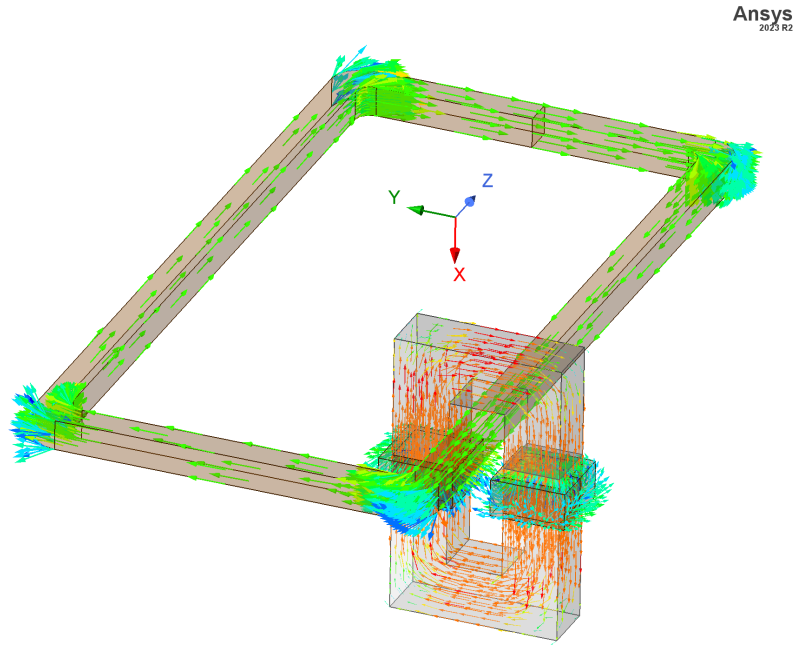
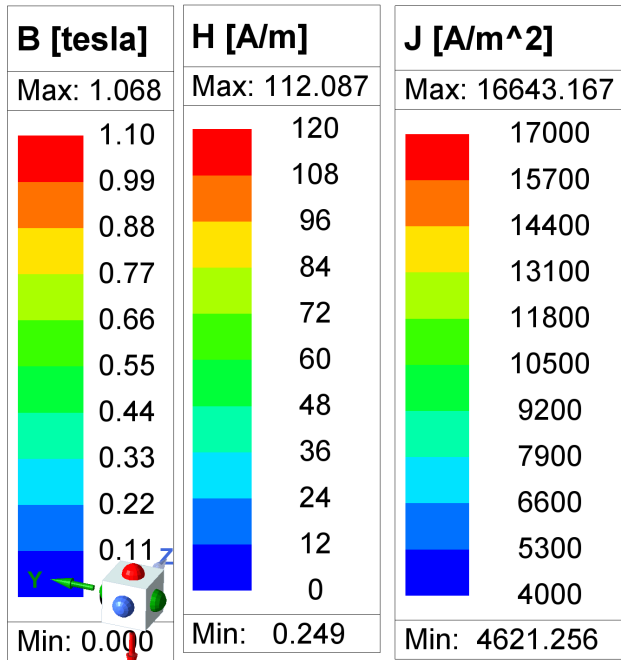


