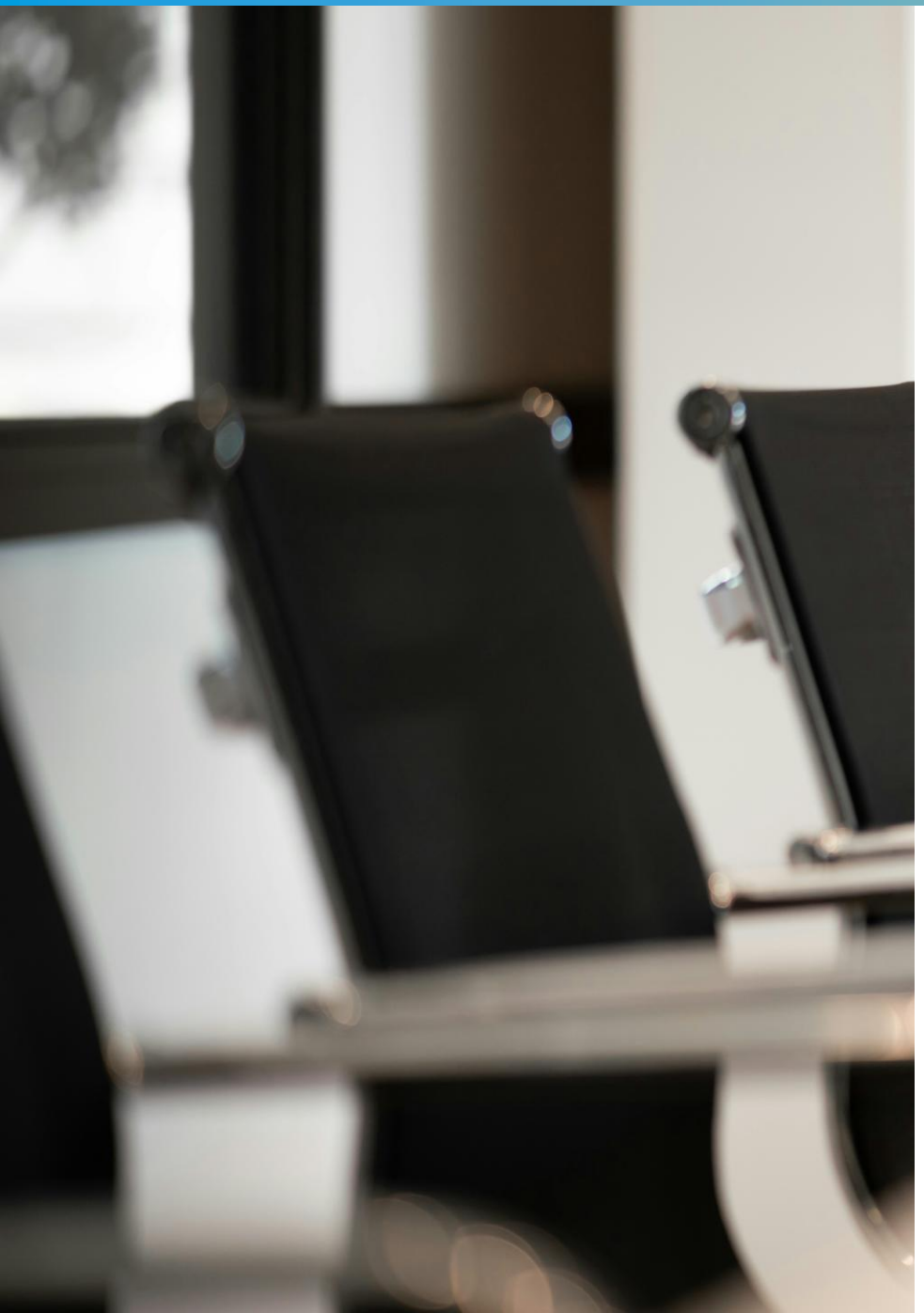
Public Hearings: 2nd Draft National Radio Frequency Plan

15 January 2026



Agenda

01 Context

02 Illegitimate Rationale for the MS Allocation and IMT Identification

03 Recommendation

1. Context

- **Opportunity Presented by the NFRP**: The second draft NRFP presents an opportunity to reassess existing spectrum allocations that may no longer serve the public interest optimally.

