involved in Milano Cortina 2026 must adhere to these regulations. Non-compliance may result in sanctions as outlined in Article 102 of the Italian Electronic Communication Code.

1.4. Status of Spectrum Usage at the Games Venues

The radio spectrum in northern Italy is currently congested, making it essential for all stakeholders involved in the Games to prioritise wired communication systems wherever possible, especially for microphones and cameras. The radio spectrum should be requested only when no alternative communication options are feasible.

To ensure effective frequency coordination, local spectrum stakeholders are required to apply for frequency assignment, even if they already hold a prior spectrum authorisation. In such cases, the assignment will be automatically confirmed.

No individual or entity is permitted to operate radio equipment or use radio frequencies within Games venues without first obtaining a temporary general authorisation from MIMIT:

I. **Temporary General Authorisation with assignment of specific individual rights to use frequencies**. The authorised operator must comply with the terms and conditions specified in the radio spectrum-authorisation document, including location and technical parameters.
II. **Temporary General Authorisation for the use, on unlicensed bands, of low-power and/or short-range devices** (for example, wireless microphones) complying with CEPT ERC/REC recommendation 70-03 (and subsequent amendments). Radio equipment operating in the specified spectrum under the general authorisation regime, including Wireless LAN, must be declared, and authorised by Milano Cortina 2026 to avoid potential interference. The radio-frequency devices operating under the general authorisation regime may experience interference from other stations unrelated to the Games operation. According to the frequency tables, all radio equipment must comply with the applicable European harmonised standard. Even if usage is allowed **on a non-interference and non-protection basis**, to mitigate interference risks, the Milano Cortina 2026 Spectrum Management Team (SMT) and MIMIT will coordinate and control RF devices under general authorisation whenever possible.

1.5. Wireless Services

The following wireless services may be deployed during the Olympic and Paralympic Winter Games, subject to temporary authorisation:

- Private Mobile Radio (PMR)
  - Land Mobile Radio (LMR);
  - handheld radio (HMR);
- Telemetry & Telecommand (TLM);
- Audio Intercommunication System (AIS);
- Wireless Microphones (MIC);
- In-Ear Monitors (IEM);
- Wireless Video Camera and Mobile Airborne Video links (CAM);
- Microwave Fixed Point-To-Point link (MFL);
- Microwave Transportable Point-To-Point link (MML);
- Permanent and Transportable Satellite Earth Station (SNG);
- Wireless LAN (LAN);
- Other Services – see chapter 2.11 (OTH).

1.6. Frequency Assignment Concept

Maintaining flexibility in frequency assignment during the Games is crucial to address exceptional circumstances where multiple stakeholders require frequencies to cover the event. The successful implementation of this spectrum plan relies on the cooperation of various entities, including Italian agencies responsible for homeland security, disaster prevention, and public safety.

Frequencies will be assigned to spectrum users on a venue-specific basis, taking into account factors such as topography, geography, and the physical environment where the frequencies will be utilised. Additionally, frequency sharing—defined as the simultaneous use of the same radio frequency by two or more transmitters—will be employed where feasible to optimise the efficient use of this limited resource.

1.7. Spectrum Assignment Priorities

Ensuring the safety and security of the venues is paramount, with spectrum assignment playing a critical role. Priority in frequency assignment will be given to the OCOG Command, Control, and Communications (C3) systems, which rely on radio applications to maintain venue security.

Timing and results applications, essential for providing real-time data on athletes' performances, will also be prioritised. Specific frequency bands will be exclusively assigned to OMEGA, the official Timing and Scoring Partner for Milano Cortina 2026.

Furthermore, the role of the host broadcaster in delivering international feeds to millions of viewers is of utmost importance. As the official supplier for the IOC, OBS will receive priority in frequency assignment to ensure uninterrupted global broadcasting.

1.8. Authorisation Exemptions

The following radio equipment is exempt from spectrum authorisation and testing requirements:

- smartphones - mobile phones;
- key fob;
- Bluetooth headset, connected watches, smart bracelets;
- cordless phone;
- laptop or tablet;
- wireless keyboard or wireless mouse;
- other wearable smart devices;
- wireless photographer equipment; and
- livestream devices via cellular broadcasting products over 3G/4G/5G mobile networks (the use of these devices does not require spectrum authorisation. However, local SIM cards are recommended and network congestion and contention should be taken into consideration. Connecting broadcast equipment to the Games WLAN is strictly prohibited, and such attempts will be automatically blocked to prevent unauthorised usage).

However, "*do not consider*" tags may be provided to facilitate security checks at the screening areas.

1.9. Prohibited Wireless Equipment

Some equipment is strictly forbidden in and around the venues:

- jammers
- radio scanners
- laser pointers
- personal barcode readers

According to Italian regulation, the following bands for remote-control cameras are not permitted:

- 312MHz–317MHz (Japan)
- 344.04MHz–354MHz (USA)

2. TYPES OF WIRELESS SERVICES AND EXPECTED SPECTRUM AVAILABILITY

This chapter outlines the regulations for the use of radio equipment during Milano Cortina 2026, considering the existing frequency assignments in Italy. Spectrum users are required to carefully plan their spectrum needs in advance. To optimise the use of radio resources, Milano Cortina 2026 strongly encourages the use of wired solutions wherever feasible. Additionally, spectrum users must employ systems that comply with harmonised European standards to ensure efficient coordination and facilitate the issuance of temporary authorisations.

The subsequent sections provide detailed information about each wireless service that may be deployed during the Olympic and Paralympic Winter Games. This includes:

- A brief overview of the service.
- General usage conditions for the spectrum allocated to the service.
- A spectrum availability table for the service, detailing each relevant frequency range, including:
    - the lower and upper limits of the frequency range;
    - the applicable technical usage conditions such as transmission type (simplex/duplex) and maximum allowed transmission power;
    - an availability indicator for each venue cluster, providing an assessment of the expected available bandwidth for Milano Cortina 2026.

In particular, the availability indicator should be interpreted as follows:

- "**Restricted**" - frequency ranges that may only be requested by specific stakeholders for specific services (marked in grey).
- "**Not Available**" - frequency ranges with no likelihood of successful assignment (marked in dark red).
- "**Very Low**" - frequency ranges with very limited expected availability, corresponding to a very low likelihood of successful assignment (marked in red).

- "**Low**" - frequency ranges with limited expected availability, corresponding to a low likelihood of successful assignment (marked in orange).
- "**Medium**" - frequency ranges with partial expected availability, corresponding to a medium likelihood of successful assignment (marked in yellow).
- "**High**" - frequency ranges expected to have significant availability, corresponding to a high likelihood of successful assignment (marked in green).
- "**Very High**" - frequency ranges anticipated to have the greatest level of availability, corresponding to a very high likelihood of successful assignment (marked in dark green).

This indicator applies exclusively to the specific spectrum service and should not be interpreted as a general availability indicator. It is important to note that, despite the frequency availability reported in this document, there is no guarantee of successful assignment for every frequency request. Demand may exceed availability, and sharing between services will further reduce overall capacity.

2.1. Private Mobile Radio

Private mobile radio (PMR) is a mobile communication service that supports all activities necessary for successful operations. This includes broadcasters, Milano Cortina 2026 Functional Areas, Partners and accredited suppliers. It mainly uses a push-to-talk system for voice-based communication, except for talk-back applications that require continuous transmission.

