

Strays – Emissions exposure limits

On 04 December 2019 the FCC published a [proposed set of updated rules](#) for declaring RF (radio frequency) exposure compliance by each broadcast and amateur radio station. The rules went into effect on 03 May 2021 and asked all broadcast and amateur stations to provide proof of compliance by 03 May 2023. To be clear, the allowable RF exposure limits hadn't change, but ***the need to prove that your station meets those limits had***. Previously, specific types of typical amateur radio setups were exempt from the need to demonstrate compliance with the exposure rules, but now the exemptions are made based on your ability to show that your station doesn't need an evaluation. Fortunately, the evaluation for the non-exempted stations is simple for most installations.



Step 1 : Determine whether your station is exempt on one band

Assuming the worst-case (no feed line or instrumentation loss) power output, start with the ***maximum power level your radio can output*** on the band of choice. If that amount is less than the amounts listed in this table for the selected band, then your station is exempt from further evaluation, and you simply need to fill out [Worksheet A*](#) of the FCC form ***for each band on which you plan to operate*** that station, then ***repeat this for each radio***. File away these worksheets, as proof of your exemptions.

Band	Max (W)	Band	Max (W)	Band	Max (W)
160 meters	500	20 meters	225	10 meters	50
80 meters	500	17 meters	125	VHF	50
40 meters	500	15 meters	100	70 cm	70
30 meters	425	12 meters	75	33 cm	150

Step 2 : Perform the evaluation for your station on one band

First, divide the power level from Step 1 by 4, to calculate your reasonable worst-case ***average power*** on the band of choice. Next, research the ***gain of your station antenna***, which might not always be easy. Then, use the [VP9KF calculator](#) (there are others as well) to enter the average power, the antenna gain, and the highest operating frequency in MHz of the band in consideration. Using the online calculator you can also specify the distance of your antenna to humans, and immediately learn whether your station is in compliance, by a simple "Yes" or "No" in the results.

Fill out [Worksheet B*](#) of the FCC form ***for each band on which you plan to operate*** that station. For Step (G) use 50%, for Step (H) use $3/6 = 50\%$, and for Step (I) use $15/30 = 50\%$. If you find that your station is not in compliance, you can re-run the evaluation by inserting more realistic values. File away the worksheets, as proof of your compliance evaluations.

** You might have noticed that the ARRL booklet that includes the worksheets is outdated. The worksheets themselves, however, are still valid as of this newsletter publication.*