WRC-27

GSMA

D2D, MOBILE AND SATELLITE

Direct-to Device (D2D) connects satellites directly to mobile handsets, supplementing terrestrial mobile network coverage.

WRC-27 can define technical and regulatory conditions so that D2D can provide a valuable supplementary technology for the mobile industry, offer new business for the satellite and mobile sectors, improve resilience and extend services for end users.

D2D can be delivered in two ways

MOBILE/IMT SPECTRUM

- Must have prior agreement with terrestrial licence holder
- Requires definition of international rules at WRC-27
- Must protect terrestrial mobile from harmful interference through a secondary allocation
- Benefits from wide handset compatibility

MOBILE SATELLITE (MSS) SPECTRUM

- Supported by existing international regulations
- May also be established in national regulations
- Benefits from harmonised rules to minimise interference
- Requires development of the handset ecosystem

Our vision

EXTENDING MOBILE COVERAGE FOR EVERYONE

59% are connected to mobile broadband and could use D2D on their devices in areas with no coverage

3% live outside of mobile coverage and could potentially use D2D

38% live within mobile coverage but are not connected to mobile broadband... this 'usage gap' will not benefit from D2D

Source: The State of Mobile Internet Connectivity, GSMA, 2026.

SPECTRUM for the benefit of billions.

WRC-27
D2D, MOBILE AND SATELLITE

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Low data rate MSS

Agenda Item 1.12 ✓

Position

The GSMA supports no change under this Agenda Item.

Reason

With the exception of 1645.5-1646.5 MHz, the bands considered for MSS allocations are identified for IMT and as such cross over with Agenda Item 1.13. Low data rate (LDR) systems are not defined and introducing a new generic MSS allocation cannot guarantee the protection of existing IMT operations.

Adopting a NOC for this AI would provide regulatory stability and ensure continued protection of terrestrial IMT networks, avoiding the risks associated with introducing new satellite allocations in heavily used mobile bands.

D2D in IMT bands

Agenda Item 1.13 ✓

Position

The GSMA supports enabling DC-MSS-IMT through adding a new secondary MSS allocation limited to DC-MSS-IMT. This can be done either by modifying the Table of Frequency Allocations, or by adding a new footnote, in the Radio Regulations. These approaches must be linked to a Resolution containing technical and operational conditions.

Reason

The GSMA believes that D2D using IMT may become a useful technology to supplement coverage provided it is properly integrated with terrestrial networks. While mid-band IMT spectrum will be used for urban areas, and populated rural areas will use low-band IMT spectrum, D2D can be used as a coverage layer in sparsely populated or unpopulated areas. As such, the mobile industry wishes to enable DC-MSS-IMT services.

However robust protection of terrestrial IMT networks is required from potential harmful interference of any possible DC-MSS-IMT operations in IMT bands. Suitable PFD limits coupled with regulatory conditions on its integration with terrestrial services could facilitate the introduction of D2D without harming existing IMT services.

MSS in 2 GHz

Agenda Item 1.14 ✓

Position

The GSMA supports no change under this Agenda Item.

Reason

Agenda Item 1.14 considers possible additional allocations to the mobile satellite service in the frequency bands 2010-2025 MHz (Earth-to-space) and 2120-2170 MHz (space-to-Earth). These are bands identified for IMT and overlap with those being considered under WRC-27 Agenda Items 1.12 and 1.13.

Similar to AI 1.12, NOC for this AI will ensure IMT protection. It would also prevent potential harmful interference and complex cross border coordination challenges from more generic MSS use in IMT spectrum.