- **Legacy Mobile Allocation is a Key Concern**: The mobile allocation and IMT identification in 1427-1518 MHz warrants reassessment given the significant interference risk posed to L-band MSS networks operating above 1518 MHz.

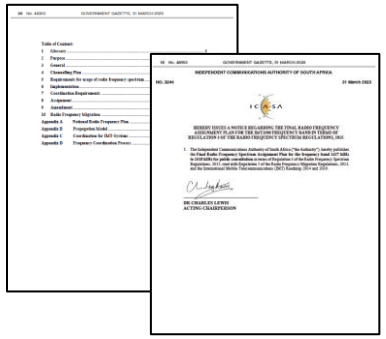
- **Crucial Role of L-Band MSS**: South Africa, with its expansive maritime jurisdiction, critical aviation corridors, and vulnerability to natural hazards, is particularly dependent on the uninterrupted operation of L-Band MSS services nationwide including:

    - Global Maritime Distress and Safety (GMDSS)
    - Global Aeronautical Distress and Safety System (GADSS)
    - Environmental Monitoring disaster response coordination
    - Secure Government communications

- **Advanced L-Band MSS Gaining Traction**: In addition, interference free L-Band MSS networks are a pre-requisite for advanced MSS services, including D2D communications, which could play a crucial role in digitalising the economy and bridging the digital divide - acting as a catalyst for national economic development.

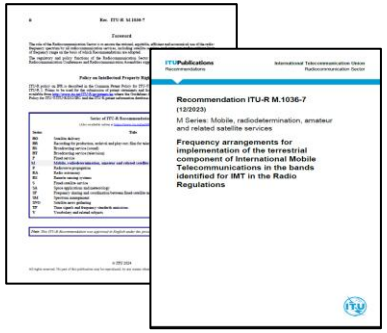
2. Illegitimate Rationale for MS Allocation & IMT Identification

Radio Frequency Spectrum Assignment Plan



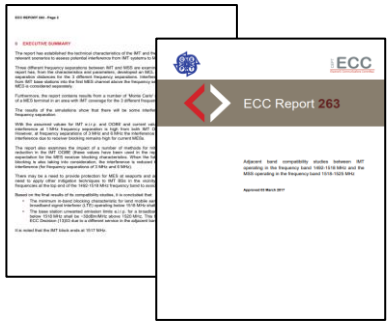
- Radio Frequency Spectrum Assignment Plan outlines technical, regulatory & operational conditions for IMT in 1427-1518 MHz.

ITU- R Recommendation 1036-7



- ITU-R Rec M.1036-7, contains several options, one of which is for IMT channel arrangements across the full frequency range 1427-1518 MHz.

Electronic Communications Committee Report 263



- Electronic Communications Commission (ECC) Report 263 studies the adjacent band coexistence of IMT and L-band MSS.

Viasat respectfully submits that these documents do not adequately address concerns regarding harmful interference to L-Band MSS systems and are insufficient to ensure MSS protection

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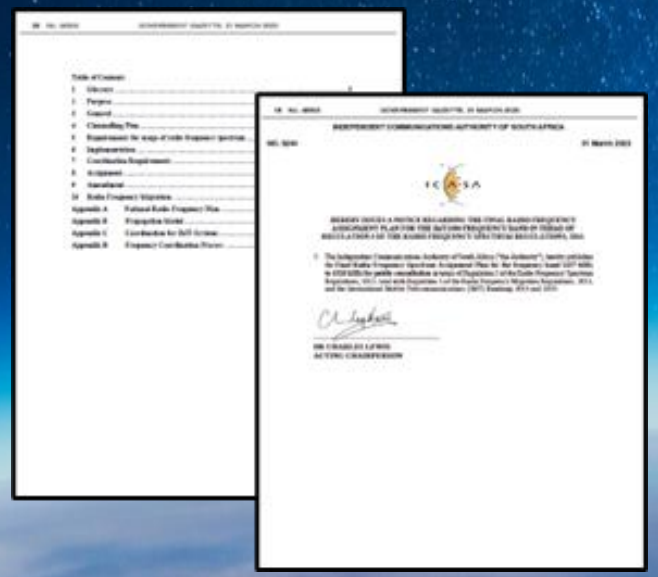
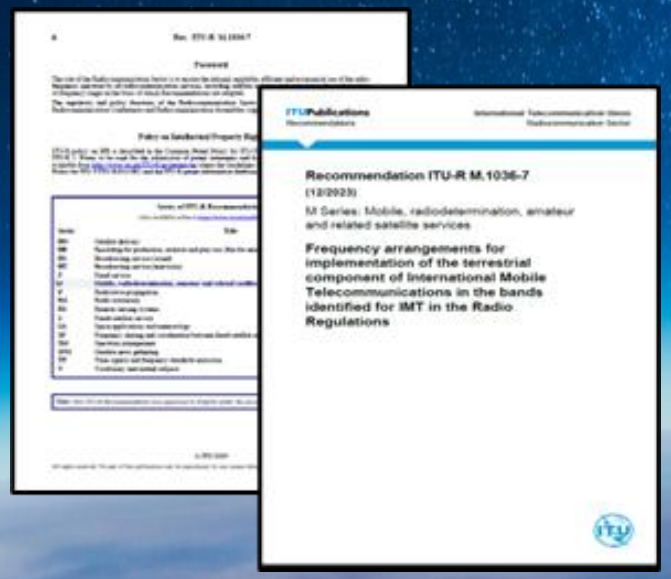
2.1 Radio Frequency Spectrum Assignment Plan



