

<u>Material</u>	<u>Composition</u>	<u>Initial mu</u>	max. mu	<u>R(ohms-cm)</u>
Ferroxcube3	MnZn Ferrite	1000 OK!	1500	>E6 ?

Is not <E6 ?

My reference (Engineering electromagnetics , W.H . Hayt , Jr / McGraw Hill,Inc.) gives $\epsilon_r = 3$ for Ferrite (typical). By the way , do you have references for the permittivity of the Ferrite?

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- The Final antenna current is : I_0 (max)= 68.8 A
 - Frequency : 5.6m Hz
 - Maximum output voltage : 15.1mV
 - Maximum output current : 68.8 A
 - Output impedance : $221\mu\Omega$
- } ELF oscillator

Efficiency nearly 100%

$$e = R_r / R_r + R_{ohmic} = 2.2 \times 10^{-4} / 2.2 \times 10^{-4} + 10^{-13} \approx 1$$

$$z_0 = 1455 \text{ m}$$

$$R_r = \frac{z_0^2}{6\pi\sigma_f} \left(\sqrt{\frac{\mu_f \sigma_f \omega}{2\epsilon_{rf}}} \right)^3 \approx 2.2 \times 10^{-4} \Omega ; \mu_f = 1000 ; \sigma_f = 0.01 \text{ S/m} ; f = 0.0056 \text{ Hz}$$