Proposed corrections to IEC 60050-561:2014

In the process of converting the mathematical equations in the Electropedia from images to MathML, the following errors in IEC 60050-561:2014 have been detected.

The current change request has been agreed with TC 49, *Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection*.

VT 60050 members are invited to comment individually on each of the proposals below.

Editorial corrections

E1) 561-03-02: It is proposed to correct to italic type the subscript "k" in the expression

Y_k are the average fractional frequency fluctuations obtained sequentially,

since "*k*" is a variable.

E2) 561-06-07 and 561-06-08: It is proposed to correct to italic type the subscript "T" to ε_{T} and l_{T} since it represents the variable temperature "*T*".

Published version:	Proposed corrected version:
$TC\varepsilon = \frac{\varepsilon_{\mathrm{T}} - \varepsilon_{\mathrm{ref}}}{\varepsilon_{\mathrm{ref}}(T - T_{\mathrm{ref}})} \times 10^6 \left[1 \times 10^{-6}/\mathrm{K}\right]$ where ε_{T} is the permittivity at temperature T;	$TC\varepsilon = \frac{\varepsilon_T - \varepsilon_{\mathrm{ref}}}{\varepsilon_{\mathrm{ref}}(T - T_{\mathrm{ref}})} \times 10^6 \left[1 \times 10^{-6}/\mathrm{K}\right]$ where ε_T is the permittivity at temperature T;
Published version:	Proposed corrected version:
$\alpha = \frac{l_{\mathrm{T}} - l_{\mathrm{ref}}}{l_{\mathrm{ref}}(T - T_{\mathrm{ref}})} \times 10^6 \left[1 \times 10^{-6}/\mathrm{K}\right]$ where l_{T} is the dimension at temperature T;	$\alpha = \frac{l_T - l_{\mathrm{ref}}}{l_{\mathrm{ref}}(T - T_{\mathrm{ref}})} \times 10^6 \left[1 \times 10^{-6}/\mathrm{K}\right]$ where l_T is the dimension at temperature T;

Technical corrections

T1) 561-01-74: An error was introduced in the final standard during its preparation for publication, and the equation in the published version (which is the equation from 561-01-66) is incorrect and shall be replaced as shown below:

Published version:	Proposed corrected version:
$f_{\mathrm{p}} = \frac{1}{2\pi\sqrt{L_1 \frac{C_1 C_0}{C_1 + C_0}}}$	$Q_{\mathrm{S}} = \frac{\omega_{\mathrm{r}} L_1}{R_1}$

T2) 561-05-03, Note 1 to entry: In English, it is proposed to correct the word "exited" to "excited".

In the following formula, it is proposed to correct the presentation of "a" and "i" to italic subscripts.

Published version:	Proposed corrected version:
$k = \sqrt{\frac{U\,\mathrm{a}}{U\,\mathrm{i}}}$	$k = \sqrt{\frac{U_a}{U_i}}$

T3) 561-06-03: For conformity with Note 2 to IEV 121-12-14:

Note 2 – Generally $\underline{\varepsilon}_{\mathrm{r}}$ is expressed as $\underline{\varepsilon}_{\mathrm{r}} = \varepsilon'_{\mathrm{r}} - \mathrm{j}\varepsilon''_{\mathrm{r}}$ where $\varepsilon'_{\mathrm{r}}$ is the real relative permittivity and $\varepsilon''_{\mathrm{r}}$ is the dielectric loss index which represents dielectric losses.

it is proposed to add the subscript "r" to ε' and ε'' in the equations:

Published version:	Proposed corrected version:
Note 1 to entry: The relative complex permittivity $\underline{\varepsilon}_{\mathrm{r}}$ is defined as $\underline{\varepsilon}_{\mathrm{r}} = \varepsilon' - j\varepsilon''$, $\varepsilon' = \mathrm{Re}(\underline{\varepsilon}_{\mathrm{r}})$, $\varepsilon'' = \mathrm{Im}(\underline{\varepsilon}_{\mathrm{r}})$ where ε' is the dielectric constant; ε'' is the dielectric loss of the material.	Note 1 to entry: The relative complex permittivity $\underline{\varepsilon}_{\mathrm{r}}$ is defined as $\underline{\varepsilon}_{\mathrm{r}} = \varepsilon'_{\mathrm{r}} - \mathrm{j}\varepsilon''_{\mathrm{r}}$, $\varepsilon'_{\mathrm{r}} = \mathrm{Re}(\varepsilon_{\mathrm{r}})$, $\varepsilon''_{\mathrm{r}} = \mathrm{Im}(\varepsilon_{\mathrm{r}})$ where $\varepsilon'_{\mathrm{r}}$ is the dielectric constant; $\varepsilon''_{\mathrm{r}}$ is the dielectric loss of the material.

Remark: In 561-06-05 and 561-06-06, ε represents permittivity (IEV 561-05-12), and thus the subscript is not necessary.