The VHF and UHF bands suitable for PMR are already in heavy use in and around the Milano area. Additionally, some portions of these bands are expected to be shared with the talk-back system, as well as telemetry and telecommand services during the Games.

To facilitate frequency assignment and minimise interference, the use of digital systems is strongly recommended. However, Milano Cortina 2026 and MIMIT recognise that digital systems can introduce audio delays, which may not be suitable for certain safety-critical or artistic communications. In scenarios where delays are unacceptable, stakeholders may request the use of an analogue system, provided proper justification is submitted.

2.1.1. Land Mobile Radio

Land Mobile Radio (LMR) is a PMR system that utilises relay infrastructure, such as repeaters and base stations, to provide terrestrial voice and data communication for multiple users. The system includes handheld radios, mobile communication devices, and relay components (repeaters and base stations). LMR systems facilitate communication through either duplex or simplex channels, supporting both direct mode operation (DMO) and trunked mode operation (TMO).

2.1.2. Handheld Radio

Handheld Radio (HMR) is a PMR system that uses portable devices capable of operating in Direct Mode Operation (DMO), allowing direct communication without relying on network

infrastructure. To ensure efficient spectrum usage, these radios should avoid high-power transmissions.

2.1.3. PMR General Usage Conditions

The following general usage conditions apply to PMR systems:

- Handheld radios using analogue technologies and digital mobile radio are allowed.
- Duplex spacing of 4.6MHz (VHF) or 10MHz (UHF) is required.
- Radios with 6.25kHz and 12.5kHz channel spacing are allowed.
- Radios with 25kHz channel spacing may be approved upon applicant justification.
- Maximum transmit power (EIRP) for base stations/repeaters must be sized according to coverage needs and must not exceed 5 watts.
- Maximum transmit power (EIRP) allowed for Handheld radio is 2 watts.
- Base station filtering is recommended to minimise interference.
- PMR 446 (446.000 to 446.200MHz) is permitted on a non-interference and non-protection basis with a Maximum EIRP of 500mW.
- FRS/GMRS (462.5625 to 462.7250MHz and 467.5625 to 467.7125MHz) may be authorised on a case-by-case basis.
- The CB/PRS band 476.41875 to 477.41250MHz is not permitted for PMR use.
- The 863–870MHz band is not permitted for PMR use.
- The 915–935MHz band is not permitted for PMR use.

2.1.4. PMR Bands Availability

Table 1 provides detailed information about frequency bands allocated for private mobile radios in the VHF bands.

Table 1: Available VHF Bands for PMR (LMR and HMR)

Spectrum [MHz]		Technical Parameters	Cluster Availability Indicator					
From	To	Type of transmission	Milano	Valtellina	Val di Fiemme	Cortina	Verona	Notes
39	40	Duplex (emissions from mobile stations)	Very High	Very High	Very High	Very High	Very High	Duplex with band 43.6 – 44.6MHz
43.6	44.6	Duplex (emissions from base stations or repeaters)	Very High	Very High	Very High	Very High	Very High	Duplex with band 39 – 40MHz
44.6	45	Simplex	Very High	Very High	Very High	Very High	Very High	
156.025	156.275	Duplex (emissions from mobile stations)	Medium	Very High	High	High	High	Duplex with band 160.6125 – 160.875MHz
156.325	156.35	Duplex (emissions from mobile stations)	Medium	High	Very High	Very High	High	Duplex with band 160.925 - 160,95MHz
156.8875	160	Duplex (emissions from mobile stations)	Medium	High	High	High	High	Duplex with band 161.4875 – 164.6MHz
160.0125	160.6	Simplex	Medium	High	High	High	High	
160.6125	160.875	Duplex (emissions from base stations or repeaters)	Very Low	Very High	High	High	High	Duplex with band 156.025 – 156.275MHz
160.925	160.95	Duplex (emissions from base stations or repeaters)	Very Low	Very High	Very High	Very High	Medium	Duplex with band 156.325 – 156.35MHz

161.4875	164.6	Duplex (emissions from base stations or repeaters)	Low	High	High	High	High	Duplex with band 156.8875 – 160MHz
164.6125	165.3875	Simplex	Medium	High	High	High	High	
165.4	166.2125	Duplex (emissions from mobile stations)	Very High	High	Very High	Very High	Very High	Duplex with band 170 – 170.8125MHz
167.225	169.3875	Duplex (emissions from mobile stations)	Medium	High	Very High	Very High	Very High	Duplex with band 171.825 – 173.9875MHz
169.4	169.9875	Simplex	High	Medium	High	High	High	
170	170.8125	Duplex (emissions from base stations or repeaters)	Very High	Very High	Very High	Very High	Very High	Duplex with band 165.4 – 166.2125MHz
171.825	173.9875	Duplex (emissions from base stations or repeaters)	Medium	Very High	Very High	Very High	Very High	Duplex with band 167.225 – 169.3875MHz

Additionally, the following 12,5 kHz simplex channels could be considered (MHz):

156.2875; 156.3000; 156.3125 156.3625 156.3750; 156.3875; 156.4000; 156.4125; 156.4250; 156.4375; 156.4500; 156.4675; 156.4750; 156.4875; 156.5000; 156.5250; 156.5500; 156.5625; 156.5750; 156.5875; 156.6000; 156.6125; 156.6250; 156.6375; 156.6500; 156.6625; 156.6750; 156.6875; 156.7000; 156.7125; 156.7250; 156.7375; 156.7500; 156.7625 156.7750; 156.8250; 156.8375 156.8500; 156.8625.

160.8875 160.9000; 160.9125; 160.9625; 160.9750; 160.9875; 161.0000; 161.0250; 161.0375; 161.0500; 161.0625; 161 0750; 161.1000; 161.1250; 161:1375; 161.1500; 161.1625; 161.1750; 161.1875; 161.2000; 161.2125; 161.2250; 161.2375; 161.2500; 161.2625; 161.2750; 161.2875; 161.3000; 161.3125; 161.3250; 161.3375; 161.3500; 161.3625; 161.3750; 161.3875; 161.4000; 161.4125; 161.4250; 161.4375; 161.4500; 161.4675; 161.4750.

Table 2 provides detailed information about frequency bands allocated for private mobile radios in the UHF bands.

