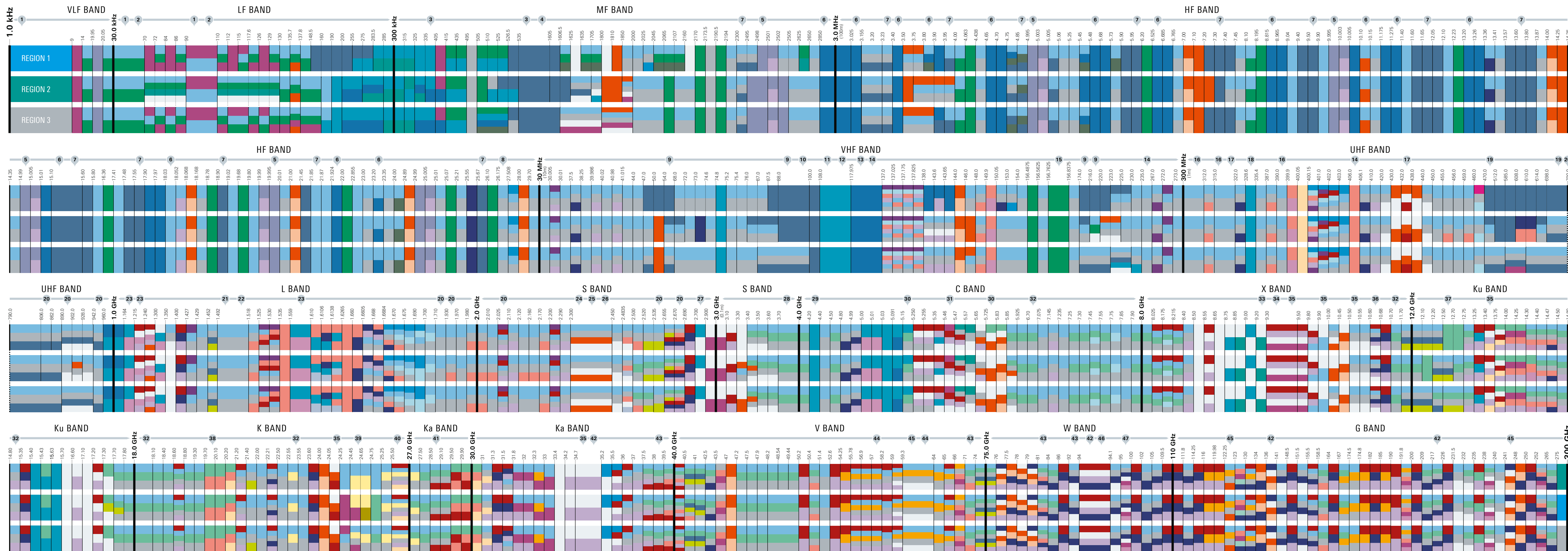




SPECTRUM ALLOCATIONS SATELLITE

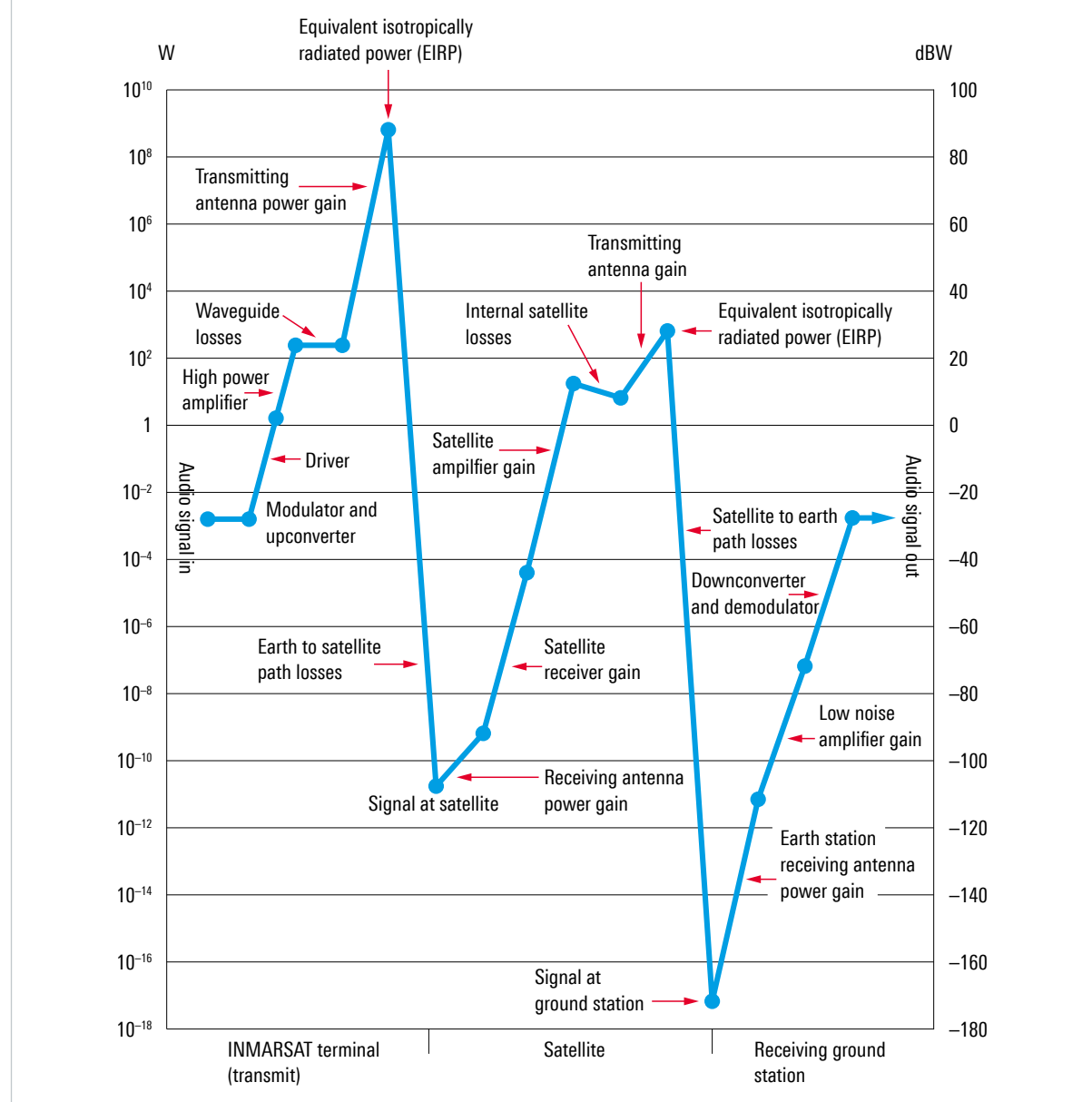
