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The Observing Tool (OT) version of the sensitivity calculator uses two distinct formulas depending on whether a double sideband (DSB) receiver is being used, or not. The equation used for the Java applet and the GUI that is accessible from within the OT is similar, but these are stand-alone applications that do not know the location of the image sideband and thus cannot perform a rigorous calculation of the contribution of this to the system temperature. In this case, the same equation is used for all receiver types and the DSB noise contribution is simply double the single sideband case.

A detailed description of all of the elements which contribute to the system temperature, with the relevant equations, can be found in Chapter "ALMA Sensitivity Calculator" of the [Technical Handbook](#).