

ADDITIONAL INFORMATION FOR AMATEUR RADIO OPERATORS

FCC Requires Amateur Applicants to Read the RF Safety Certification

The FCC requires all applicants to read the RF Safety Certification. Unfortunately, FCC has not provided this additional information in any of their instructions. As a courtesy, the ARRL VEC has provided the information you will need to read and must comply with.

The certification statement is: "I have READ and WILL COMPLY with Section 97.13(c) of the Commission's Rules regarding RADIOFREQUENCY (RF) RADIATION SAFETY and the amateur service section of OST/OET Bulletin Number 65."

FCC Rules and RF Safety Bulletin

FCC Section 97.13(c) reads: *Before causing or allowing an amateur station to transmit from any place where the operation of the station could cause human exposure to RF electromagnetic field levels in excess of those allowed under §1.1310 of this chapter, the licensee is required to take certain actions.*

- 1. The licensee shall ensure compliance with the Commission's radio frequency exposure requirements in §§1.1307(b), 2.1091, and 2.1093 of this chapter, where applicable. In lieu of evaluation with the general population/uncontrolled exposure limits, amateur licensees may evaluate their operation with respect to members of his or her immediate household using the occupational/controlled exposure limits in §1.1310, provided appropriate training and information has been accessed by the amateur licensee and members of his/her household. RF exposure of other nearby persons who are not members of the amateur licensee's household must be evaluated with respect to the general population/uncontrolled exposure limits. Appropriate methodologies and guidance for evaluating amateur radio service operation is described in the Office of Engineering and Technology (OET) Bulletin 65, Supplement B.*
- 2. If the routine environmental evaluation indicates that the RF electromagnetic fields could exceed the limits contained in §1.1310 of this chapter in accessible areas, the licensee must take action to prevent human exposure to such RF electromagnetic fields. Further information on evaluating compliance with these limits can be found in the FCC's OET Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields."*

Radio Frequency Exposure Rules - The Amateur Section of OET Bulletin Number 65:

In a lengthy 2019 *Report and Order* (<https://docs.fcc.gov/public/attachments/FCC-19-126A1.pdf>) the FCC has announced that rule changes detailed governing RF exposure standards go into effect on May 3, 2021. The new rules do not change existing RF exposure (RFE) limits but do require that stations in all services, including amateur radio, be evaluated against existing limits, unless they are exempted. For stations already in place, that evaluation must be completed by May 3, 2023.

After May 3, 2021, any new station, or any existing station modified in a way that's likely to change its RFE profile — such as different antenna or placement or greater power — will need to conduct an evaluation by the date of activation or change.

Amateur Service licensees can no longer avoid performing an exposure assessment simply because they are transmitting below a given power level. For most amateurs, the major difference is the removal of the categorical exclusion for amateur radio, which means that ham station owners must determine if they either qualify for an exemption or must perform a routine environmental evaluation. A table of simply calculated exemptions is the first thing Radio Amateurs should use to see if they need to perform additional calculations.

The table of exemption formulae (Table 2), can be used for any distance, R, from a person to any part of the antenna, greater than 0.16 x wavelength or 20 cm, whichever is larger. When the exemptions do not apply, there are several online calculators that allow hams to determine the RF exposure around their stations quickly when conducting an evaluation. The ARRL website has a link to one of them, the Lake Washington Ham Club online calculator.

www.lakewashingtonhamclub.org/resources/rf-exposure-calculator/

Although the FCC does not require hams to keep a copy of their RF safety evaluations, it's probably a good idea to have the evaluations on file.

Transmitter frequency (MHz)	Threshold ERP (watts)
0.3-1.34	$1,920 R^2$
1.34-30	$3,450 R^2/f^2$
30-300	$3.83 R^2$
300-1,500	$0.0128 R^2 f$
1,500-100,000	$19.2 R^2$

Note: R is in meters and f is in MHz.