Table 2: Available UHF Bands for PMR

Spectrum [MHz]		Technical Parameters	Cluster Availability Indicator					
From	To	Type of transmission	Milano	Valtellina	Val di Fiemme	Cortina	Verona	Notes
436.2125	439.9875	Duplex (Fixed Service for base stations)	Very High	Very High	Very High	Very High	Very High	Duplex with band 446.2125 – 449.9875MHz
440	442.9875	Simplex	High	Very High	Very High	Very High	Very High	
445	445.9875	Simplex	Medium	Very High	Very High	Very High	Very High	
446.00625	446.2	Simplex	Medium	Very High	Very High	Very High	Very High	Only PMR446; Max 500 mw EIRP; NOC priority
446.2125	449.9875	Duplex (Fixed Service for base stations)	High	Very High	Very High	Very High	Very High	Duplex with band 436.2125 – 439.9875MHz
450.0125	450.375	Duplex (emissions from mobile stations)	High	Very High	Very High	Very High	Very High	Duplex with band 460.0125 – 460.375MHz
450.3875	450.5	Simplex	High	Very High	Very High	Very High	Very High	
450.5125	459.9875	Duplex (emissions from mobile stations)	High	Very High	Very High	Very High	Very High	Duplex with band 460. 5125 – 469.9875MHz
460.0125	460.375	Duplex (emissions from base stations or repeaters)	Medium	High	Very High	Very High	Very High	Duplex with band 450.0125 – 450.375MHz
460.3875	460.5	Simplex	Medium	High	Very High	Very High	Very High	

460.5125	469.9875	Duplex (emissions from base stations or repeaters)	Medium	Very High	Very High	Very High	Very High	Duplex with band 450.5125 – 459.9875MHz
462.5625	462.725	Simplex	Very Low	High	Very High	High	Medium	
467.5625	467.7125	Simplex	Medium	Very High	Very High	Very High	Very High	

2.2. Telemetry and Telecommand

Telemetry and telecommand (TLM) refers to wireless radio equipment designed or adapted for the remote control of programme-making equipment, including cameras (video parameters and mechanical heads), audio and sound engineering devices, lighting settings, tracking systems, pyrotechnic remotes, and timing and scoring devices. These devices typically transmit data using a narrow bandwidth not exceeding 25kHz and often employ FSK modulation. Systems requiring wider bandwidth for rapid signal transmission generally operate with low transmission power.

2.2.1. Telemetry and Telecommand General Usage Conditions

The following general usage conditions apply to TLM systems:

- Transmission power must be adjusted according to the coverage requirements.
- The maximum allowable channel size in the 156–160MHz band is 12.5kHz. Requests for channel spacing exceeding 12.5kHz will be evaluated on a case-by-case basis.
- RF devices operating under the SRD-UWB regulations must comply with ETSI Harmonised European Standards, as specified in ERC Recommendation 70-03.

2.2.2. Telemetry and Telecommand Bands Availability

Table 3 provides detailed information about frequency bands allocated for telemetry, telecommand and small capacity data applications.

Table 3: Available Bands for Telemetry and Telecommand

Spectrum [MHz]		Technical Parameters	Cluster Availability Indicator					
From	To	Maximum Power / Magnetic Field	Milano	Valtelina	Val di Fiemme	Cortina	Verona	Notes
0.119	0.135	66dBµA/m at 10m	Very High	Very High	Very High	Very High	Very High	RFID operating in the frequency sub-band 119-135kHz shall meet the spectrum mask given in EN 300 330
34.995	35.225	100mW e.r.p.	Very High	Very High	Very High	Very High	Very High	
40.66	40.7	10mW e.r.p.	Very High	Very High	Very High	Very High	Very High	
156	160	2W e.r.p.	Medium	Very High	Very High	Very High	Very High	Allocated also to PMR
169.4	169.475	500mW e.r.p.	Medium	High	High	High	High	≤ 0.1% duty cycle (≤ 10% duty cycle if used for TRACKING, TRACING AND DATA ACQUISITION)
169.4875	169. 5875	10mW e.r.p.	Very High	High	Very High	Very High	Very High	
433.05	434.79	1mW e.r.p.	Very High	High	Very High	Very High	Very High	e.r.p. can be increased to 10 mW if duty cycle ≤ 10%
450.3875	450.5	2W e.r.p.	Very High	Very High	Very High	Very High	Very High	Allocated also to PMR

862	863	25mW e.r.p.	Very High	Very High	Very High	Very High	Very High	Reserved for OMEGA Only short-range devices that comply with the technical characteristics set out in CEPT ERC/REC 70-03 (Annex 1) are allowed
863	865	25mW e.r.p.	Very High	High	Very High	Very High	Very High	Reserved for OMEGA Only short-range devices that comply with the technical characteristics set out in CEPT ERC/REC 70-03 (Annex 1) are allowed
865	868	25mW e.r.p.	High	Medium	Very High	Very High	Very High	Only short-range devices that comply with the technical characteristics set out in CEPT ERC/REC 70-03 (Annex 1) are allowed
868	868.6	25mW e.r.p.	High	Medium	Very High	Very High	Very High	Only short-range devices that comply with the technical characteristics set out in CEPT ERC/REC 70-03 (Annex 1) are allowed
868.7	869.2	25mW e.r.p.	High	Medium	Very High	Very High	Very High	Only short-range devices that comply with the technical characteristics set out in CEPT ERC/REC 70-03 (Annex 1) are allowed

869.4	869.65	500mW e.r.p.	High	Medium	Very High	Very High	Very High	Only short-range devices that comply with the technical characteristics set out in CEPT ERC/REC 70-03 (Annex 1) are allowed
2400	2483.5	10mW e.i.r.p.	High	High	Very High	Very High	Very High	Reserved for OMEGA Power limit can be increased to 25 mW if used for radiodeterminati on application
3100	4800	30dBm/50 MHz	Medium	Medium	Medium	Medium	Medium	Please note that the band includes sub ranges managed by the MoD or assigned with exclusive rights of use that won't be available
5725	5875	25mW	Very High	Very High	Very High	Very High	Very High	Only short-range devices that comply with the technical characteristics set out in CEPT ERC/REC 70-03 (Annex 1) are allowed
6000	9000	-30dBm / 50 MHz	Medium	Medium	Medium	Medium	Medium	Please note that the band includes sub ranges managed by the MoD or assigned with exclusive rights of use that won't be available
24050	24250	100mW e.i.r.p.	Very High	Very High	Very High	Very High	Very High	Reserved for OMEGA

2.3. Audio Intercommunication System

An Audio Intercommunication System (AIS) is a full-duplex voice communication solution primarily used by broadcasters to facilitate seamless communication between the director and members of the production team. These team members include presenters, interviewers, reporters, camera operators, sound technicians, lighting technicians, and engineers. The system enables the director to effectively coordinate the team's activities during broadcasts. AIS can also operate in continuous transmission mode using a wireless setup, specifically designed for scenarios where zero transmission delay is critical.

Two types of system can be requested:

1. Talkback System: a communication system operating on VHF or UHF PMR bands, providing narrow-band audio quality.
2. Base Station System Wireless Intercom: a new-generation digital, full-duplex communication system offering high-fidelity audio quality for use within a building or local area. This system includes a receiver for listening and a microphone (headset) for speaking at two or more points. It can be interfaced with an audio matrix or used locally with a standalone antenna.

2.3.1. Audio Intercommunication System General Usage Conditions

The following general usage conditions apply to AIS systems:

- The maximum channel size allowed for Talkback in the PMR bands is 12.5kHz.
- The transmit power (EIRP) must be sized for the coverage needed and not more than 2W.
- It is not recommended to use equipment with preset frequencies that cannot be reprogrammed.
- External additional filtering is recommended, particularly for systems operating in the DECT band. These systems will be authorised under the "non-interference and non-protection" basis.
- Operating a Talkback system in the 470–694MHz band using 200kHz bandwidth is prohibited.

2.3.2. Audio Intercommunication System Bands Availability

Table 4 shows detailed information regarding possible frequency bands assigned to the audio intercommunication systems.