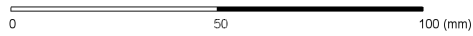
TFG_Z03_TR_A-phi_OutCoil_5_100mA-20t

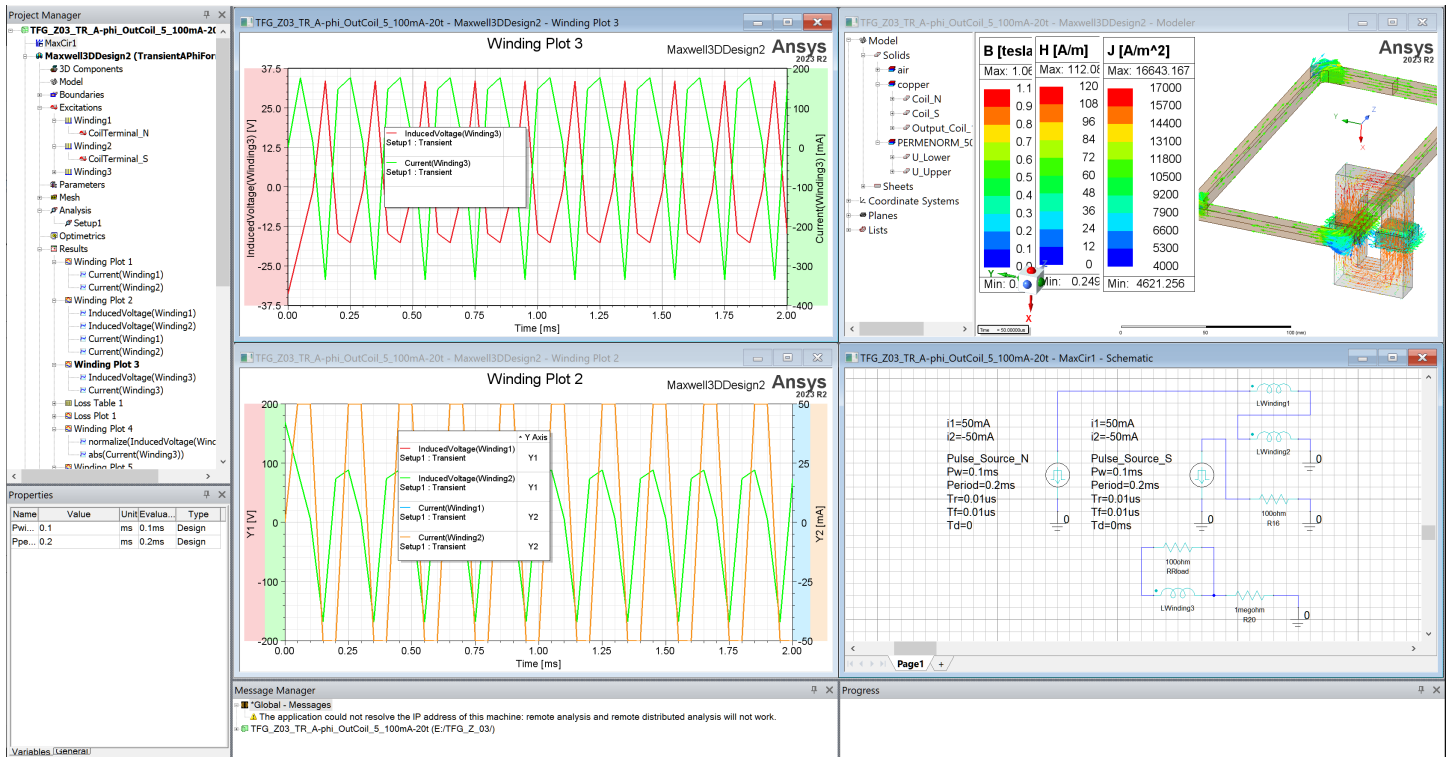
Typical "TF LinGen V2 Design"

Please note that this "Invention" is subject to one or more Provisional Patent Applications but you are free to build various devices and experiment with the concepts!