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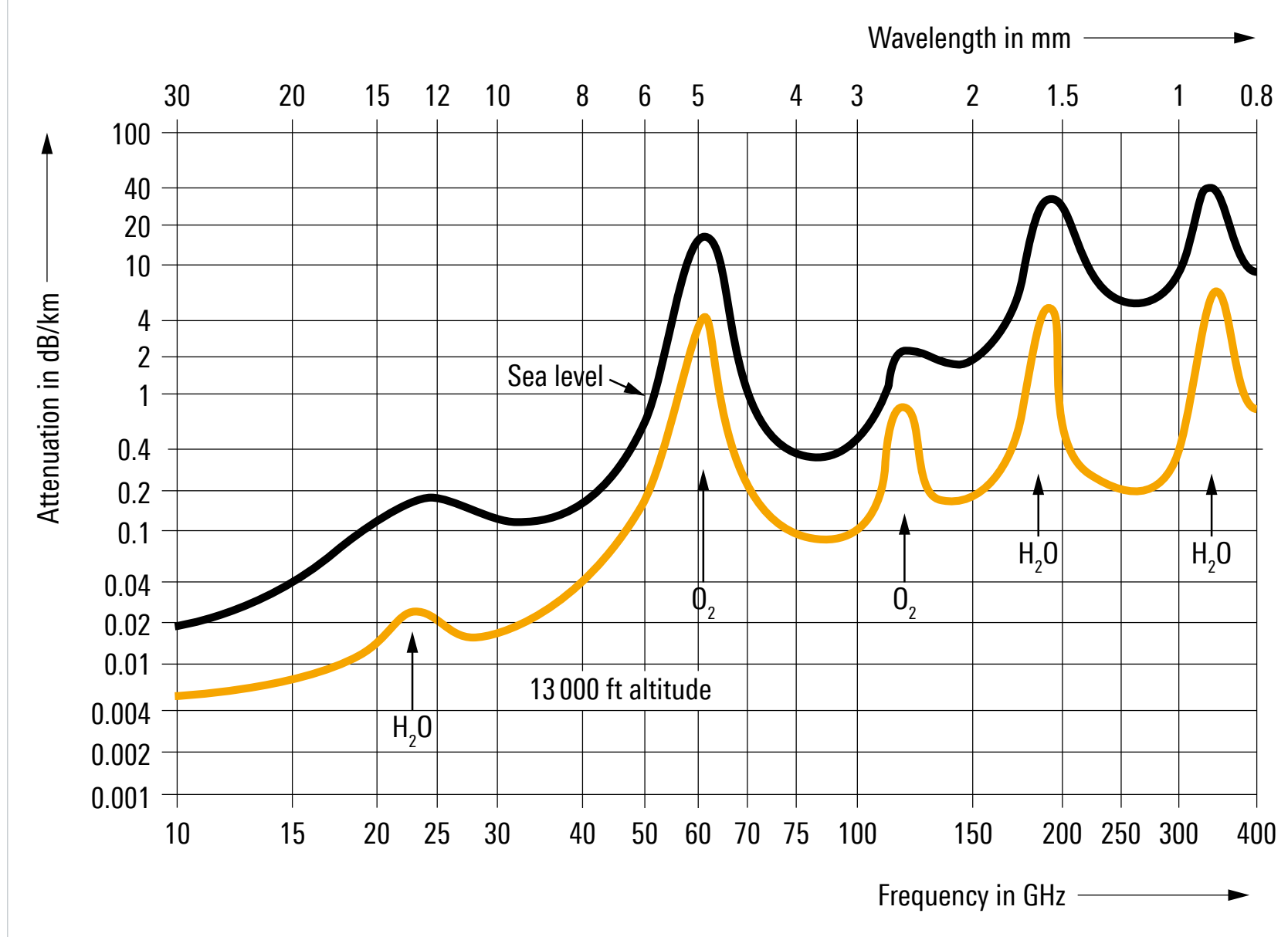
Selected points of interest