Table 4: Available Bands for Audio Intercommunication System

Spectrum [MHz]		Technical Parameters	Cluster Availability Indicator					
From	To	Maximum Power / Magnetic Field	Milano	Valtelina	Val di Fiemme	Cortina	Verona	Notes
156.025	156.275	Talkback - Duplex (emissions from mobile stations)	Medium	Very High	High	High	Very High	Shared with PMR
160.6125	160.875	Talkback - Duplex (emissions from base stations or repeaters)	Low	Very High	High	Very High	Very High	Shared with PMR
450.5125	459.9875	Duplex (emissions from mobile stations)	High	Very High	Very High	Very High	Very High	Shared with PMR Duplex with 460.5125 - 460.375MHz band
460.5125	469.9875	Duplex (emissions from base stations or repeaters)	Medium	Very High	Very High	Very High	Very High	Shared with PMR Duplex with 450.5125 - 459.9875MHz band
1880	1900	Base Station System Wireless Intercom – full duplex – mobile belt pack and base transmitters	Very High	Very High	Very High	Very High	Very High	
1900	1920	Base Station System Wireless Intercom – full duplex – mobile belt pack and base transmitters	Very High	Very High	Very High	Very High	Very High	Priority for DIVA and Ceremonies

2.4. Wireless Video Camera and mobile airborne video links

A wireless video camera (CAM) is a broadcasting device that transmits video signals via radio frequencies, removing the need for physical cables. These cameras allow broadcasters to cover large areas without the constraints of cable lengths and minimise the risk of injury to athletes or the public caused by loose cables. A key feature of wireless video cameras is their ability to capture aerial views of the field, often using platforms such as helicopters, "spider cameras," or drones.

The host broadcaster (OBS) is typically the primary requester for frequency allocation, and their requirements are prioritised. However, due to the expansion of mobile network operators, the spectrum band available for wireless video cameras under 3 GHz has been reduced.

2.4.1. Wireless Video Camera General Usage Conditions

The following general usage conditions apply to CAM systems:

- A 10MHz channel size is the standard for high-definition video. Requests for other bandwidths (e.g., for 4K) will be evaluated on a case-by-case basis.
- The maximum permitted power is 100 mW (EIRP). Requests for higher power will also be reviewed on a case-by-case basis.
- The 2400–2485MHz band and the 5150–5800MHz band are not permitted.
- System programming with a 1MHz channel step is recommended.
- Incorporating a filtering system into the receiver process is strongly recommended and is mandatory for all 2GHz wireless camera systems.

2.4.2. Wireless Video Camera Bands Availability

Table 5 shows detailed information regarding possible frequency bands assigned to wireless video cameras.

Table 5: Available Bands for Wireless Video Cameras

Spectrum [MHz]		Cluster Availability Indicator					
From	To	Milano	Valtellina	Val di Fiemme	Cortina	Verona	Notes
2010	2025	Very High	Very High	Very High	Very High	Very High	Reserved for OBS
2040	2110	Very High	Very High	Very High	Very High	Very High	
2215	2290	Very High	Very High	Very High	Very High	Very High	
2290	2300	Very High	Very High	Very High	Very High	Very High	Reserved for OBS

2300	2400	Very High	Very High	Very High	Very High	Very High	
6400	7500	High	High	High	High	High	Please note that the band includes sub ranges managed by the MoD or assigned with exclusive rights of use that won't be available
10000	10680	Very High	Very High	Very High	Very High	Very High	Subject to geographic restrictions

2.4.3. Airborne Use of Wireless Video Camera

The Milano Cortina 2026 Spectrum Management Team anticipates that wireless aerial cameras will be employed to cover events requiring aerial perspectives, such as ceremonies and Alpine skiing. These cameras may be mounted on helicopters or drones. However, because wireless cameras operate at high altitudes, spectrum reuse opportunities are limited, and the risk of interference increases. Additionally, the usable spectrum range is constrained to accommodate the mobility of these cameras. As a result, MIMIT will restrict the number of channels available for airborne use.

MIMIT will identify the most suitable frequency range for airborne video-link transmission, conducting a simplified interference analysis. Operational conditions will also be evaluated to safeguard defence, security, and public safety operations. Additionally, MIMIT may provide recommendations for the optimal placement of terrestrial receivers.

Given the limited availability of frequency resources, Milano Cortina 2026 strongly recommends using wired connections for "beauty shot cameras".

2.5. Wireless Microphones

Wireless microphones (MIC) are devices used for capturing audio, such as interviews, conference talks, music, or ambient sound, without the need for physical cables. These can be handheld or body-worn, with integrated or external transmitters. It is expected that the demand for spectrum for wireless microphones will increase during the Games due to music concerts or festival events near the venue areas.

Spectrum for wireless microphones is an extremely limited resource, and all requests will be thoroughly assessed. Media users are strongly encouraged to use wired microphones wherever possible.

The use of wireless microphones within Olympic and Paralympic venues will only be permitted under the following conditions:

- ceremonies and sports presentation purposes;
- media-rights holders in studios and stand-up positions;
- OCOG, IOC, OBS and associated stakeholders where required for the organisation and delivery of the Olympic and Paralympic Winter Games.

In Italy, wireless microphones typically operate within the 470–694MHz band, which is shared with DVB-T services and includes guard bands for mobile phones in the 694–870MHz band. To ensure accurate frequency assignments, it is essential to differentiate between two types of usage:

- Fixed deployment at a single venue (e.g., Field of Play, TV platform, studio, mix zone, or unilateral position).
- Mobile usage across multiple venues (e.g., equipment used by ENG crews).

Additionally, the frequency band dedicated to ENG crews will also be studied in collaboration with MIMIT, taking into account the existing DVB-T2 transmitters at each venue cluster.

2.5.1. Wireless Microphones General Usage Conditions

The following general usage conditions apply to MIC systems:

- Wireless microphones shall only be used when wired microphones are not a viable option.
- Microphones using analogue technology are permitted; however, digital technology is recommended, as digital systems are generally more resistant to interference.
- Robust active filtering and a dedicated frequency range antenna must be employed to mitigate high-noise floor levels.
- The maximum permitted power for wireless microphones is 50mW e.r.p. Requests for power exceeding 50mW will be evaluated on a case-by-case basis.
- The maximum bandwidth allowed is 200kHz per channel.
- Wireless microphones operating on the 2400–2483MHz band are not permitted.
- Wireless microphones operating on the 1880–1900MHz band are not permitted.

2.5.2. Wireless Microphones Bands Availability

Table 6 shows detailed information regarding possible frequency bands assigned to wireless microphones.

