

RF Worksheet #1 – FM (including translators & boosters)

PLEASE COPY BEFORE USING. THE DETERMINATION OF COMPLIANCE MAY INVOLVE REPEATED CALCULATIONS. IF LOCATED ON A MULTIPLE FM USER TOWER, PLEASE COMPLETE RF WORKSHEET 1A BEFORE PROCEEDING.

EFFECTIVE RADIATION CENTER HEIGHT

Enter proposed "height of radiation center above ground" OR as listed in Line 1 _____ m (1)
of Worksheet 1A.

Is antenna supporting structure located on the roof of a building? (check one) Yes No (2)

If Line 2 is "Yes" enter the building height measured at the base of the antenna supporting structure in Line 3

If Line 2 is "No" enter "0" in Line 3..... _____ m (3)

Subtract Line (3) from Line (1)..... _____ m (4)

Subtract the value 2.0 from Line (4)..... _____ m (5)

TOTAL EFFECTIVE RADIATED POWER

(If "beam tilt" is utilized, list maximum values)

List Effective Radiated Power in the Horizontal Plane..... _____ kW (6)

List Effective Radiated Power in the Vertical Plane..... _____ kW (7)

Add Lines (6) and (7) OR list value from Line 2 in Worksheet 1A..... _____ kW (8)

PERCENTAGE OF FCC RF LIMIT(S) FOR MAXIMUM PERMISSIBLE EXPOSURE

Multiply Line (8) by 33.41 _____ (9)

Multiply the value listed in Line (5) by itself..... _____ (10)

Divide Line (9) by Line (10) _____ (11)

Multiply Line (11) by (100) _____ (12)

DETERMINATION OF COMPLIANCE WITH CONTROLLED/OCCUPATIONAL LIMIT

Does Line (12) exceed 100%..... Yes No (13)

IF YOU ANSWERED "YES" IN LINE (13), THE WORKSHEETS MAY NOT BE USED IN THIS CASE.*

IF YOU ANSWERED "NO" IN LINE (13), THEN THE SITE SHOULD COMPLY WITH THE FCC'S CONTROLLED/OCCUPATIONAL RF EXPOSURE LIMITS FOR GROUND LEVEL EXPOSURE

***In this case, you may need to prepare an Environmental Assessment.** See Instructions for Section III-C FCC Form 301.

DETERMINATION OF COMPLIANCE WITH THE UNCONTROLLED/GENERAL POPULATION LIMIT

Does Line (12) exceed 20%..... Yes No (14)

IF YOU ANSWERED “NO” IN LINE (14), THEN THE SITE SHOULD COMPLY WITH THE FCC’S UNCONTROLLED/GENERAL POPULATION RF EXPOSURE LIMITS FOR GROUND LEVEL EXPOSURE. NO FURTHER STUDY REQUIRED.

IF YOU ANSWERED “YES” IN LINE (14), CONTINUE.

ROOFTOP WITH RESTRICTED ACCESS.

If you answered “YES” in Line (14) and “YES” in Line (2) (indicating that the tower is located on the roof of a building), and the general public is not allowed access to the rooftop level, repeat lines 5 through 12, entering the value in Line (1) directly in Line (4). (If Multiple FM Use tower, recalculations should be in accordance with instructions on Worksheet #1A.) **Otherwise, go to the next section.**

Upon recalculation, does Line (12) exceed 20%..... Yes No (15)

IF YOU ANSWERED “YES” IN LINE (15), THE WORKSHEETS MAY NOT BE USED IN THIS CASE. *

IF YOU ANSWERED “NO” IN LINE (15), THEN THE AREA AT GROUND LEVEL SHOULD COMPLY WITH THE FCC’S UNCONTROLLED/GENERAL POPULATION EXPOSURE LIMIT. NO FURTHER STUDY REQUIRED.

ACCESS TO BASE OF TOWER RESTRICTED BY FENCING.

If the tower is not located on the roof of a building, is the base of the tower surrounded by fencing or other restrictive barrier and are appropriate warning signs posted on the fence that adequately detail the nature of the RF exposure environment contained therein?.....

Yes No (16)

IF YOU ANSWERED “NO” IN LINE (16), THE WORKSHEET MAY NOT BE USED IN THIS CASE.*

If you answered “Yes” in Line (16), what is the distance from the base

of the tower to the fence or barrier at its nearest point..... _____ m (17)

Multiply Line (9) (as calculated previously) by 5..... _____ (18)

Subtract Line (10) (as calculated previously) from Line (18)..... _____ (19)

Take the square root of Line (19)..... _____ m (20)

Is Line (20) less than or equal to Line (17)..... Yes No (21)

IF YOU ANSWERED “YES” IN LINE (21), THEN THE RF FIELD OUTSIDE THE FENCE COMPLIES WITH THE FCC’S UNCONTROLLED/GENERAL POPULATION EXPOSURE LIMIT. NO FURTHER STUDY REQUIRED.

IF YOU ANSWERED “NO” IN LINE (21), THE WORKSHEETS MAY NOT BE USED IN THIS CASE.*

*** In this case, you may need to prepare an Environmental Assessment.** See instructions for Section III-C of FCC Form 301.

RF WORKSHEET #1A –Multiple FM Use Tower

The procedure below will allow for a “worst-case” determination to be made in situations where several FM stations share a common tower. This determination is based upon the “worst case” assumption that all RF energy is emanating from a single antenna located at the same height (i.e., antenna center of radiation above ground level) as the lowest user on the tower.

Complete for all call signs.

For each call sign, **the total** of the Horizontal and the Vertical ERP’s must be used. If “beam tilt” is utilized, list maximum values.

COLUMN 1 CALL SIGN	COLUMN 2 HEIGHT OF ANTENNA RADIATION CENTER ABOVE GROUND LEVEL	COLUMN 3 TOTAL EFFECTIVE RADIATED POWER (HORIZONTAL AND VERTICAL)
	meters	kilowatts
	meters	kilowatts
	meters	kilowatts
	meters	kilowatts
	meters	kilowatts
	meters	kilowatts

List the smallest value in Column 2..... _____ m (1)

List the total of all values in Column 3..... _____ kW (2)

**The value listed in line (1) above must be used in line (1) on Worksheet 1.
The value listed in line (2) above must be used in line (8) on Worksheet 1.**

Now complete worksheet 1 (except for lines 6 and 7).