CLAIMS

What is claimed is:

1. An electronic package, comprising:

a reinforcement substrate;

a plurality of through substrate vias through the reinforcement substrate;

a dielectric substrate over the reinforcement substrate;

a cavity into the dielectric substrate; and

~~a component~~ an embedded multi-die interconnect bridge in the cavity, and wherein the bridge electronically connects at least two dies.

~~2. The electronic package of claim 1, wherein the component is a bridge.~~

~~3.~~2. The electronic package of claim ~~2~~1, wherein the plurality of through substrate vias have a first pitch, and wherein the bridge has contacts at a second pitch that is smaller than the first pitch.

~~4.~~3. The electronic package of claim 1, further comprising:

a dielectric layer over the ~~component~~ bridge, wherein the dielectric layer fills the cavity.

~~5.~~4. The electronic package of claim ~~4~~3, wherein a plurality of vias are formed through the dielectric layer.

~~6.~~5. The electronic package of claim ~~5~~4, wherein the plurality of through substrate vias have a first pitch, and wherein the plurality of vias have a second pitch.

~~7.~~6. The electronic package of claim ~~6~~5, wherein the first pitch is equal to the second pitch.

~~8.~~7. The electronic package of claim ~~7~~6, wherein each of the through substrate vias is aligned with one of the plurality of vias.

~~9.~~8. The electronic package of claim ~~6~~5, wherein the first pitch is different than the second pitch.

~~10.~~9. The electronic package of claim ~~9~~8, wherein pitch translation from the first pitch to the second pitch is implemented in the dielectric substrate.

~~11.~~10. The electronic package of claim 1, wherein a Young's modulus of the reinforcement substrate is larger than a Young's modulus of the dielectric substrate.

~~12.~~11. The electronic package of claim ~~11~~10, wherein the Young's modulus of the reinforcement substrate is between 60 GPa and 100 GPa.

~~13.~~12. The electronic package of claim 1, wherein a coefficient of thermal expansion (CTE) of the reinforcement substrate is between 2 ppm and 10 ppm.

~~14.~~13. The electronic package of claim 1, further comprising:

a first die over the dielectric substrate; and

a second die over the dielectric substrate, wherein the first die is electrically coupled to the second die by the ~~component~~ bridge.

~~15.~~14. The electronic package of claim 1, wherein an edge of the reinforcement substrate is recessed from an edge of the dielectric substrate.

~~16.~~15. An electronic system, comprising:

a board;

an interposer over the board; and

an electronic package over the interposer, wherein the electronic package comprises:

a reinforcement substrate;

a plurality of through substrate vias through the reinforcement substrate;

a dielectric substrate over the reinforcement substrate;

a cavity into the dielectric substrate; and

~~a component~~ an embedded multi-die interconnect bridge in the cavity, and wherein the bridge electrically connects at least two dies.

~~17.~~16. The electronic system of claim ~~16~~15, further comprising:

a first die over the electronic package; and

a second die over the electronic package.

~~18.~~17. The electronic system of claim ~~17~~16, wherein the first die is electrically coupled to the second die by the ~~component~~ bridge.

~~19.~~18. The electronic system of claim ~~16~~15, wherein the electronic package further comprises:

a dielectric layer over the dielectric substrate, wherein vias are formed through the dielectric layer.

~~20.~~19. The electronic system of claim ~~19~~18, wherein the plurality of through substrate vias have a first pitch, and wherein the vias have a second pitch.

~~21.~~20. A method of forming an electronic package, comprising:

attaching a glass layer to a carrier;

disposing a dielectric substrate over the glass layer;

embedding ~~a component~~ an embedded multi-die interconnect bridge in the dielectric substrate, wherein the bridge electrically connects at least two dies;

releasing the glass layer from the carrier; and

attaching a first die and a second die to the component.

~~22.~~21. The method of claim ~~21~~20, wherein embedding the component in the dielectric substrate comprises:

forming a cavity in the dielectric substrate;

placing the ~~component~~ bridge in the cavity; and

disposing a dielectric layer over the ~~component~~ bridge.

~~23.~~22. The method of claim ~~21~~210, wherein embedding the ~~component~~ bridge in the dielectric substrate, comprises:

disposing a layer of the dielectric substrate over the glass layer;

placing the ~~component~~ bridge on the layer of the dielectric substrate;

laminating one or more dielectric layers over the ~~component~~ bridge.

~~24.~~23. The method of claim ~~21~~20, wherein embedding the ~~component~~ bridge in the dielectric substrate, comprises:

disposing the ~~component~~ bridge directly on the glass layer; and

laminating one or more dielectric layers over the ~~component~~ bridge.

~~25.~~24. The method of claim 21, wherein the electronic package is singulated prior to attaching the first die and the second die to the ~~component~~ bridge.