CLAIMS

What is claimed is:

1. A lens cell assembly comprising:

a lens cell having an integral focusing mechanism and at least one sealing feature extending around an outer circumference of the lens cell,

wherein the at least one sealing feature comprises at least one seal gland on the outer circumference of the lens cell,

wherein the at least one seal gland is a focus stop such that a focusing follower travelling along the integral focusing mechanism is prevented from movement upon meeting an interior wall of the sealing feature; and

at least one lens element manufactured from a polymer,

wherein the lens cell is manufactured from a material thermally matched to the polymer.

2. The lens cell assembly of claim 1, wherein the integral focusing mechanism is a thread groove.

3. The lens cell assembly of claim 2, wherein the thread groove is a three-start thread.

4. The lens cell assembly of claim 1, wherein the material is the polymer.

5. The lens cell assembly of claim 1, wherein the lens cell further comprises at least one circular spring located within the at least one seal gland.

6. The lens cell assembly of claim 5, wherein the at least one circular spring comprises at least one elastomeric O-ring.

7. The lens cell assembly of claim 1, wherein the lens cell further comprises at least one chamfer located on an inner lens cell wall.

8. The lens cell assembly of claim 1, wherein the lens cell assembly further comprises a conductive coating deposited on a surface of the lens cell for facilitating electromagnetic interference (EMI) protection.

9. The lens cell assembly of claim 1, wherein the lens cell assembly further comprises a transparent conductive coating deposited on a surface of the at least one lens element for facilitating EMI protection.

10. The lens cell assembly of claim 1, wherein the at least one lens element further comprises at least one diffractive surface.

11. The lens cell assembly of claim 1, wherein the at least one lens element further comprises at least one aspherical surface.

12. The lens cell assembly of claim 1, wherein the at least one lens element further comprises at least one sealant groove located on an outer periphery of the at least one lens element.

13. The lens cell assembly of claim 1, wherein the at least one lens element further comprises at least one edge channel located on an outer periphery of the at least one lens element.

14. The lens cell assembly of claim 1, wherein at least one of the lens cell and the at least one lens element further comprises at least one integral spacer.

15. The lens cell assembly of claim 1, wherein the at least one lens element further comprise at least one edge thread extending along an outer periphery of the at least one lens element.

16. The lens cell assembly of claim 1, wherein the at least one lens element is connected to the lens cell by an interference fit.

17. The lens cell assembly of claim 1, wherein the at least one lens element is integrally connected to the lens cell.

18. The lens cell assembly of claim 17, wherein at least one lens element is molded integrally with the lens cell.

19. The lens cell assembly of claim 17, wherein the lens cell is overmolded onto the at least one lens element.