Time = 50.000000us

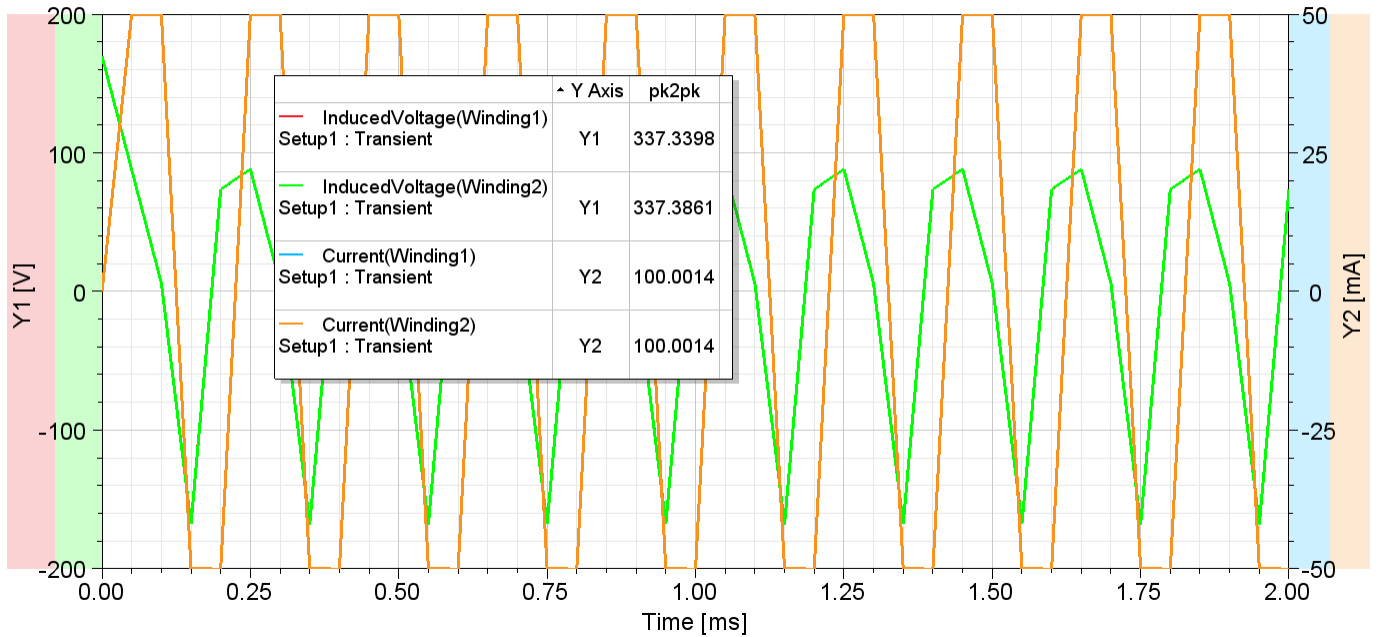




20 turns 100mA -> In = 0.3W Out = 34.2W (Source is 3.0V x 100mA = 0.3W)

