

Item 4

- (e) First Symbol: Modulation used is QPSK
 Second Symbol: COFDM
 Third Symbol: CD Quality sound and voice.
- (f) It is an ensemble of carriers with at total frequency bandwidth of 1.5 MHz.
- (g) Based on Eureka 147 Standards.

See 47 C.F.R. § 2.201 for symbol descriptions.

Description of Experiment (Item 10)

By this application, Satellite CD Radio, Inc. ("CD Radio"), will begin testing of S-Band terrestrial repeater ground stations for its satellite Digital Audio Radio Service ("DARS") system. The overall purpose of the requested experimentation is to finalize the engineering of CD Radio's terrestrial repeaters. CD Radio expects that this effort will yield significant new information about power levels required to ensure satellite DARS reception in urban "canyons" and near other obstacles and will permit, as well, measurement of out-of-band emissions from such terrestrial stations.

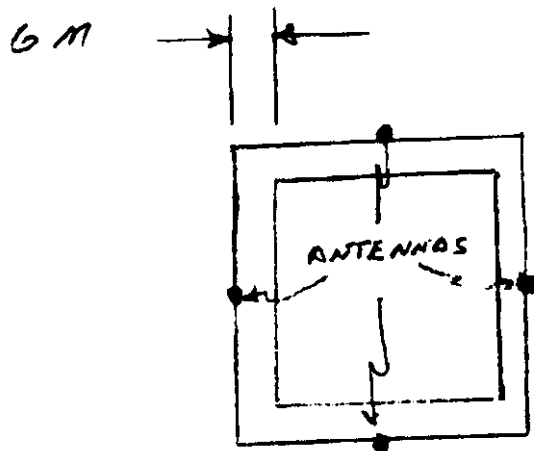
Specifically, CD Radio plans:

1. To measure objective (e.g., signal strength, delay speed, multipath, etc.) and subjective (e.g., music quality) transmission performance using parameter values of operational systems.
 - a) Measurements at S-band in CD Radio's licensed spectrum. No confirming measurements of terrestrial transmission performance for satellite DARS have yet been made.
 - b) Measurements in a severe urban environment. Houston is a particularly difficult propagation environment and, additionally, has subenvironments (e.g., "urban canyons", arid expanses, treed areas, etc.).
 - c) Measurements in the projected satellite DARS environment using transmitter sites suitable for the operational system with objective and subjective performance measured in a moving vehicle.
2. To optimize transmission parameter values particularly transmitter power and modulation.
 - a) Various power levels of the transmitters will be used with a maximum of 1000 watts.

- b) Modulation optimization will be checked, especially the number of subcarriers, their spacing and symbol guard time. Performance under doppler conditions will also be confirmed.
- c) Out-of-band emissions and spectral occupancy will be measured, including sidelobe regrowth due to transmitter non-linearity.

FCC FORM 442
EXHIBIT THREE
OCTOBER 1998

Vertical Profile Sketch (Item 15)



PENTHOUSE