Table 6: Available Bands for Wireless Microphones

Spectrum [MHz]		Cluster Availability Indicator					
From	To	Milano	Valtellina	Val di Fiemme	Cortina	Verona	Notes
174	175.75	Very High	Very High	Very High	Very High	Very High	Shared With DAB – on a tuning-range basis
175.75	177.5	Very High	Very High	Very High	Very High	Very High	
177.5	179.25	Very High	Very High	Very High	Very High	Very High	
179.25	181	Very High	Very High	Very High	Very High	Very High	
181	182.75	High	Very High	Very High	Very High	Very High	
182.75	184.5	Very High	Very High	Very High	Very High	Very High	
184.5	186.25	High	Very High	Very High	Very High	Very High	
186.25	188	Medium	Very High	Very High	Very High	Very High	
188	189.75	Very Low	Very High	Very High	Very High	Very High	
189.75	191.5	Very Low	Very High	Very High	Very High	Very High	
191.5	193.25	Very Low	Very High	Very High	High	Very High	
193.25	195	Very Low	Very High	Very Low	Low	Very Low	
195	196.75	Medium	Very High	Very High	High	Very Low	
196.75	198.5	High	Very High	Very High	High	Very High	
198.5	200.25	Low	Very High	Very High	High	High	
200.25	202	High	Very High	Very High	High	Very High	
202	203.75	Very Low	Very High	Very High	High	Very High	
203.75	205.5	Medium	Very High	Very High	High	Very High	
205.5	207.25	Very Low	Very High	Very High	High	Very High	
207.25	209	Very Low	Very High	Very High	High	Very High	
209	210.75	High	Very High	Medium	High	Very High	
210.75	212.5	High	Very High	Medium	Medium	Very High	
212.5	214.25	High	Very High	Medium	Medium	Very High	
214.25	216	High	Very High	Medium	Medium	Very High	
216	217.75	Very High	Very High	Very High	Very High	Very High	
217.75	219.5	Very Low	High	Very High	Very High	Very High	
219.5	221.25	High	High	Medium	Very High	Very High	
221.25	223	High	Medium	Very High	High	Very High	
470	478	Medium	Low	Medium	Very High	Very High	
478	486	Very Low	Very Low	Very High	Low	Very High	
486	494	Very Low	Very Low	Very High	Low	Very High	
494	502	Very High	Very High	Very Low	Low	Very Low	

502	510	Very Low	Very Low	Very Low	Low	Very Low
510	518	Very Low	Not Available	Very Low	Low	Very Low
518	526	High	Very High	Very High	Very High	Very High
526	534	Very High	Very High	Very High	Very High	Very High
534	542	Very High	High	Very High	Very High	Very High
542	550	Very Low	Very Low	Very High	Very High	Very High
550	558	Low	Very High	Very High	Very High	Very High
558	566	Very High	Very High	Very High	Very High	Very High
566	574	Very High	Very High	Very High	Very Low	Very High
574	582	Very Low	High	Very High	Very High	Very High
582	590	Very High	High	Very High	Very High	Very High
590	598	Very Low	Very Low	Very Low	Low	Very Low
598	606	Very High	High	Very High	Low	Very Low
606	614	Very Low	Very Low	Low	Low	Very Low
614	622	Very High	High	Very High	Low	Very High
622	630	Very Low	Not Available	Very Low	Low	Not Available
630	638	Very High	High	High	Very High	Very High
638	646	Very High	Very High	Medium	High	Very Low
646	654	High	Very High	Very Low	Very High	Very High
654	662	Very Low	Very Low	Very Low	Low	Very Low
662	670	Very Low	Very Low	Very Low	Very High	Very High
670	678	Very Low	Very Low	Very Low	Low	Very Low
678	686	Very High	Very High	Very High	Low	Very Low
686	694	Very Low	Very Low	Very Low	Low	Very Low
694	698	Very High	Very High	Very High	Very High	Very High
736	738	Very High	Very High	Medium	Very High	Very High
823	826	Low	Very High	Very High	Very High	Very High
826	832	Very High	Low	Very High	Very High	Very High
1785	1805	Very High	High	Very High	Very High	Very High

2.6. In-Ear Monitors

A wireless In-Ear Monitors (IEM) are body-worn audio devices equipped with integrated receivers that deliver real-time audio feedback for applications such as voice monitoring, interviews, music, and ambient sound. Broadcasters and staff involved in sports presentations and ceremonies primarily use IEMs to receive feedback on their voice, interviews, music, or other audio elements.

While numerous IEM receivers may be employed simultaneously, the frequency assignment requested through the Spectrum Booking Portal is required solely for the transmitter, not for each individual receiver.

Audio description and mass-cast services are also considered PMSE systems and will be treated differently than IEMs; their frequencies are identified in section 2.11.1.

2.6.1. In-Ear Monitor General Usage Conditions

The following general usage conditions apply to IEM systems:

- The use of wireless in-ear monitors should be avoided wherever possible, especially in outdoor areas.
- Digital wireless IEM systems are recommended due to their higher resistance to interference; however, analogue transmitters are permitted.
- To facilitate frequency assignment, the maximum allowable bandwidth per channel is 200kHz.

2.6.2. In-Ear Monitor Bands Availability

Table 7 shows detailed information regarding possible frequency bands assigned to in-ear monitors.

Table 7: Available Bands for Audio In-Ear Monitor

Spectrum [MHz]		Technical Parameters	Cluster Availability Indicator					
From	To	Maximum Power / Channel	Milano	Valtellina	Val di Fiemme	Cortina	Verona	Notes
169.4	169.5875	500mW e.r.p. - ≤ 50kHz	High	High	Very High	Very High	Very High	SRD regulation
173.965	216	10mW e.r.p. - ≤ 50 kHz	Medium	Very High	Very High	Very High	Very High	On a tuning-range basis. The band is shared with DAB
470	694	50mW e.r.p. - ≤ 200 kHz	Medium	Medium	Medium	Medium	Medium	Shared with DVB-T and mic - subject to geographic restrictions

2.7. Permanent Earth Stations and Transportable Earth Stations

Satellite services are used to transmit audio and video signals during external reporting to studios or national and international broadcasting networks, often as part of Satellite News Gathering (SNG) operations. These services may involve:

- Permanent Earth Stations: installed at fixed, known locations, such as the "MMC Sat Farm."
- Transportable Earth Stations: deployed within broadcast compounds at Games venues to provide uplinks between the earth station, hub, or VSAT and a satellite. These systems are primarily used to transmit broadcast-quality video, audio, and data signals in the KU/KA bands.

The frequency band allocated for satellite navigation systems will be safeguarded to prevent interference with ground-based receivers and measuring instruments used during the Games.

Satellite internet access within venues is permitted but requires prior application and authorisation via the Spectrum Booking Portal (SBP). The following conditions apply:

- The location of the antenna must be pre-approved by Milano Cortina 2026.
- Wi-Fi functionality on the satellite equipment must be disabled.
- Milano Cortina 2026 will conduct random checks to ensure compliance with these policies.

2.7.1. Permanent Earth Stations and Transportable Earth Stations Bands Availability

Table 8 shows detailed information regarding possible frequency bands assigned to fixed or transportable earth stations.

Table 8: Available Bands for Satellite Earth Stations

BANDS	Available Bands		Availability Indicator	Notes
	EARTH TO SPACE [GHz]	SPACE TO EARTH [GHz]	All - Venues	
L Band	1.61 - 1.61875	2.4835 - 2.5	Low	Reserved for mobile station, no authorisation required
	1.67 - 1.675	1.518 - 1.525	Low	
	1.6265 - 1.6605	1.525 - 1.559	Low	
C Band	5.85 - 7.075	3.6 - 4.2	Medium	
Ku band	12.75 - 13.25	10.7 - 11.7	Low	Coordination with local fixed-link installation is required
	14 - 14.5	11.7 - 12.75	High	
Ka band	27 - 27.5	17.3 - 17.7	Not Available	Reserved for licensed operators
	29.2 - 30	19.7 - 20.2	Not Available	

2.8. Microwave Fixed Point-to-Point Links

Fixed Point-to-Point Microwave Links (MFL) are communication systems that connect two stations at fixed, known locations using a designated frequency channel. The bandwidth and transmission power of the channel can vary depending on the radio's operational mode and the specific requirements of the application.

