```
** Coil 1 for SENSE Reconstruction Simulation
** Creator of file: Bing Keong Li, The University of Queensland.
** School of Information Technology and Electrical Engineering

** Variables
#scaling = .001

** By changing #s will adjust the distant from the dielectric sphere
#s=35

** The different dielectric properties for each layer of the 4 layer
** dielectric sphere
#sig_Scalp = 0.5248
#sig_Skull = 0.0977
#sig_CSF   = 2.270
#sig_Brain = 0.6160

#epr_Scalp = 35.867
#epr_Skull = 13.
#epr_CSF   = 70.3
#epr_Brain = 48.8

#r_scalp = 90
#r_skull = 88
#r_CSF   = 74
#r_brain = 60


**   Frequency and wavelength
#freq = 85e6                ** frequency in Hertz
#lambda = #c0/#freq     ** wavelength in metre,  #c0 = speed of light in vacuum
#lambda = #lambda/#scaling  ** scale the wavelength as desired (e.g. to mm)

** Parameters for segmentation
#seg_rad = 1.6  ** radius of the wire segments
#seg_len = 10   ** maximum length of wire segments
#tri_len = #lambda/20 ** maximum edge length for triangular patches
IP                          #seg_rad  #tri_len  #seg_len

**Applying the scaling factor
SF   1                      #scaling

** Define the points
DP   A                      85+#s     -#s       60
DP   B                      85+#s     -#s       2.5
DP   C                      85+#s     -#s       -2.5
DP   D                      85+#s     -#s       -60
DP   E                      44.5+#s   -40.5-#s  -60
DP   F                      40.5+#s   -44.5-#s  -60
DP   G                      #s        -85-#s    -60
DP   H                      #s        -85-#s    -2.5
DP   I                      #s        -85-#s    2.5
DP   J                      #s        -85-#s    60
DP   K                      40.5+#s   -44.5-#s  60
DP   L                      44.5+#s   -40.5-#s  60

**Connecting all structure points
BL   A    B
BL   C    D
BL   D    E
BL   F    G
BL   G    H
BL   I    J
BL   J    K
BL   L    A

LA   101
BL   B    C                 0.5       0.5
```

```
LA   102
BL   E    F                    0.5       0.5
LA   103
BL   H    I                    0.5       0.5
LA   104
BL   K    L                    0.5       0.5

** End of geometric input
EG   1    0    0    0    0
PS        0    0    1    0

** Set the frequency
** FR   51   0                   80e6                90e6
FR   1                          85e6

** The distributed capacitance value for each coil element
** so that each coil is resonating at 85MHz
LS   101                                              40.0e-12
LS   102                                              39.0e-12
LS   103                                              40.0e-12
LS   104                                              39.0e-12


** Setting the 4 layer dielectric sphere
GF   4                    0    #r_scalp  #epr_scalp1.000     #sig_scalp
                               #r_Skull  #epr_skull1.001     #sig_skull
                               #r_CSF    #epr_CSF  1.002     #sig_CSF
                               #r_brain  #epr_Brain1.003     #sig_Brain


** Voltage gap excitation at a segment
A1   0    102                 10        90

** Calculate surface currents for current display
** (For large models this will cause huge output files)
OS   3


** Near fields calculated with the FE card, nnumber of pixel is 128 by 128
FE   2    128  128  1    0    -60       -60       60        0.9375    0.9375
0


** End
EN


*******************************************************************************

** Coil 2 for SENSE Reconstruction Simulation
** Creator of file: Bing Keong Li, The University of Queensland.
** School of Information Technology and Electrical Engineering

** Variables
#scaling = .001

** By changing #s will adjust the distant from the dielectric sphere
#s=35

** The different dielectric properties for each layer of the 4 layer
** dielectric sphere
#sig_Scalp = 0.5248
#sig_Skull = 0.0977
#sig_CSF   = 2.270
#sig_Brain = 0.6160

#epr_Scalp = 35.867
#epr_Skull = 13.
