RNSS Spectrum Vigilance - Status

GPS Innovation Alliance
Presentation
To
PNT AB
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A Needless Force Multiplier Problem
Impeding RNSS Spectrum Defense

- European Common Allocations Table (ECAT) shows commercial GNSS PL—intentional interferers—“applications” in the RNSS band 1559-1610 MHz!

| 1559 MHz - 1610 MHz (5.341) | • AERONAUTICAL RADIONAVIGATION
  • RADIONAVIGATION-SATELLITE (SPACE-TO-EARTH) (SPACE-TO-SPACE) (5.328B) (5.329A) (5.208B) | • GPS
  • GNSS Repeater
  • GNSS Pseudolites
  • GALILEO
  • GLONASS |

- ECC Recommendation 11(08), the regulation addressing GNSS commercial PL, is incapable of use:
  - Without confirmation of PRN code assignments by National GNSS Operators—a key Rec 11(08) license requirement

- ECC Rec 11(08) should be withdrawn:
  - This misleading recommendation misinforms proponents of future terrestrial applications as to the availability of spectrum in an RNSS band, when none is realistically available.
  - Needlessly complicates RNSS spectrum defense.
  - Failing to remove Rec. 11(08) will require constant vigilance on the part of the world’s GNSS community.
Withdraw ECC Recommendation 11(08)!
Possible?  One Administration Changed “Yes” To “No”!

• ECC status database:  CEPT Administration(s) review of Rec 11(08)
  – “Implemented” by 14 Administrations so far
• One Administration changed to “No” after being informed that a National GNSS Operator publicly:
  – “...[d]oes not support civil/commercial terrestrial transmission in the GPS frequency bands due to the potential to degrade GPS performance”
  – Prompting a rhetorical question:
    • Could confirmation of GNSS PRN codes potentially imply some responsibility for commercial GNSS PL operating in the RNSS band?
• It is troubling that CEPT Telecom Administrations lack this information:
  – The USG could lead to:
    • Provide the National Operator’s position via the 2004 Joint Agreement to EU signatories, EC & CEPT
    • Seek to encourage, in cooperation with the EC, fully informed CEPT Administrations to also change to “No”.
  – If Rec 11(08) is incapable of use, then this is a basis for withdrawal
“GNSS – Is It Time For Backup?”
Theme For 2017 Munich SatNav Summit

• Potential contradiction?
  – As European governmental organizations consider systems that provide backup for GNSS usually to help ensure against jamming and spoofing
  – Some CEPT Administrations are allowing commercial PL--harmful interferers (& potential jammers and spoofers)—in the RNSS band

• “Government users are also concerned that uncontrolled use of these devices [commercial PL in RNSS bands] might negate the trust in the use of GNSS and therefore undermine the regulatory basis of any location-based applications.” See ECC Report 168 at 16, 4.1.1.

• Thus, withdrawal of ECC Recommendation 11(08) is fundamental to a discussion of GNSS backup systems.
RNSS L2 (1215 – 1300 MHz)

• **Satellites in the Earth Exploration-Satellite Service (active)**
  - May operate on a co-primary basis to RNSS in the 1215-1300 MHz band, but are effectively made secondary to RNSS in the 1215-1260 MHz segment of the band
  - Specific proposals for individual EESS (active) satellites are subject to case-by-case consideration between proponents and RNSS system operators.
  - Mechanisms for addressing potential aggregate interference to RNSS from multiple, overlapping EESS (active) satellites have not yet been developed in relevant technical fora (including the ITU-R and SFCG).