```
C     EFK's Sphere RCS Program

      Complex Escat

C     Compute as function of ka, Rcs normalized to (pi a**2)

      Iout = 2
        Open( Iout, File='Sphere.prn' )
        kmax = 200
        Do 100 k = 1, kmax
          fka = 0.05 * Float(k)
          Call Sphere( Escat, fka )
          Rcs = 20. * Alog10 ( Cabs( Escat ) )
          Write( Iout, * ) fka, Rcs
100   Continue
        Close (Iout)
        End
C+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
      Subroutine Sphere( Escat, fka )

C  RCS of conducting sphere using infinite series of spherical Bessel Functions
C   Each new term is formed from the previous term by recursion.  The
C   recursion variables are complex double precision.
C   Input ka, output Escat

      Complex Escat
      Complex*16 Sum, Del, F1, F2
      Data Eps/1.0E-6/

C       Initialize running sum, first term, and recursive indexes.

10          Sum = Cmplx(0.0,0.0)
            F1  = Cmplx(0.0,1.0)
            F2  = Cmplx(1.0,0.0)
            M   = 1
            N   = 0
            L   = -1
C        Advance indexes and compute next term

20          L = - L
            N = N + 1
            M = M + 2
            Del = ( 2 * N - 1 ) * F2  / fka - F1
            F1  = F2
            F2  = Del
            Del = L * M / ( F2 * ( fka * F1 - N * F2 ) )
            Sum = Sum + Del

C           Do it again is term not small enough
              If( CDABS( Del ) .GT. Eps ) Goto 20
```