Introduction to National Spectrum Agencies and National Applications
Disclaimer

The views and opinions expressed herein do not necessarily reflect the official policy or position of any government agency
Purpose

• The International Telecommunications Union (ITU) regulates spectrum at the international level
  – Treaty Based Process
• At the national level, the spectrum is managed by each nation’s own management office
• The purpose of this presentation is to share a few examples of national spectrum management organizations and illustrate differences in allocation and protection with respect to the ITU
National Spectrum Agency

• National Spectrum Agencies are working to provide an environment in which anyone can safely use radio waves with peace of mind.

• National Spectrum Agencies play an important role, which is to improve/maintain the safety and reliability of radio-communication networks, by such as:
  - Maintaining national laws/regulations/guidelines
  - Managing radio licenses
  - Maintaining radio monitoring systems to counter illegal/unlicensed radio emissions
EU National Spectrum Agencies

- In the EU there is no overall agency responsible for spectrum across the EU
- EU Member States manage their own spectrum individually
- but, there is extensive cooperation both within the EU and in the pan-European collection of regulators "CEPT"
- EU regulators such as ANFR, BNetzA, Ofcom, and Ficora are very active within the EU and CEPT to coordinate European positions for discussion at ITU level
- The Radio Regulations form the basis for spectrum management in Europe
Japan’s National Spectrum Agency

- Telecommunication Bureau of MIC (Ministry of Internal Affairs and Communications) is responsible for spectrum management in Japan.
- In Japan, the Radio Regulatory Laws consist of Radio Law, Cabinet Ordinances and Ministerial Ordinances (such as Enforcement Regulations and Regulations for Radio Equipment).
- For Reference;
  http://www.tele.soumu.go.jp/e/index.htm
In the US

- There are three categories of allocations
  - Government (Federal)
  - Non-government (includes state and local)
  - Shared

- Spectrum is usually separated and is managed by different agencies
  - Government (Federal) spectrum: National Telecommunications and Information Administration (NTIA)
  - Non-Government (includes state and local) allocations Federal Communications Commission (FCC)
  - NTIA and and FCC coordinate actions for those bands that are “shared” as well as others
NTIA Organization

NTIA Manual

[Diagram of NTIA Organization structure with various departments and committees listed.]
FCC Structure

FCC Rules
Code of Federal Regulations 47

Telecommunication
International and National Allocations

- In general, the national frequency allocations and protections are aligned with the ITU table of frequency allocation and protection.
- However, they are not identical since each nation has sovereign rights to manage its own spectrum (as long as harmful interference into other countries’ radio services is not caused).
- Examples follow:
Example 1: US RNSS Allocations

- The US and International RNSS allocation is identical in the 1164-1215 MHz and 1215-1240 MHz frequency band but there is no US RNSS allocation in the 1240-1300 MHz band.
**Example 2: Spectrum Policy**

- **GNSS related Policies/Activities**

<table>
<thead>
<tr>
<th></th>
<th>Protection of GNSS receivers</th>
<th>Protection from Short-range devices</th>
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<tbody>
<tr>
<td>EU</td>
<td>According to the Radio Regulations</td>
<td>No regulation – no short range devices authorized</td>
</tr>
<tr>
<td>US</td>
<td>Rules to protect GNSS receivers but not from non-US satellites without waivers</td>
<td>-71.2 dBW/MHz EIRP density limit</td>
</tr>
<tr>
<td>Japan</td>
<td>Under development, to protect QZSS receivers</td>
<td>-94.3 dBW/MHz EIRP density limit</td>
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GNSS spectrum protection needs to be at both international and national levels