```

```
#epr_CSF   = 70.3
#epr_Brain = 48.8

#r_scalp = 90
#r_skull = 88
#r_CSF   = 74
#r_brain = 60


**   Frequency and wavelength
#freq = 85e6                ** frequency in Hertz
#lambda = #c0/#freq     ** wavelength in metre,  #c0 = speed of light in vacuum
#lambda = #lambda/#scaling  ** scale the wavelength as desired (e.g. to mm)

** Parameters for segmentation
#seg_rad = 1.6  ** radius of the wire segments
#seg_len = 10   ** maximum length of wire segments
#tri_len = #lambda/20 ** maximum edge length for triangular patches
IP                          #seg_rad  #tri_len  #seg_len

**Applying the scaling factor
SF   1                      #scaling

** Define the points
DP   A                      85+#s     #s        60
DP   B                      85+#s     #s        2.5
DP   C                      85+#s     #s        -2.5
DP   D                      85+#s     #s        -60
DP   E                      44.5+#s   40.5+#s   -60
DP   F                      40.5+#s   44.5+#s   -60
DP   G                      #s        85+#s     -60
DP   H                      #s        85+#s     -2.5
DP   I                      #s        85+#s     2.5
DP   J                      #s        85+#s     60
DP   K                      40.5+#s   44.5+#s   60
DP   L                      44.5+#s   40.5+#s   60

**Connecting all structure points
BL   A    B
BL   C    D
BL   D    E
BL   F    G
BL   G    H
BL   I    J
BL   J    K
BL   L    A

LA   101
BL   B    C                 0.5       0.5
LA   102
BL   E    F                 0.5       0.5
LA   103
BL   H    I                 0.5       0.5
LA   104
BL   K    L                 0.5       0.5


** End of geometric input
EG   1    0    0    0    0
PS        0    0    1    0

** Set the frequency
** FR   51   0                 80e6               90e6
FR   1                      85e6

** The distributed capacitance value for each coil element
** so that each coil is resonating at 85MHz
LS   101                                          40.0e-12
```

```
LS   102                                          39.0e-12
LS   103                                          40.0e-12
LS   104                                          39.0e-12


** Setting the 4 layer dielectric sphere
GF   4                   0    #r_scalp  #epr_scalp1.000     #sig_scalp
                              #r_Skull  #epr_skull1.001     #sig_skull
                              #r_CSF    #epr_CSF  1.002     #sig_CSF
                              #r_brain  #epr_Brain1.003     #sig_Brain


** Voltage gap excitation at a segment
A1   0    102                 10        90

** Calculate surface currents for current display
** (For large models this will cause huge output files)
OS   3


** Near fields calculated with the FE card, nnumber of pixel is 128 by 128
FE   2    128  128  1    0    -60       -60       60        0.9375    0.9375
0


** End
EN

*******************************************************************************

** Coil 3 for SENSE Reconstruction Simulation
** Creator of file: Bing Keong Li, The University of Queensland.
** School of Information Technology and Electrical Engineering

** Variables
#scaling = .001

** By changing #s will adjust the distant from the dielectric sphere
#s=35

** The different dielectric properties for each layer of the 4 layer
** dielectric sphere
#sig_Scalp = 0.5248
#sig_Skull = 0.0977
#sig_CSF   = 2.270
#sig_Brain = 0.6160

#epr_Scalp = 35.867
#epr_Skull = 13.
#epr_CSF   = 70.3
#epr_Brain = 48.8

#r_scalp = 90
#r_skull = 88
#r_CSF   = 74
#r_brain = 60


**   Frequency and wavelength
#freq = 85e6              ** frequency in Hertz
#lambda = #c0/#freq     ** wavelength in metre,  #c0 = speed of light in vacuum
#lambda = #lambda/#scaling  ** scale the wavelength as desired (e.g. to mm)

** Parameters for segmentation
#seg_rad = 1.6  ** radius of the wire segments
#seg_len = 10   ** maximum length of wire segments
#tri_len = #lambda/20 ** maximum edge length for triangular patches
IP                           #seg_rad  #tri_len  #seg_len
```

```
**Applying the scaling factor
SF   1                          #scaling

** Define the points
DP   A                          -85-#s    -#s       60
DP   B                          -85-#s    -#s       2.5
DP   C                          -85-#s    -#s       -2.5
DP   D                          -85-#s    -#s       -60
DP   E                          -44.5-#s  -40.5-#s  -60
DP   F                          -40.5-#s  -44.5-#s  -60
DP   G                          -#s       -85-#s    -60
DP   H                          -#s       -85-#s    -2.5
DP   I                          -#s       -85-#s    2.5
DP   J                          -#s       -85-#s    60
DP   K                          -40.5-#s  -44.5-#s  60
DP   L                          -44.5-#s  -40.5-#s  60

**Connecting all structure points
BL   A    B
BL   C    D
BL   D    E
BL   F    G
BL   G    H
BL   I    J
BL   J    K
BL   L    A

LA   101
BL   B    C                     0.5       0.5
LA   102
BL   E    F                     0.5       0.5
LA   103
BL   H    I                     0.5       0.5
LA   104
BL   K    L                     0.5       0.5

** End of geometric input
EG   1    0    0    0    0
PS        0    0    1    0

** Set the frequency
** FR   51   0                    80e6                90e6
FR   1                          85e6

** The distributed capacitance value for each coil element
** so that each coil is resonating at 85MHz
LS   101                                              40.0e-12
LS   102                                              39.0e-12
LS   103                                              40.0e-12
LS   104                                              39.0e-12


** Setting the 4 layer dielectric sphere
GF   4                     0    #r_scalp  #epr_scalp1.000     #sig_scalp
                                #r_Skull  #epr_skull1.001     #sig_skull
                                #r_CSF    #epr_CSF  1.002     #sig_CSF
                                #r_brain  #epr_Brain1.003     #sig_Brain


** Voltage gap excitation at a segment
A1   0    102                  10        90

** Calculate surface currents for current display
** (For large models this will cause huge output files)
OS   3
```

```
** Near fields calculated with the FE card, nnumber of pixel is 128 by 128
FE   2    128  128  1    0    -60       -60       60        0.9375    0.9375
0


** End
EN

*********************************************************************************