2.8.1. Microwave Fixed Point-to-Point Links General Usage Conditions

The following general usage conditions apply to MFL systems:

- Sharp directional antennas are strongly recommended to improve accuracy and reduce interference.
- Automatic Transmission Power Control (ATPC) functionality is recommended to optimise transmission power and minimise unnecessary signal emissions.

2.8.2. Microwave fixed point-to-point link Bands Availability

The frequency bands proposed for fixed point-to-point links are shown in Table 9.

Table 9: Available Bands for Microwave Fixed point-to-point links

Spectrum [GHz]		Technical Parameters	Cluster Availability Indicator					
From	To	Duplex / Channel	Milano	Valtellina	Val di Fiemme	Cortina	Verona	Notes
5.925	6.425	Duplex Spacing: 252.04MHz Channel spacing: 29.65MHz; 59.3MHz	Medium	Medium	Medium	Medium	Medium	
6.425	7.125	Duplex Spacing: 340MHz Channel spacing: 40MHz; 80MHz	Medium	Medium	Medium	Medium	Medium	
10.7	10.7	Duplex Spacing: 490MHz Channel spacing: 40 MHz; 80 MHz	Medium	Medium	Medium	Medium	Medium	

17.7	19.7	Duplex Spacing: 1010MHz Channel spacing: 13.75MHz; 27.5MHz; 5 MHz; 110MHz	Low	Medium	Medium	Medium	Low	
22.0	23.6	Duplex Spacing: 1008MHz Channel spacing: 3.5MHz; 7 MHz; 14MHz; 28MHz; 56MHz; 112MHz; 224MHz	Medium	Medium	Medium	Medium	Medium	
31.8	33.4	Duplex Spacing: 812MHz Channel spacing: 3.5MHz; 7MHz; 14MHz; 28MHz; 56MHz; 112MHz; 224MHz	Very High	Very High	Very High	Very High	Very High	
37	39.5	Duplex Spacing: 1260MHz Channel spacing: 3.5MHz; 7MHz; 14 MHz; 28MHz; 56MHz; 112MHz; 224MHz	Very High	Very High	Very High	Very High	Very High	
71	86	Duplex Spacing: 10GHz Channel spacing: 250MHz	Very High	Very High	Very High	Very High	Very High	

2.9. Microwave Transportable Point-to-Point Links

Transportable and mobile point-to-point links (MML) are temporary communication systems that connect two locations, such as an outdoor broadcasting site and a studio, to transmit broadcast-quality audio and video signals. These systems operate within specific frequency bands but are not available for wireless cameras or mobile airborne links. Link terminals can be mounted on tripods, temporary platforms, purpose-built vehicles, or hydraulic hoists. Two-way links are frequently required to support communication needs. The equipment used is transportable, and the transmitter/receiver locations are not predefined.

Frequency assignments for these links define the geographical area where transmitters and receivers can be installed. The frequency authorisation process does not include coordination between temporary links, requiring users to adhere strictly to assigned frequencies to avoid interference.

2.9.1. Microwave transportable point-to-point link Bands Availability

Table 10 shows detailed information regarding possible frequency bands assigned to microwave transportable and mobile links.

Table 10: Available Bands for Microwave Transportable point-to-point links

Spectrum [GHz]		Technical Parameters	Cluster Availability Indicator					
From	To	Duplex / Channel	Milano	Valtellina	Val di Fiemme	Cortina	Verona	Notes
21	22	Duplex Spacing: 252.04MHz Channel spacing: 29.65MHz; 59.3MHz	Very High	Very High	Very High	Very High	Very High	EN 302 217
57	71	Duplex Spacing: 340MHz Channel spacing: 40MHz; 80MHz	Very High	Very High	Very High	Very High	Very High	Adequate spectrum sharing mechanism shall be implemented – fixed outdoor installations are not allowed - EN 302 567

2.10. Wireless LAN

Wireless Local Arean Network (LAN) is a system that provides wireless internet access with high capacity and small-scale coverage.

For all Olympic and Paralympic venues, only the Wireless LAN installed and managed by Milano Cortina 2026 is allowed. Milano Cortina 2026 provides free access to the Games' Wi-Fi network in all Olympic and Paralympic venues. The SSID and password will be given on site.

Private Wi-Fi access points and MIFI personal hotspots are NOT permitted in Olympic and Paralympic competition venues and in any case close to the Games' WLAN.

However, in some situations, Milano Cortina 2026 may approve authorisation for additional private wireless LAN services for stakeholders' Games operations (e.g. in the MMC), as long as they do not interfere with the Games' WLAN devices and other authorised RF devices using the same band. The authorisation will be given on a case-by-case basis.

2.10.1. Wireless LAN General Usage Conditions

The following general usage conditions apply to LAN systems:

- Access points must include features for transmitted power control (TPC), channel assignment, and SSID programming.
- Private Wi-Fi access points will be authorised under SRD-UWB regulations, operating on a non-protection and non-interference basis.
- Channel assignment will be exclusively managed by Milano Cortina 2026 to ensure efficient spectrum usage and prevent conflicts.

2.10.2. Wireless LAN Bands Availability

Table 11summarises the frequency bands identified for the operation of Wireless LAN.

Table 11: Available Bands for Wireless LAN

Spectrum [MHz]		Technical Parameters	Availability Indicator	
From	To	Usage Conditions	All Clusters	Notes
2400	2483.5	100mW e.r.p. - ≤ 20MHz – transmitter power control	Restricted	Shared with telemetry RF devices
5470	5725	100mW e.r.p. - ≤ 20MHz – transmitter power control	Restricted	Games Wi-Fi network exclusivity
5945	6425	200mW e.r.p. - ≤ 20MHz – transmitter power control indoor use only – low-power indoor access points exclusively (LPI)	Restricted	Shared with telemetry RF devices

2.11. Other Services

All wireless equipment not included in the previously mentioned categories must follow the standard spectrum application process and receive approval from Milano Cortina 2026 before use.

Additional services will be considered on a case-by-case basis if they are deemed critical for the successful operation of the Games. The following recommendations are based on further services identified during previous Olympic and Paralympic Games.

2.11.1. Photographer's Wireless Camera

The wireless release trigger for photographers, like the Pocket Wizard, is a device that sends a control signal to activate or deactivate the shutter release of a digital camera. This control signal includes data for the exposure control settings, such as the aperture value and strobe

synchronisation. These settings are coordinated within the control signal that triggers the on/off release.

Please Note:

- This equipment does not require Milano Cortina 2026 spectrum authorisation or 'test and tag'.
- For the frequency range within the 433.05MHz–434.79MHz band, the maximum transmitter output permitted is 10 mW. The channel must be selectable to use a free channel on site.
- The bands 312MHz–317MHz (Japan) and 344.04MHz–354MHz (USA) are NOT permitted in Italy.
- The 2400MHz–2483.5MHz frequency range is allowed on a non-interference and non-protection basis.

Wireless release triggers are licensed under the SRD regulations, which exempt them from interference protection. However, they must not cause interference to authorised spectrum users. Channel assignments for photographers at the Media Centre will be self-coordinated, with support from the Media Manager. Each photographer is required to register their preferred channel on the list available at the Media Centre.