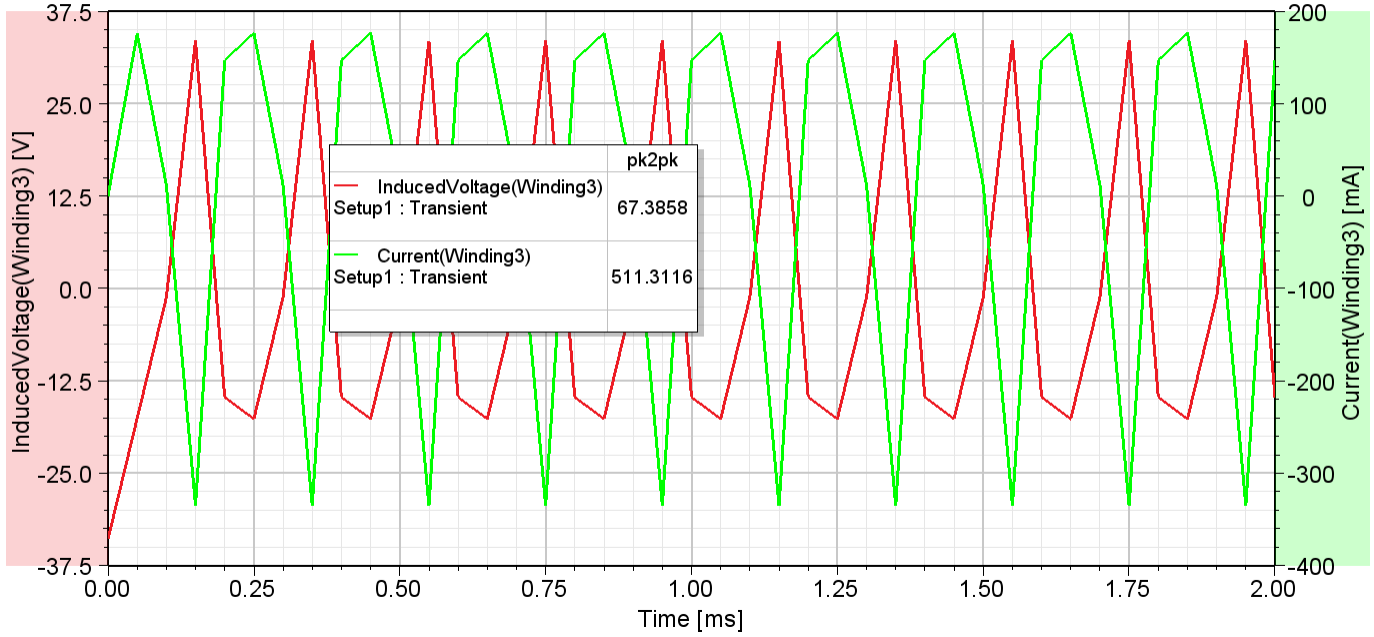
Winding Plot 2

Maxwell3DDesign2 Ansys 2023 R2



Winding Plot 3

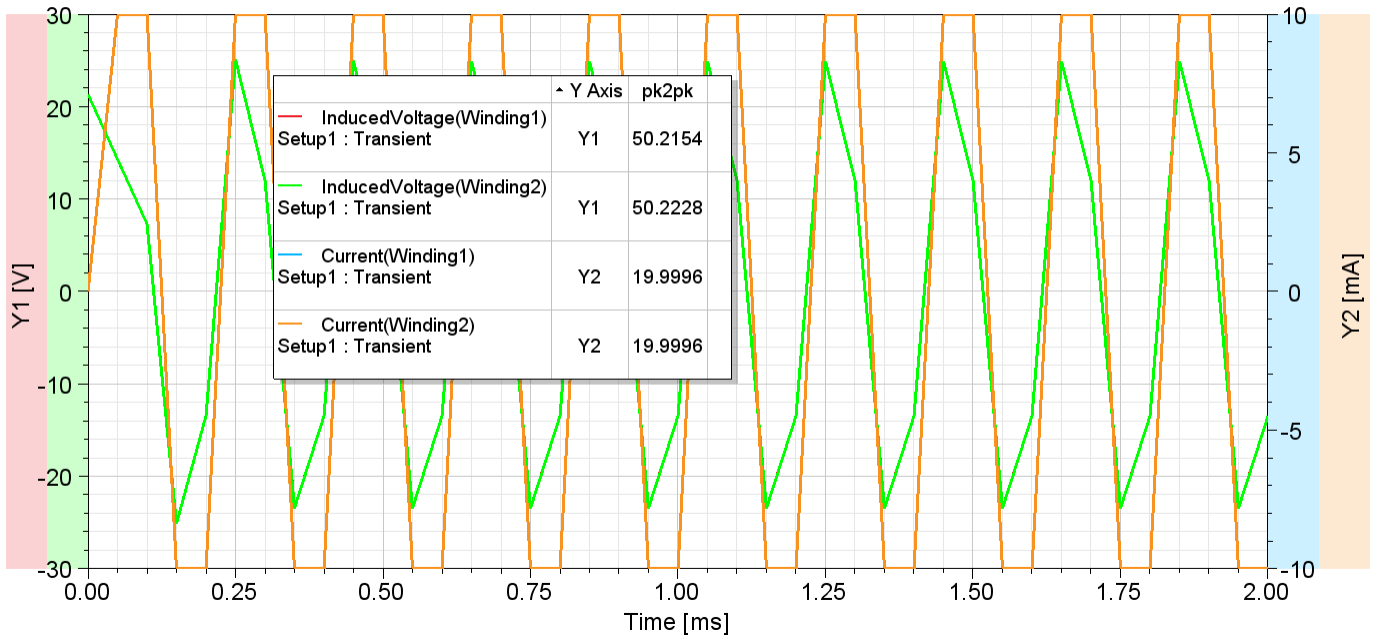
Maxwell3DDesign2 **Ansys**
2023 R2



20 turns 20mA -> In = 0.06W Out = 1.0W

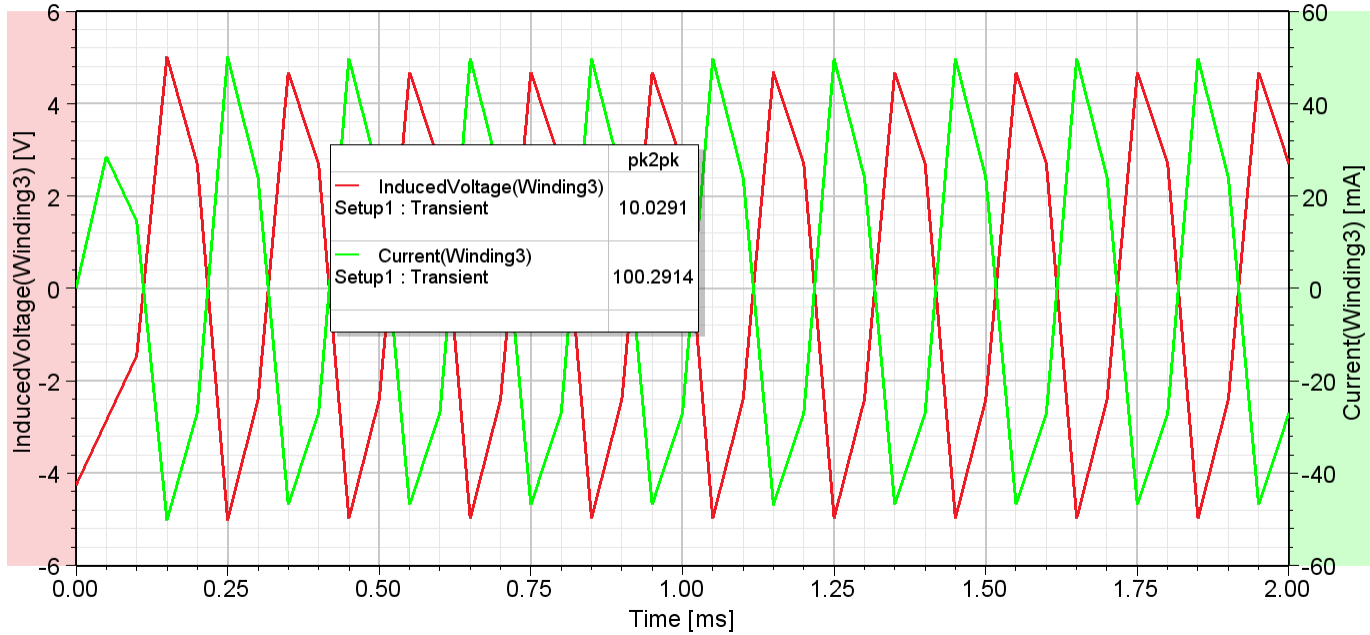
Winding Plot 2

Maxwell3DDesign2 **Ansys**
2023 R2



Winding Plot 3

Maxwell3DDesign2 **Ansys**
2023 R2



REV 01

This revision replaces the "In" values with a realistic value of 20mA or 100mA generated from a 3.0V source for example; a SupperCapacitor or other quick charge rechargeable battery (Li-Graphene, etc.).
 $P (W) = V (volts) \times I (amps) \quad [P=V \times A]$. In the analysis the current (I) is fixed at 20mA or 100mA.