** Coil 4 for SENSE Reconstruction Simulation
** Creator of file: Bing Keong Li, The University of Queensland.
** School of Information Technology and Electrical Engineering

** Variables
#scaling = .001

** By changing #s will adjust the distant from the dielectric sphere
#s=35

** The different dielectric properties for each layer of the 4 layer
** dielectric sphere
#sig_Scalp = 0.5248
#sig_Skull = 0.0977
#sig_CSF   = 2.270
#sig_Brain = 0.6160

#epr_Scalp = 35.867
#epr_Skull = 13.
#epr_CSF   = 70.3
#epr_Brain = 48.8

#r_scalp = 90
#r_skull = 88
#r_CSF   = 74
#r_brain = 60


**   Frequency and wavelength
#freq = 85e6                ** frequency in Hertz
#lambda = #c0/#freq     ** wavelength in metre,  #c0 = speed of light in vacuum
#lambda = #lambda/#scaling  ** scale the wavelength as desired (e.g. to mm)

** Parameters for segmentation
#seg_rad = 1.6  ** radius of the wire segments
#seg_len = 10   ** maximum length of wire segments
#tri_len = #lambda/20 ** maximum edge length for triangular patches
IP                          #seg_rad  #tri_len  #seg_len

**Applying the scaling factor
SF   1                      #scaling

** Define the points
DP   A                      -85-#s    #s        60
DP   B                      -85-#s    #s        2.5
DP   C                      -85-#s    #s        -2.5
DP   D                      -85-#s    #s        -60
DP   E                      -44.5-#s  40.5+#s   -60
DP   F                      -40.5-#s  44.5+#s   -60
DP   G                      -#s       85+#s     -60
DP   H                      -#s       85+#s     -2.5
DP   I                      -#s       85+#s     2.5
DP   J                      -#s       85+#s     60
DP   K                      -40.5-#s  44.5+#s   60
DP   L                      -44.5-#s  40.5+#s   60

**Connecting all structure points
BL   A    B
```

```
BL   C    D
BL   D    E
BL   F    G
BL   G    H
BL   I    J
BL   J    K
BL   L    A

LA   101
BL   B    C                   0.5       0.5
LA   102
BL   E    F                   0.5       0.5
LA   103
BL   H    I                   0.5       0.5
LA   104
BL   K    L                   0.5       0.5

** End of geometric input
EG   1    0    0    0    0
PS        0    0    1    0

** Set the frequency
** FR   51   0                  80e6                90e6
FR   1                         85e6

** The distributed capacitance value for each coil element
** so that each coil is resonating at 85MHz
LS   101                                            40.0e-12
LS   102                                            39.0e-12
LS   103                                            40.0e-12
LS   104                                            39.0e-12


** Setting the 4 layer dielectric sphere
GF   4                    0    #r_scalp  #epr_scalp1.000     #sig_scalp
                               #r_Skull  #epr_skull1.001     #sig_skull
                               #r_CSF    #epr_CSF  1.002     #sig_CSF
                               #r_brain  #epr_Brain1.003     #sig_Brain


** Voltage gap excitation at a segment
A1   0    102                 10        90

** Calculate surface currents for current display
** (For large models this will cause huge output files)
OS   3


** Near fields calculated with the FE card, nnumber of pixel is 128 by 128
FE   2    128  128  1    0    -60       -60       60        0.9375    0.9375
0


** End
EN
```