2.11.2. Audio Description – Mass-Cast Transmitters

The audio-description service (ADS) retransmits material already prepared for public use, covering events and other temporary functions within the venue. ADS can also be used live to enhance the viewing experience for individuals with hearing impairments and sight disabilities. Mass-cast transmitters are utilised during ceremonies to deliver audio simultaneously to a large audience.

Please Note:

- Use of the frequency range of 87.5–108MHz in urban areas is strongly advised against, since the "Radio FM Band" is already overcrowded.
- The range 75 – 87MHz shall be preferred. Requests must be submitted as early as possible. This will allow MIMIT to engage in a specific study and negotiation with the spectrum owners, which usually takes a long time.

2.11.3. Radio-Frequency Identification

Radio-Frequency Identification (RFID) technology uses electromagnetic fields to automatically identify and track tags attached to objects. An RFID system is composed of a tiny radio transponder, a radio receiver, and a transmitter.

Please note: the frequency suitable for RFID applications can be found within the Telemetry Bands Availability table.

2.11.4. Unmanned Aerial Vehicle

An unmanned aerial vehicle (UAV), commonly known as a drone, is an aircraft operated without a human pilot, crew, or passengers on board. Broadcasters frequently employ drones to transmit live aerial video footage, while event organisers use them to create three-dimensional visual displays during ceremonies.

Milano Cortina 2026 recommends:

- Request of the frequency video link referenced in Table 5 is highly recommended.
- An alternative solution can be studied in the 5800–5900MHz band under a non-protection and non-interference basis.
- Regarding remote flying control, request of a frequency in the telemetry PMR band under the individual authorisation regime is recommended.

2.11.5. Interpretation Service

An audio translation system that can be used in conferences, as an audio guide, or for one-way communications.

Please note:

- For fixed location deployments, such as in a conference press room, operating equipment using the infrared band is recommended. No spectrum authorisation is required.
- For mobile use, the 470–694MHz band should be avoided.

3. SPECTRUM POLICIES AND PROCESSES

3.1. Radio-Frequency Devices Games-Venue Access.

Only accredited persons can bring radio-frequency equipment into the Milano Cortina 2026 Olympic and Paralympic venues. Any wireless equipment that does not have spectrum authorisation will be intercepted by security during the security process at the dedicated pedestrian screening area (PSA) or vehicle screening area (VSA). Spectrum authorisation and the related approved spectrum tag are required to access and use the wireless equipment in the venues. It will be necessary to show the spectrum authorisation document on a smartphone (pdf) or printed out. For accredited users who missed applying for authorisation, security will redirect the RF equipment's user to the spectrum team. The spectrum team will support the user in obtaining spectrum authorisation.

3.2. Radio Spectrum Authorisation

It is prohibited to use any radio equipment or transmit radio frequencies at Games venues without obtaining a radio-spectrum authorisation. For the Milano Cortina 2026 Games, spectrum authorisation requests must be submitted through the online Milano Cortina 2026 Spectrum Booking Platform (SBP). The platform serves as the interface for submitting spectrum authorisation requests to MIMIT (or to the Wireless LAN provider), which will issue the necessary authorisations. Authorised users must comply with the terms and conditions outlined in the radio-spectrum authorisation.

The use of frequencies without authorisation is sanctioned as per article 102 of the Italian Electronic Communication Code.

3.2.1. Stakeholders Categories

Any accredited stakeholder will be able to access the SBP to apply. Milano Cortina 2026 will control the rights.

Note for local Italian existing licence owners intending to operate within Games venues: It is mandatory to submit spectrum requests to allow coordination across the spectrum, notwithstanding any business-as-usual (BaU) arrangements.

3.2.2. Application Periods and Spectrum Authorisation Deliveries

Spectrum requests can be submitted through the Milano Cortina 2026 SBP. Applicants may complete their submissions online or upload application forms, making it possible to handle multiple applications within the SBP.

To simplify the process, the entire spectrum application timeline is divided into several sub-periods, each with a distinct application deadline. These application periods determine when the SBP accepts new spectrum requests and when the requester will receive the authorisation document.

Table 12 lists the planned application periods along with their respective confirmation dates.

Table 12: Spectrum Application Periods

Application Periods	Requests Submission	Notifications
Normal Spectrum Booking Period	6 February–31 May 2025	From 30 September 2025
Late Spectrum Booking Period	1 September–25 October2025	From 15 December 2025
Extraordinary Spectrum Booking Period	1 January 2026–22 March 2026	On a case-by-case basis

Once an application has been successfully processed, a spectrum authorisation will be issued for the corresponding period.

3.2.2.1. Normal Spectrum Booking Period

The SBP for accredited Games stakeholders will accept applications from 6 February to 31 May 2025. After this period, no new requests or modifications can be made through the portal. Applicants will receive notifications about any changes to their application status, and they can also log in at any time to review their frequency application status.

3.2.2.2. Late Spectrum Booking Period

For accredited Games stakeholders, a second application period will run from 1 September to 25 October 2025, providing an opportunity for late requests. After this period closes, no additional requests or modifications can be submitted through the portal.

3.2.2.3. Extraordinary Spectrum Booking Period

For accredited Games stakeholders, the SBP will accept very late applications from 1 January 2026 through the end of the Paralympic Games. After 22 March 2026, the portal will be closed.

3.2.3. Spectrum Authorisation Periods

To request spectrum services, the applicant must indicate the intended period of use for the RF device. Table 13 outlines the spectrum authorisation periods for the Olympic and Paralympic Winter Games.

Table 13: Spectrum Authorisation Periods

Authorisation Periods Name	Authorisation Start/End
Olympic Winter Games (including ceremonies)	1 January 2026–28 February 2026
Paralympic Winter Games (including ceremonies)	1 March 2026–30 March 2026

Applications for the Milano Cortina 2026 Olympic Winter Games Opening and Closing Ceremonies are processed by the respective venue, either the Milano San Siro Olympic Stadium, the Verona Olympic Arena, or the Cortina Curling Olympic Stadium. To apply for a ceremony, users must select the corresponding venue.

3.3. Test and Tag Process

Before bringing radio-frequency (RF) equipment into a venue for the first time after obtaining frequency authorisation, users must complete a one-time testing and tagging procedure. Before undergoing this test, the equipment must be configured according to all authorised technical parameters such as frequency, power, bandwidth, and other relevant settings, and its batteries fully charged. Users should also have their spectrum authorisation documentation readily available, either printed or on a smartphone, to address any potential discrepancies.

At the test-and-tag station, a spectrum engineer will verify that the device meets the conditions specified in the authorisation by performing quick checks on parameters like frequency, channel, occupied bandwidth, signal shape, SSID or drone identification, and, if applicable, radiated power levels. If the device passes, it will receive a visible tag authorising its use within the assigned operational area for the entire duration of the Olympic and Paralympic Winter Games Milano Cortina 2026. Should the device fail the initial test, a second test will be conducted; a second failure results in a “Do Not Use (DNU)” sticker.

Only accredited individuals may bring authorised and tagged RF equipment into the venues. Wireless equipment without a visible tag and valid authorisation will be stopped at the entrance by security and not permitted inside. Accredited users who have not obtained authorisation will be directed to the nearest spectrum team for assistance, and until authorisation is granted, the device must remain off and bear a “do not use” tag. Security staff at venue entrances will inspect all equipment to ensure only authorised, tagged wireless devices are admitted.