- **Scope of RFSAP**: The RFSAP establishes technical and operational requirements for IMT deployment in 1427 – 1518 MHz, including measures purportedly designed to protect L-band MSS networks.
- **Procedural Irregularity**: The Authority's reliance on this RFSAP is not warranted because the regulatory process underpinning its development was incomplete for a critical portion of this spectrum.
- **Mandated Feasibility Studies not Conducted**: Specifically, the mandated feasibility study for the 1492–1518 MHz frequency range, which would assess compatibility with MSS networks operating above 1518 MHz was never conducted.
- **RFSAP does not justify IMT implementation**: Therefore, the RFSAP cannot serve as a valid justification for IMT implementation across the entire 1427-1518 MHz range, as the regulatory process underpinning its development was incomplete.
- **RFSAP Operational Conditions are Inadequate**: Furthermore, Viasat emphasizes that the IMT operational conditions set out in the RFSAP do not ensure adequate protection for MSS networks - this issue is examined in detail in the upcoming slides (2.3).

2.2 ITU-R Recommendation M.1036-7



- **Reliance on M.1036-7 :** The Authority cites ITU-R Rec M.1036-7, which contains various options for IMT channel arrangements.

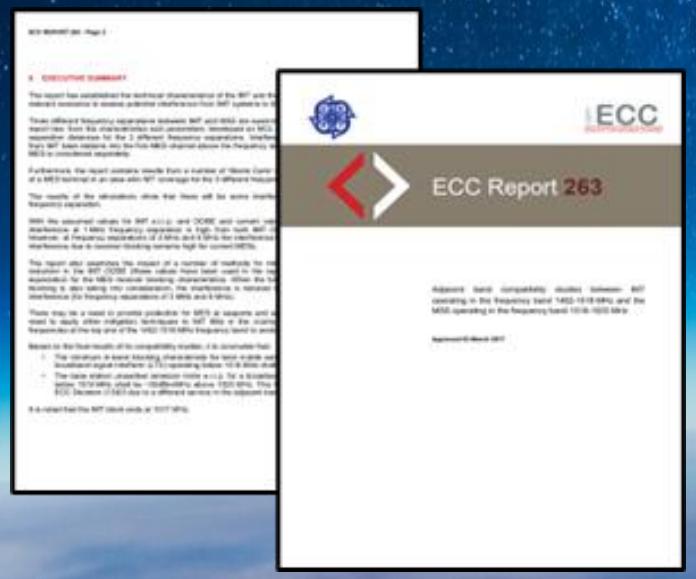
- **Existence of Channel arrangement does not Imply Compatibility**: The presence of an IMT channel option in ITU-R Rec M.1036-7 does guarantee coexistence between IMT systems in 1427-1518 MHz and MSS networks operating above 1518 MHz.

- **M.1036-7 Explicitly Calls for Compatibility Studies**: Recommendation M.1036-7 acknowledges the incomplete nature of coexistence provisions, in note 1 to table 3:

"*When implementing these frequency arrangements, administrations are also encouraged to take into account the results of the compatibility studies, e.g. in order to address IMT-MSS coexistence in certain areas (around seaports and airports, etc.)*"

- **High Risk Scenarios**: The high-risk scenarios covering "seaports and airports“ are subjected to elevated interference risks due to the high concentration of terminals serving safety of life applications. The anticipated development/deployment of pervasive drones, and 3GPP compliant L-Band land mobile devices will likely create additional high-risk scenarios that should be factored into compatibility studies.