- 1 Underground Cable Locating Equipment
- 2 Power Line Communications
- 3 ADF Non-Directional Beacons (NDB)
- 4 AM Radio Broadcast
- 5 WWV Time Standard Signals
- 6 Major World Air Route Areas (MWARA)
- 7 International Shortwave Broadcasters
- 8 Citizen Band Radios (CB)
- 9 VHF Television (TV)
- 10 FM Radio Broadcast
- 11 VHF Omni-Directional Range (VOR)
- 12 Instrument Landing System (ILS – LOC)
- 13 Civil Aircraft Communications Radio
- 14 Emergency Position-Indicating Radio Beacon (EPIRB)
- 15 International Maritime Channels
- 16 Garage Door Openers
- 17 Automobile Remote Keyless Entry (RKE)
- 18 Aircraft Landing Glide Slope (GS)
- 19 UHF Television (TV)
- 20 Cellular Phone Bands
- 21 Distance Measurement Equipment (DME)
- 22 Aircraft ATC Radar Transponders (Mode S)
- 23 Global Navigation Satellite Systems (L5, L2, L1)
- 24 Broadcast Satellite Radio Services
- 25 Wireless Local Area Networks 802.11b & g
- 26 Bluetooth Personal Area Networks (PAN)
- 27 ATC Surveillance Radar
- 28 Satellite Television Broadcast
- 29 Aircraft Radar Altimeters
- 30 Wireless Local Area Networks (WLAN) 802.11a
- 31 Weather Radar – Large Aircraft
- 32 Point-to-Point Telecom Infrastructure
- 33 Weather Radar – Small Aircraft
- 34 Maritime Radar
- 35 Police Radar Speed Measurement
- 36 Radar Motion Detectors (Doors & Alarms)
- 37 Direct Broadcast Satellite
- 38 Fixed Satellite Service Space-to-Earth All Regions
- 39 Inter-Satellite Radiolocation
- 40 Inter-Satellite Frequency & Time Standard Reference
- 41 Fixed Satellite Service: Earth-to-Space All Regions
- 42 Atmospheric Attenuation Windows
- 43 Point-to-Point Data Links
- 44 Wireless Local Area Networks (802.11 ad)
- 45 Millimeter Wave ISM Bands
- 46 EHF – Full Body Scanners
- 47 Active Denial Systems (US DoD)