Power for the "In" is **3.0V X 20mA = 0.06W** and **3.0V X 100mA = 0.3W**
[Data based on CAE trial test runs]

40 turns 20mA -> In = 0.06W	Out = 8.04W	+ 2.3W	4 turns Output Coil 100 ohm R Load
60 turns 20mA -> In = 0.06W	Out = 20.9W	+ 20.8W	4 turns Output Coil 100 ohm R Load
100 turns 20mA -> In = 0.06W	Out = 33.9W	+ 33.8W	4 turns Output Coil 100 ohm R Load
<u>20 turns 100mA -> In = 0.3W</u>	<u>Out = 34.2W</u>	<u>+ 33.9W [~33:1]</u>	4 turns Output Coil 100 ohm R Load
10 turns 100mA -> In = 0.3W	Out = 14.8W	+ 14.5W	4 turns Output Coil 100 ohm R Load
10 turns 40mA -> In = 0.12W	Out = 0.94W	+ 0.82W	4 turns Output Coil 100 ohm R Load
30 turns 30mA -> In = 0.09W	Out = 20.8W	+ 6.5W	4 turns Output Coil 100 ohm R Load
60 turns 100mA -> In = 0.06W	Out = 64W	+ 64W	4 turns Output Coil 100 ohm R Load

15 turns 100mA -> In = 0.06W	Out = 27.4W + 27.4W	4 turns Output Coil	100 ohm R Load
10 turns 200mA -> In = 0.20W	Out = 34.4W + 34.2W	4 turns Output Coil	100 ohm R Load
40 turns 50mA -> In = 0.05W	Out = 34.2W + 34.2W	4 turns Output Coil	100 ohm R Load

=====

20 turns 100mA -> In = 0.3W	Out = 0.5W	+ 0.2W	60 turns Output Coil	100 ohm R Load
20 turns 100mA -> In = 0.3W	Out = 1.0W	+ 0.7W	40 turns Output Coil	100 ohm R Load
20 turns 100mA -> In = 0.3W	Out = 4.2W	+ 3.9W	20 turns Output Coil	100 ohm R Load
20 turns 100mA -> In = 0.3W	Out = 16.8W	+ 16.5W	10 turns Output Coil	100 ohm R Load
40 turns 100mA -> In = 0.3W	Out = 78.8W	+ 78.5W [~78:1]	10 turns Output Coil	100 ohm R Load
40 turns 100mA -> In = 0.3W	Out = 16.5W	+ 16.2W	20 turns Output Coil	100 ohm R Load
40 turns 100mA -> In = 0.3W	Out = 87.7W	+ 87.4W [87:1]	5 turns Output Coil	100 ohm R Load

=====

No design optimization - This is a WAG... A Single Pole (N & S) with the N Coil & S Coil in series.

=====

40 turns 100mA -> In = 0.3W	Out = 6.6W	+ 6.3W	5 turns Output Coil	10 ohm R Load
20 turns 100mA -> In = 0.3W	Out = 1.7W	+ 1.4W	5 turns Output Coil	10 ohm R Load
60 turns 100mA -> In = 0.3W	Out = 14.4W {1.2A}	+ 14.1W	5 turns Output Coil	10 ohm R Load
50 turns 100mA -> In = 0.3W	Out = 20.5W {2.0A}	+ 20.2W	5 turns Output Coil	5 ohm R Load
60 turns 100mA -> In = 0.3W	Out = 29.1W {1.2A}	+ 28.8W	5 turns Output Coil	5 ohm R Load
80 turns 100mA -> In = 0.3W	Out = 51.9W {3.2A}	+ 51.6W	5 turns Output Coil	5 ohm R Load
80 turns 100mA -> In = 0.3W	Out = 25.7W {1.6A}	+ 25.4W	10 turns Output Coil	10 ohm R Load
100 turns 100mA -> In = 0.3W	Out = 20.0W {2.0A}	+ 19.7W	10 turns Output Coil	5 ohm R Load

=====