2.3 ECC Report 263 (1/2)



- **Deficient Report:** ECC Report 263 has critical shortcomings that make it unsuitable as a basis for IMT and L-band MSS coexistence:

Underlying Assumptions and Gaps

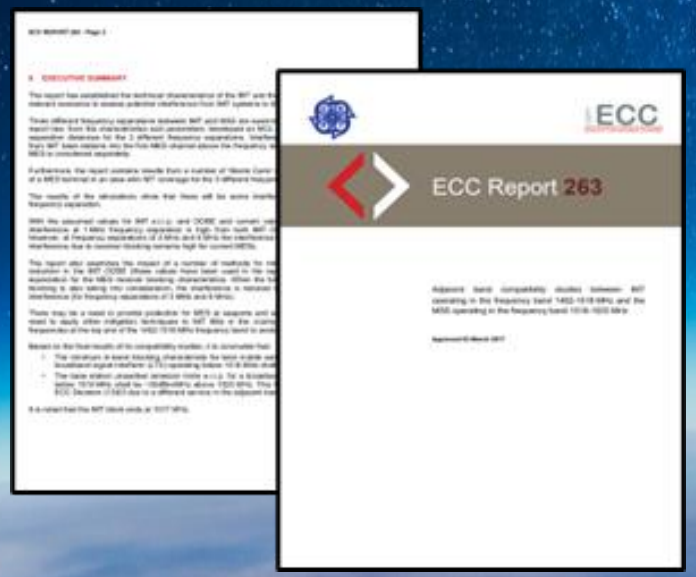
- Constrained assumptions in terms of diversity of MSS deployment scenarios and terminal types.
- Multiple studies reach differing conclusions – acknowledged by CEPT leading to the development of ECC Report 299[2]

Insufficient Mitigation Measures

- Interference protection measures -1 MHz guard band and 58 dBm/5 MHz IMT EIRP limit in 1512-1517 MHz result in out-of-band emissions of -0.8 dBm in the 1518-1520 MHz range.
- 29.2 dB higher (nearly 1,000 times greater in linear power terms) than the emission limit applicable above 1520 MHz, representing a fundamental flaw in the MSS protection regime.
- MSS terminals operating in 1518-1520 MHz and above would therefore experience interference levels sufficient to block signal reception entirely.

2 More stringent (but still insufficient) protection measures for aeronautical and maritime L-band MSS terminals

2.3 ECC Report 263 (2/2)



- **Deficient Report:** ECC Report 263 has critical shortcomings that make it unsuitable as a basis for IMT and L-band MSS coexistence:

Outdated Technical Basis

- ECC Report 263 was developed in 2017 and did not contemplate advanced MSS terminals based on 3GPP standards

Applicability of MSS Protection Measures

- The technical studies in ECC Report 263 assumes IMT in SDL mode, and not time division duplex (TDD) as proposed by the Authority.
- This is a critical distinction that fundamentally undermines the relevance of ECC Report 263 to South Africa's proposed IMT deployment.
- Note, the ECC Report did not conclude that an IMT TDD system with a 1 MHz guard band could coexist with L-band MSS.

3. Recommendations

Given that the current regulatory framework will likely jeopardize L-Band MSS operations, including safety of life applications, Viasat respectfully recommends the following:

Establish an upper limit for IMT Identification at 1492 MHz: As a first step, the Authority should remove the mobile allocation and IMT identification from 1492-1518 MHz, effectively implementing this range as a guardband to protect L-band MSS systems operating above 1518 MHz – aligning with regulatory practices of other Region 1 countries such as Germany, Romania, and Italy etc.

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Conduct Comprehensive Compatibility Studies Before Any Future Allocation Decisions: Should the Authority, at some future date, wish to consider IMT deployment in1492-1518 MHz band, it must first complete the comprehensive feasibility studies originally mandated by the 2019 Frequency Migration Plan and the 2021 Inquiry. These studies must:

- Model South African deployment scenarios, including IMT TDD systems
- Account for all relevant MSS use cases, including terminals built to 3GPP standards
- Consider aggregated interference from multiple terrestrial operators

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WHEN EVERYONE IS CONNECTED,
THE POSSIBILITIES ARE LIMITLESS.