

Complying with the Ofcom Licensing requirement on EMF for Marine Transmitters

Ofcom as part of their licensing require licence holders to calculate the safe distance from an Antenna while transmitting and keep a copy of these results with their Radio.

Ofcom Calculator web address: <https://www.ofcom.org.uk/manage-your-licence/emf/calculator>

For all radio Transmitters this applies when there are guests and passengers on board while the radio is transmitting. People who work on the vessel are not covered by this requirement and should be considered under Health and Safety regulations.

The requirement is for a calculation to be made based on the power (Watts) of the transmitter, the RF Frequency and for how long in a 6-minute period the transmitter is operated for.

Power (Watts) is based on the “mean” power of the transmitter and for a 150 Watt transmitter on SSB the mean power would be 30 Watts and this is the figure you would use when inputting the information into the Ofcom calculator.



FM and Data modes are equivalent in power so for a FM / Data transmitter of 25 Watts you would use 25 Watts and for a 150 Watt Marine Data Transmitter you would input 150 Watts into the calculator.

If the average use is not likely to be more than 2 in 6 minutes you should enter 2 in the maximum transmission time. If you believe you operate for longer increase the time ratio.

A 25 Watt FM transmitter on 156 MHz for 2 in 6 minute transmission would result in the Ofcom calculator stating: “Low power no further assessment required”.

For a 150 Watt SSB transmitter with a mean power of 30 Watts, on 12 MHz and **2 in 6 minute** the calculation would result in the same answer: “**Low power no further assessment required**”.

In the case of an insulated Backstay Antenna, connection to the antenna from the ATU above head height is recommended. For a HF Whip antenna, connection to the base above head height is also recommended.

For a 150 Watt Data transmission on 12MHz the likely on /off period of the transmitter would be 3 in 6 minutes and the power would be 150 Watts so the EMF compliance distance would be 3.98 Metres. This is the distance from a passenger / Guest to any part of the Antenna.

The example calculations above are for guidance and do not consider any losses from the feeder and a 0dBi Antenna Gain. *The Ofcom calculator should be set for EIRP for these examples.* **A detailed explanation on how to calculate the safe distance can be found here:**

<https://icomuk.co.uk/files/icom/PDF/radioGuide/Marine-MF-HF-VHF-UHF-Fixed-Installation-On-Vessels.pdf>

You should always refer to the installation guide notes supplied with the equipment as there may be additional safety measures required that are not covered above.

We would advise that you keep with the radio a notice on how the usage has been calculated.