

Tuesday Challenge for 29 April 2008

Here is the Tuesday Challenge for Namaste. Reply to the list to claim the task and post work. Draft document will be drawn up starting next Tuesday, when a new challenge will be posted.

Perform an Interference Study for Namaste Frequencies

First, here are the rules that as an amateur radio station we must comply with. Highlighted sections concern our particular intended transmit frequency band of 5650-5670 MHz. Assume 3400-3410 MHz for our downlink.

With a baseline of a DirecTV style half-meter dish and 10 W delivered to the antenna, do we have any potential interference problems (receive and transmit), and how can they be mitigated?

(k) No amateur station transmitting in the following segments shall cause harmful interference to stations in the radio astronomy service: 3.332-3.339 GHz, 3.3458-3.3525 GHz, 76-77.5 GHz, 78-81 GHz, 136-141 GHz, 241-248 GHz, 275-323 GHz, 327-371 GHz, 388-424 GHz, 426-442 GHz, 453-510 GHz, 623-711 GHz, 795-909 GHz, and 926-945 GHz. No amateur station transmitting in following segments shall cause harmful interference to stations in the Earth exploration-satellite service (passive) and space research service (passive): 275-277 GHz, 294-306 GHz, 316-334 GHz, 342-349 GHz, 363-365 GHz, 371-389 GHz, 416-434 GHz, 442-444 GHz, 496-506 GHz, 546-568 GHz, 624-629 GHz, 634-654 GHz, 659-661 GHz, 684-692 GHz, 730-732 GHz, 851-853 GHz, and 951-956 GHz.

(l) In the 9 cm band:

(1) In ITU Regions 2 and 3, the 9 cm band is allocated to the amateur service on a secondary basis. In ITU Region 1, the segment 3.4-3.475 GHz is allocated to the amateur service on a secondary basis for use only in Germany, Israel, and the United Kingdom.

(2) In the United States, the 9 cm band is allocated to the amateur and non-Federal radiolocation services on a secondary basis.

(3) In the 3.4-3.5 GHz segment, no amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations in the fixed and fixed-satellite services.

(4) In the 3.4-3.5 GHz segment, no amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the fixed and fixed-satellite service.

(m) In the 5 cm band:

(1) In the 5.650-5.725 GHz segment, the amateur service is allocated in all ITU Regions on a co-secondary basis with the space research (deep space) service.

(2) In the 5.725-5.850 GHz segment, the amateur service is allocated in all ITU Regions on a secondary basis. No amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the fixed-satellite service in ITU Region 1.

(3) No amateur station transmitting in the 5.725-5.875 GHz segment is protected from interference due to the operation of industrial, scientific and medical devices operating on 5.8 GHz.

(4) In the 5.650-5.850 GHz segment, no amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the radiolocation service.

(5) In the 5.850-5.925 GHz segment, the amateur service is allocated in ITU Region 2 on a co-secondary basis with the radiolocation service. In the United States, the segment is allocated to the amateur service on a secondary basis to the non-Government fixed-satellite service. No amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations authorized by other nations in the fixed, fixed-satellite and mobile services. No amateur station shall cause harmful interference to, nor is protected from interference due to the operation of, stations in the non-Government fixed-satellite service.