Space Policy Conference 2025 (ISPC-25)

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Agenda Item 1.1: ESIMs in V band (47.2-50.2 GHz & 50.4-51.4 GHz)

Background:

- ESIMs, in V band for both GSO and N-GSO (~4 GHz).
- Previous WRC's identified ESIMs for GSO's and N-GSO's in Ka band.
- Increase in demand for broadband services
- Aeronautical and Maritime ESIMS , Land ESIMS subject to national prerogative.

Progress at ITU level

- Working document
- Recommendation on ESIMS-NCMC

Working document :

- Protection of existing services: FSS, BSS, EESS (passive) and Radio Astronomy
  - ✓Already existing FSS.
  - ✓Feeder links to BSS.
  - ✓EESS(passive) and SRS(passive)
  - ✓Radio astronomy

Agenda Item 1.1: ESIMs in V band (47.2-50.2 GHz & 50.4-51.4 GHz)

- Additional ESIMs characteristics to support sharing and compatibility studies;
- Characteristics of high-density GSO FSS applications
- Compatibility studies regarding the protection of EESS (passive);
- Intra-service sharing with other FSS applications.
- Effectiveness of Resolution 769 and 770. Protection criteria for GSO A-ESIMs

ESIMS-NCMC

- Recommendation vs WRC Resolution
- To limit the operation of ESIMs to the territories of authorized administrations
- ESIMs operation remain in the envelope of notified earth station characteristics
- Notifying administration responsibility.

Indian Scenario:

- GSAT-29 in Q/V band , Future Technology Demonstration satellites
- IFMC services

Agenda Item 1.2: Reduction in antenna diameter in 13.75-14 GHz

Background:

- WARC-92 allocated 13 GHz band to FSS.
- Asymmetry in Ku band allocation.(↑: 750 MHz; ↓: 1050 MHz)
- GSO Antenna size: 1.2m, N-GSO Antenna size: 4.5m.
- Congestion in the GSO orbit.

Progress at ITU level:

- Output working document was divided into 7 Parts
- Different interference scenarios
- Sharing studies of existing services:
  - ✓ Radio Location Service.
  - ✓ Space Research Service.
- Deployment density of small FSS earth stations
- Methodologies for aggregate interference studies
- Protection criteria of RLS (i.e. interference-to-noise ratio (I/N))

Agenda Item 1.2: Reduction in antenna diameter in 13.75-14 GHz

Indian scenario:

Supports reduction of antenna diameter

Agenda Item 1.3:Use of 51.4-52.4 GHz by gateway earth stations of N-GSO

Background:

- Band identified for GSO networks.
- Spectrum requirement exists for N-GSO feeder link

Studies at ITU:

- Working document on the sharing and compatibility studies;
- Working document on draft CPM text
- Protection of existing primary passive services operating in the frequency band 52.6-54.25 GHz.
- Deployment density of FSS NGSO in simulation measurement area of interest
- To review and revise Resolution 750 (Rev.WRC-19)
- Protection of GSO networks .

ISRO View:

Protection of EESS is critical.

Agenda Item 1.4: FSS (↓) in 17.3-17.7 GHz and BSS (↓) in 17.3-17.8 GHz

Background:

- Broadband applications and UHDTV applications.
- In R3, covered under ITU RR AP30A category (↑)
- Asymmetry in Ka band allocation.(↑: 4 GHz; ↓: 3.5 GHz)
- Harmonized radio regulations

Progress at ITU:

- Protection of existing services:
  - ✓ FSS.
  - ✓ Feeder link to BSS (AP30A)
- Co-existence between the potential new BSS service in R3 and the potential new non-GSO FSS service in R3 in the 17 GHz band
- Update of the epfd value in Table 22-1D

Agenda Item 1.6:Equitable access in Q/V band

Background:

- Planned FSS: C& Ku band (ITU RR AP30B)
- Planned BSS: Ku (↓), Ka (↓)

Studies at ITU level:

- Elements for a working document
- Elements of working document towards draft CPM text (3 methods)
- Development of Plans based on regional coverage instead of national coverage
- Ways to achieve equitable access in the Q/V bands
- Approaches in Resolutions 170 (Rev.WRC-23) and 553 (Rev.WRC-23)
- Each country an orbital slot with a bandwidth of 5 GHz. Possibility of five networks with regional/subregional service area

Thank You