

Responses to Industry Comments September 7, 2001

Listed below are comments from industry followed by the Government's response:

1. Question: Re J1 2.2.2.10 Spurious Emissions.
Does the -80 dBm limit apply outside the signal mask of C/S T.001 2.3.4 Spurious Emissions? Is it measured in the same manner (One carrier on, no modulation, 100 Hz Resolution BW)? This seems to be very severe(-100dBc) in light of the rather modest spurious emissions requirements on the Beacon in CS T.001. This level of suppression will be a major cost driver in the Beacon Simulator Design.

Answer: The -80 dBm limit applies outside of the signal mask defined in C/S T.001 2.3.4. The -80 dBm limit does not apply to harmonics generated from individual beacon bursts or to intermodulation products generated from more than one simultaneous beacon transmission. The limit for harmonics and intermodulation products is 20 dB below the transmitted signal, both inside and outside of the signal mask described in C/S T.001 2.3.4. These limits are measured in a 100 Hz bandwidth, with carrier on, and no modulation.

2. Question: Re J1 2.2.2.7 Management of Collisions in time and frequency.
Is this a dedicated display or may it be called up on the operator console? What is the definition of "collision in frequency" ?

Answer. The specification does not say whether the display is to be dedicated or a user activated utility, so either approach is acceptable.

A collision can not be defined in terms of frequency alone. A collision occurs when two beacon bursts arrive at the spacecraft with any portion of the bursts overlapping in both time and frequency, with the overlap in frequency defined as any portion of the center frequency of one beacon burst plus or minus 1.7 kHz overlapping any portion of the center frequency of another beacon burst(s) plus or minus 1.7kHz . Since all beacon bursts transmitted from the beacon simulator are transmitted from the same location, they will all be subjected to the same amount of Doppler shift and arrive at the spacecraft with the same frequency relative to each other. The display should show collisions on a time vs. frequency display.