The locations of test-and-tag stations will be announced once agreed upon with MIMIT, and further details will be provided in the 2025 “Testing & Tagging User Guide”.

3.4. Spectrum Monitoring

MIMIT will monitor the radio spectrum in cooperation with Milano Cortina 2026 to secure the wireless spectrum environment for the Games and prevent interference and improper use. Processes and deployment will be communicated in 2025.

GLOSSARY

Acronym	Definition
ADS	Audio Description Service
BaU	Business as Usual
CB	Citizens Band Radio
DAB	Digital Audio Broadcasting
DECT	Digital Enhanced Cordless Telecommunications
DVB-T	Digital Video Broadcasting – Terrestrial
DMO	Direct Mode Operation
DMR	Digital Mobile Radio
EIRP	Equivalent Isotropic Radiated Power
ENG	Electronic News Gathering
FSK	Frequency Shift Keying
IEM	In-Ear Monitor
IOC	International Olympic Committee
LAN	Local Area Network
LMR	Land Mobile Radio
LPI	Low Power Indoor Access Points
MIC	Microphone
MIMIT	Ministero delle Imprese e del Made in Italy (Ministry of Enterprises and Made in Italy)
MoD	Ministry of Defence
MRH	Media Right Holders
OBS	Olympic Broadcasting Services
OCOG	Organising Committee for the Olympic
OPG	Olympic and Paralympic Winter Games
PES	Permanent Earth Stations
PMR	Private Mobile Radio

Acronym	Definition
PMSE	Private Mobile Radio
PRS	Program Making Special Event
RF	Personal Radio Service
SBP	Radio Frequency
SLA	Spectrum Booking Portal
SMT	Service-Level Agreement
SRD	Milano Cortina 2026 Spectrum Management Team
SSID	Short Range Device
TES	Service Set Identifier
TMO	Transportable Earth Station
TOC	Trunked Mode Operation
TPC	Technology Operation Centre
T&T	Transmitter Power Control
UHF	Private Mobile Radio
UWD	Program Making Special Event
VHF	Personal Radio Service
WLAN	Radio Frequency

Terminology

Beauty Shot Camera	Camera delivering a shot that emphasises something's beauty or attractive aspects of the area
Channel Bandwidth	A portion of the radio spectrum occupied by the transmitted signal
Duplex Spacing	Frequency Division Duplex is a technology used in wireless communications where the uplink and the downlink use a different frequency. The uplink and downlink are separated by a particular gap. This is called the duplex distance or duplex spacing.
Duty Cycle	The duty cycle is defined as the ratio of time during which a radio device actively transmits signals to the total duration of the observation period
Equivalent isotropic radiated power measurement	EIRP is the total radiated power from a transmitter antenna times the numerical directivity of the antenna in the direction of the receiver or the power delivered to the antenna times the antenna's numerical gain.

Full Duplex	Operating duplex with the ability to transmit and receive simultaneously.
Spectrum Authorisation	The individual authorisation gives its owner the right to use specific radio-frequency equipment with an assigned frequency and technical specifications within a designated venue and period.
Venues	Olympic and Paralympic sites fall within the scope of spectrum management.

If there are any questions about the Spectrum Availability Plan, please contact the Milano Cortina 2026 Spectrum Management team via email at the following address:

SpectrumManagement@milanocortina2026.org

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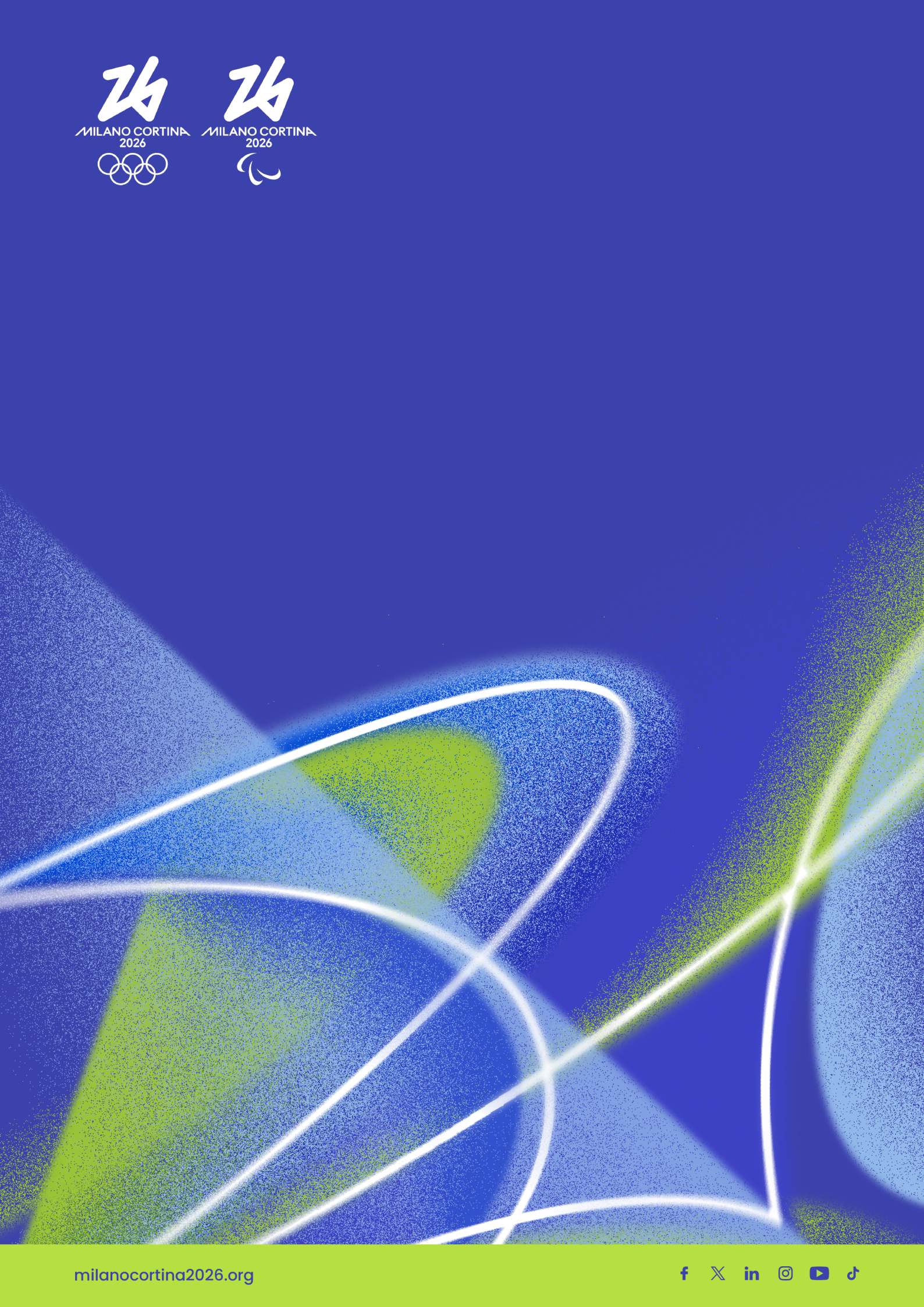
MILANO CORTINA
2026
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