The closed emitter of arbitrary form with the harmonic current is located in the air above the conducting plate containing n flaws of arbitrary form. It is required to obtain the exact analytical formula for the impedance change due to the presence of these flaws. For this purpose, the boundary problem of $n+1$ homogeneous Helmholtz equations in the non-homogeneous medium is transformed into the problem of one non-homogeneous Helmholtz equation in the homogeneous medium. The right-hand side of this equation contains n specified terms, which are non-zero only in the regions of the location of n flaws. After that the solution is written as a sum of unknown functions corresponding to the each of non-homogeneities and the Green's formula is used. As a result, the exact formula for the impedance change is obtained in the form of n triple integrals over the regions of corresponding non-homogeneities. The integrand of these integrals contains the scalar product of two vector potentials: the vector potential in the corresponding region in the absence of all flaws and the vector potential in the same region in the presence of one given flaw. It is noted that formula for impedance change used in literature is not correct for the particular case of the presence of one flaw in the conducting medium.