

WARNING! **RF RADIATION EXPOSURE HAZARD**

**This warning is provided by Broadcast Microwave Services (BMS) Inc. for safety purpose.
The following information help to reduce the risk of RF exposure hazard.**

FCC Limit of RF Exposure

According to Federal Communication Commission (FCC), the Maximum Permissible Exposure (MPE) for FR radiation has been set to 1.0 mW/cm^2 for the 7GHz Truck-Coder II equipment (OET Bulletin 65).

The 7GHz Truck-Coder II is a non-broadcast transmitter and without an antenna it will not create RF exposure (power density) exceeding the 1.0 W/cm^2 FCC limit. However a high-gain antenna such as a parabolic dish will greatly enhance the Field-Coder II output power density beyond the MPE limit of 1.0 mW/cm^2 .

In this situation a minimum distance from the antenna needs to be calculated in order to keep the MPE always below the safety limit. The calculation has been done for Field-Coder II based on the formula mentioned in OET Bulletin 56.

The calculations have been done for different commonly used antenna in Electronic New Gathering (ENG) systems.

Digital Transmission

Figure 1 shows the plot of the minimum exposure distance for 0dBi, 5dBi, 16dBi, and 30dBi antennas. The 7GHz Truck-Coder II transmits the maximum power of 4 Watts. The minimum exposure distances are found from the cross points of the exposure graphs (for various antennas) with the line of maximum permissible exposure (i.e. 1 W/cm^2). Notice that the numbers in Figure 1 predict the worse case scenario, which is straight in front of the antenna (exposing to the antenna main-lobe). Obviously the side-lobe exposures are well below these numbers as the radiation intensity dramatically reduces on the side lobes. The antenna used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

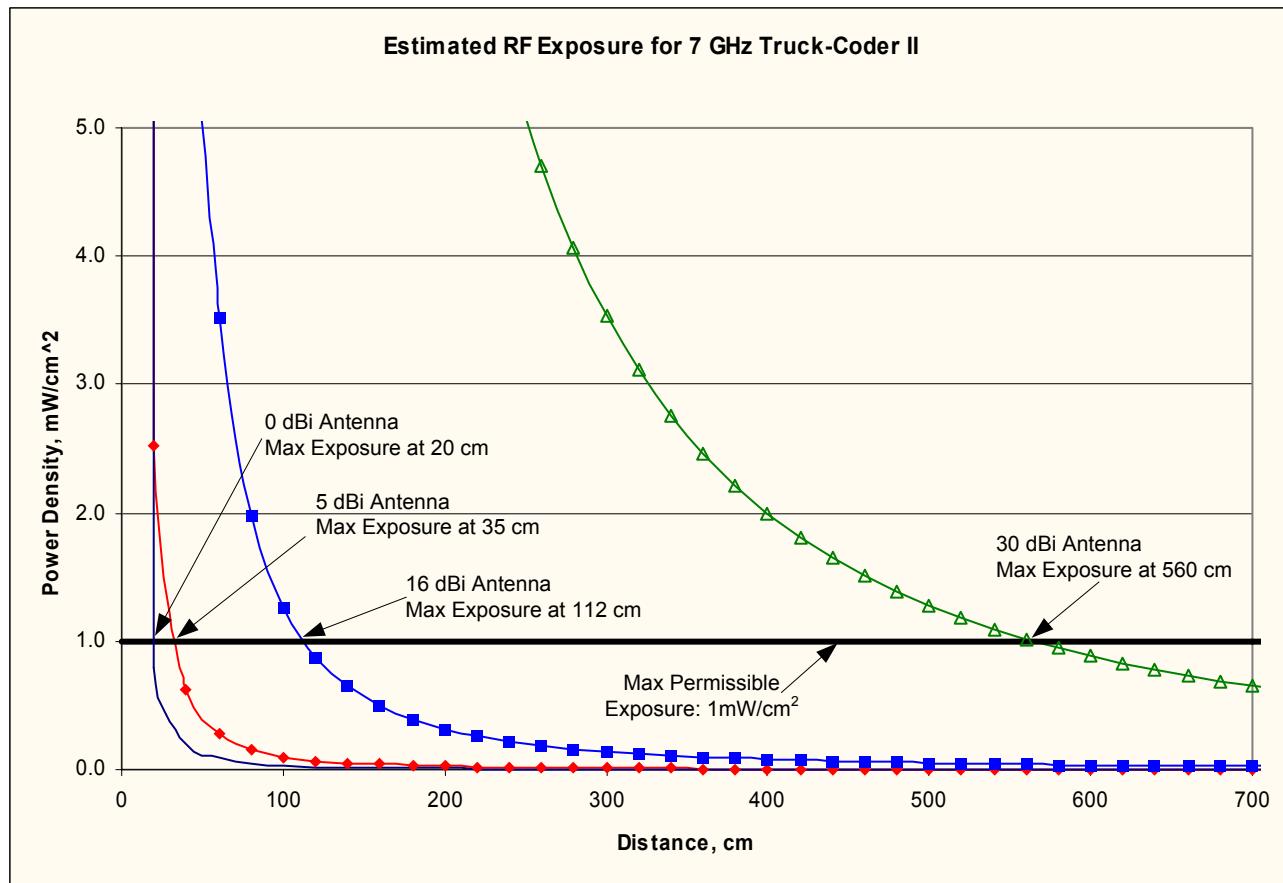


Figure 1

Summary

In order to keep the RF exposure within the FCC limit, it is necessary to maintain the safe distance from the antenna. The results shown in Figures 1 can be summarized in the following table:

Antenna Gain (dBi)	Minimum permissible distance from antenna (cm)
0	20
5	35
16	112
30	560

Notice the above table indicates worst-case situation (straight in front of the antenna).