SUPPLEMENTAL INFORMATION IN FINAL INVESTIGATION

Transformer Supplemental Information

So Professor Aquino used a Transformer, which was designed to deliver a maximum Power of 2886 Watt, if it was necessary.

But he used only the 41,86% of the Maximum Power of the Transformer, which it was able to deliver to the matched Load (Torus Antenna).

So how did he manage the Power from the Transformer?

It is known, even in welding Transformer, that the Power can be adjust by the core of the Transformer. If the core is all inside the Transformer coils, then the Power is maximum to the Secondary coil .If the core is half inside the Transformer coils, then the Power in the Secondary is half also (if I am not wrong).

Half the Power, does not mean half the Voltage, because the division of the turns in Primary to Secondary, does not change and it is 12/2.When we measure to the ends of the Secondary we measure and the voltage on the impedance of the Secondary of the Transformer.That means:

$$U_{Polar} = U_{Sec} - I \cdot Z_{Sec},\ U_{Polar}\ is\ measured\ by\ the\ Voltmeter$$

So the voltage of the secondary does not change, but only the Polar Voltage is changed because of the running current, through the impedance of the secondary.So without Load to the Secondary, the Polar Voltage is equal to the Secondary voltage.The above fact is known for the batteries and the Power Supplies.

So we must calculate what was the impedance of the secondary the time that the Transformer was delivering 1208,10 Watt.Then we have the following:

$$\frac{n_1}{n_2} = \frac{12}{2} = \frac{U_1}{U_2} \Rightarrow U_2 = \frac{220V}{6} = 36,6V_{rms}\ ,where\ U_2 = U_{Sec}$$

$$I_{rms(Sys\ G\ Gravity\ Shielding)} = \frac{U_2}{Z_{sec} + R_r} \Rightarrow$$

$$Z_{sec} = \frac{U_2 - R_r \cdot I_{rms(Sys\ G\ Gravity\ Shielding)}}{I_{rms(Sys\ G\ Gravity\ Shielding)}}$$

Now for:

$$I_{rms(Sys\ G\ Gravity\ Shielding)} = \frac{I_o}{\sqrt{2}} = \frac{144,95}{\sqrt{2}} \simeq 102,5A$$

$$U_2 = 36,6V \ and \ R_r = 0,115OHM$$

$$Z_{sec} \simeq 0,242 \ OHM \ or \ Z_{sec} \simeq 242 \ mOHM$$

This impedance is almost two times the Radiation Resistance of the Torus Antenna.

Now what means by all that.

It means that we can use any almost welding Transformer to drive the Antenna.

The most of the classic Welding Transformers have a secondary voltage between 20-40 Volt rms and an impedance in the secondary between 50mOHM to 300mOHM if the Core is totally inside the coils.(Means Full Power)

So the Transformer can be any Welding Transformer from 2000VA and beyond as I can calculate.I have a Welding Transformer of 3000VA with a secondary voltage of 20 Volts rms.I have this Transformer for some years.That means, when core is adjust for full power, the secondary has an impedance of 133mOHM almost.Because 133mOHM is almost 115mOHM as the Antenna, the maximum delivered power will be almost 3000VA/4=750 Watt.Means that the total weight of System G will be reduced to almost 16,5Kgr, by my diagram.

But if we use a 2000VA or 3000VA transformer, we will not see the null of the total weight of System G, but a less effect .Sure it will loose some kgr. But this is and the proof, if all the other are right, that Aquino's experiment works.

And more it is not needed as conclusion to match the impedance of the secondary with the Antenna.

So to see a decrease of about 1Kgr, we must have almost a current of 40A/sqrt(2)=28,28Arms, running trough the Torus Antenna of 115 mOHM.

I know I did not use any calculations about the losses of Power in wires and the core. This is not a problem, because the wires have some microOHM resistance and all the cores today, have layers of Iron, to reduce the losses, by the eddy currents. So the losses will be some Watts and not important to consider.

CONCLUSION

The Transformer is not the problem, because we can find it, very easy in a store, which has General Electrological equipment and materials.

Steps to consider for a right construction:

- **Right scheme of the Antenna wires.**
- **The Iron powder must has the required or almost the required conductivity and relative Magnetic Permeability.**
- **The test of the Antenna Radiation Resistance with the Iron Powder and the cables, can be done out of the Shield Iron, in any plastic container. This is because the container does not take place in the Radiation Resistance, but only the Iron Powder and the Wires.**
- **When we would have managed a very close Radiation Resistance or double or three times the required, we continue to the next difficult step, which is the Shield Iron, with the High Relative Magnetic Permeability. A point to consider is the powder not to be oxidized because it will decrease the conductivity.**
- **Now here is the difficult step.With some way we must find pure Iron or Mumetal with the value of 25000 of Relative Magnetic Permeability. If we find 20000, I think it will not be a problem. By my investigation we have all the right formulas to adjust the experiment to work even with low efficiency, than the described by Aquino.**

I hope my investigation to become a very good guide for somebody to achieve the experiment.

Best Regards

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