Satellite link power budget illustration

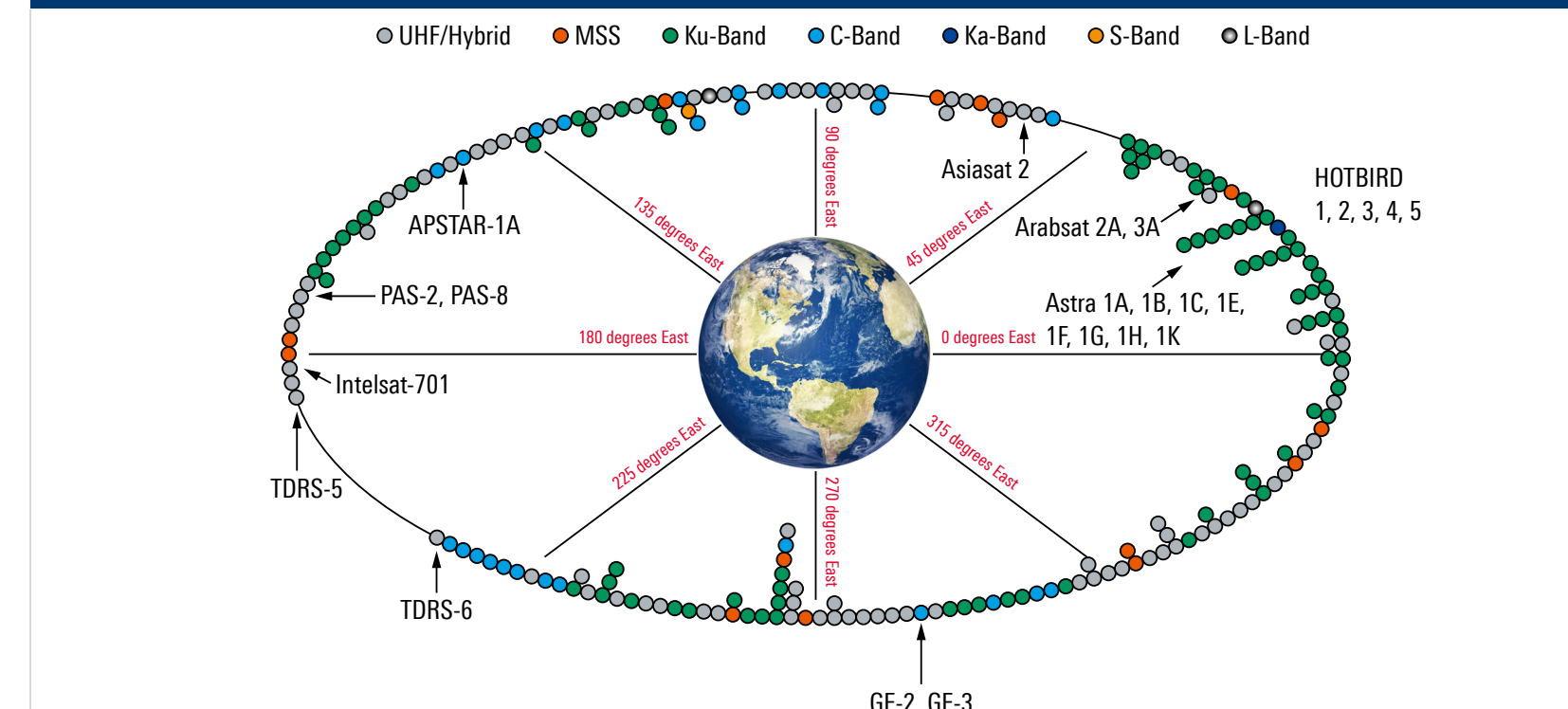


Atmospheric absorption



- | | | | |
|--|---|---|--|
| ■ Aeronautical Mobile | ■ Fixed | ■ Meteorological Aids | ■ Radionavigation |
| ■ Aeronautical Mobile Satellite | ■ Fixed Satellite | ■ Meteorological Satellite | ■ Radionavigation Satellite |
| ■ Aeronautical Radionavigation | ■ Inter-Satellite | ■ Mobile | ■ Space Operation |
| ■ Amateur | ■ Land Mobile | ■ Mobile Satellite | ■ Space Research |
| ■ Amateur Satellite | ■ Land Mobile Satellite | ■ Radio Astronomy | ■ Standard Frequency & Time Signal |
| ■ Broadcasting | ■ Maritime Mobile | ■ Radiodetermination Satellite | ■ Standard Frequency & Time Signal Satellite |
| ■ Broadcasting Satellite | ■ Maritime Mobile Satellite | ■ Radiolocation | |
| ■ Earth Exploration Satellite | ■ Maritime Radionavigation | ■ Radiolocation Satellite | |

Location of communication and weather satellites in a geostationary equatorial orbit



Selected Points of Interest are based on popular allocation applications, and may not be exhaustive or applicable for all nations. This chart represents a single point in time of the International Telecommunications Union (ITU) worldwide spectral allocations summarized in the US FCC Code of Federal Regulations. As such, it does not completely reflect all aspects such as footnotes and recent changes. Users should always consult their national regulatory body for current allocations. This chart does not differentiate between Co-PRIMARY and Secondary allocations. Allocations are listed from top to bottom in the order they appear in table 2.106. Horizontal scale has been exaggerated on some very narrow bands for readability.

Source: US FCC Online Table of Frequency Allocations, Code of Federal Regulations – Title 47, Section 2.106
Revised on December 12, 2012

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