

CLAIMS

What is claimed is:

1. ~~A method of forming a contactless transaction card, comprising:~~
 - ~~providing a card body, the card body defining a window;~~
 - ~~attaching an antenna assembly layer to the card body,~~
 - ~~the antenna assembly layer comprising an antenna, a set of curable connectors,~~
~~disposed~~
 - ~~on a set of end regions of the antenna within the window, and a UV-transparent layer,~~
~~supporting~~
 - ~~the antenna;~~
 - ~~providing a contactless chip module within the window on a first side of the antenna~~
~~assembly layer; and~~
 - ~~directing radiation through the UV-transparent layer, wherein the contactless chip~~
~~module~~
 - ~~is electrically connected to the antenna via the set of curable connectors.~~
2. ~~The method of claim 1, wherein the directing the radiation through the UV-~~
~~transparent layer comprises:~~
 - ~~directing a first UV laser beam exposure to a first curable connector, disposed on a~~
~~first end region of the antenna;~~
 - ~~and directing a second UV laser beam exposure to a second curable connector,~~
~~disposed on a second end region of the antenna.~~
3. ~~The method of claim 1, wherein the set of curable connectors comprises a~~
~~conductive epoxy material.~~
4. ~~The method of claim 1, wherein the card body is electrically conductive, wherein~~
~~an outer portion of the antenna extends subjacent the card body, the method further~~
~~comprising providing an insulator material between the outer portion of the antenna and the~~
~~card body before the attaching the antenna assembly layer.~~
5. ~~The method of claim 1, wherein the set of curable connectors extends partially~~
~~over the set of end regions of the antenna, and partially over exposed regions of the UV-~~
~~transparent layer, not covered by the antenna.~~
6. ~~The method of claim 1, wherein the set of end regions of the antenna~~
~~comprise a serpentine pattern.~~
7. ~~The method of claim 1, wherein the UV-transparent layer defines a recess,~~
~~wherein the window comprises a first area, the recess comprises a second area,~~
~~smaller than the first area, the method further comprising aligning the window to the~~
~~recess.~~

~~8. The method of claim 7, wherein the set of end regions comprises a first end region and a second end region, wherein the recess is disposed between the first end region and the second end region.~~

~~The method of claim 8, wherein the set of curable connectors comprises a first connector, disposed on a first end region of the antenna, and a second connector, disposed on a second end region of the antenna, wherein the aligning the window comprises aligning the window to avoid contact with the set of curable connectors.~~

~~10. A contactless transaction card, comprising:~~

~~a card body, the card body defining a window;~~

~~an antenna assembly layer, disposed subjacent the card body, the antenna assembly layer~~

~~comprising:~~

~~an antenna, comprising a set of end regions;~~

~~a UV-transparent layer, supporting the antenna; and~~

~~a set of curable connectors, disposed on the set of end regions,~~

~~the set of end regions, and set of curable connectors being disposed within the~~

~~window; and~~

~~a contactless chip module, disposed within the window, and electrically connected to the~~

~~set of end regions, via the set of curable connectors.~~

~~11. The contactless transaction card of claim 10, the set of curable connectors and the contactless chip module not being in contact with the card body.~~

~~12. The contactless transaction card of claim 10, wherein the set of curable connectors comprises a conductive epoxy material.~~

~~13. The contactless transaction card of claim 10, wherein the card body is electrically conductive, wherein an outer portion of the antenna extends subjacent the card body, the contactless transaction card further comprising an insulator material, disposed between the outer portion of the antenna and the card body.~~

~~14. The contactless transaction card of claim 10, wherein the set of curable connectors extends partially over the set of end regions of the antenna, and partially over exposed regions of the UV-transparent layer, not covered by the antenna.~~

~~15. The contactless transaction card of claim 10, wherein the set of end regions of the antenna comprise a serpentine pattern.~~

~~16. The contactless transaction card of claim 10, wherein the UV-transparent layer defines a recess, wherein the window comprises a first area, the recess comprises a second area, smaller than the first area, wherein the recess is aligned within the window.~~

~~17. The contactless transaction card of claim 16, wherein the set of end regions comprises a first end region and a second end region, wherein the recess is disposed between the first end region and the second end region.~~

~~18. A method of forming a contactless transaction card, comprising:~~

~~providing a card body, the card body defining a window;~~

~~coupling an antenna assembly layer to the card body, the antenna assembly layer comprising an antenna, and a transparent layer, supporting the antenna;~~

~~providing a first curable connector on a first end region of the antenna, and a second curable connector on a second end region of the antenna, wherein the first end region, the second end region, the first curable connector and the second curable connector are disposed in the window;~~

~~providing a contactless chip module within the window on a first side of the transparent layer; and~~

~~directing radiation through the transparent layer from a second side of the transparent layer, opposite the first side, wherein the contactless chip module is electrically connected to the antenna via the first curable connector and the second curable connector.~~

~~19. The method of claim 18, wherein the directing the radiation through the transparent layer~~

~~comprises:~~

~~directing a UV laser beam exposure to the first curable connector; and directing and to a second UV laser beam exposure to the second curable connector.~~

~~20. The method of claim 18,~~

~~wherein the first curable connector extends partially over the first end region of the antenna, and partially over a first exposed region of the transparent layer, not covered by the antenna, and~~

~~wherein the second curable connector extends partially over the second end region of the antenna, and partially a second exposed region of the transparent layer, not covered by the antenna.~~

1. A method of forming a contactless transaction card, comprising:

providing a card body, the card body defining a window;

attaching an antenna assembly layer to the card body,

the antenna assembly layer comprising an antenna, a set of curable connectors, the set of curable connectors comprising a chemical or set of chemicals that are amenable to curing when exposed to radiation, the set of curable connectors being disposed on a set of

end regions of the antenna within the window, and a UV-transparent layer, supporting the antenna;

providing a contactless chip module within the window on a first side of the antenna assembly layer; and

directing radiation through the UV-transparent layer, wherein the radiation cures the set of curable connectors, and wherein the contactless chip module is electrically connected to the antenna via the set of curable connectors.

2. The method of claim 1, wherein the directing the radiation through the UV-transparent layer comprises:

directing a first UV laser beam exposure to a first curable connector, disposed on a first end region of the antenna;

and directing a second UV laser beam exposure to a second curable connector, disposed on a second end region of the antenna.

3. The method of claim 1, wherein the set of curable connectors comprises a conductive epoxy material.

4. The method of claim 1, wherein the card body is electrically conductive, wherein an outer portion of the antenna extends subjacent the card body, the method further comprising providing an insulator material between the outer portion of the antenna and the card body before the attaching the antenna assembly layer.

5. The method of claim 1, wherein the set of curable connectors extends partially over the set of end regions of the antenna, and partially over exposed regions of the UV-transparent layer, not covered by the antenna.

6. The method of claim 1, wherein the set of end regions of the antenna comprise a serpentine pattern.

7. The method of claim 1, wherein the UV-transparent layer defines a recess, wherein the window comprises a first area, the recess comprises a second area, smaller than the first area, the method further comprising aligning the window to the recess.

8. The method of claim 7, wherein the set of end regions comprises a first end region and a second end region, wherein the recess is disposed between the first end region and the second end region.

9. The method of claim 8, wherein the set of curable connectors comprises a first connector, disposed on the first end region of the antenna, and a second connector, disposed on the

second end region of the antenna, wherein the aligning the window comprises aligning the window to avoid contact with the set of curable connectors.

10. A contactless transaction card, comprising:

a card body, the card body defining a window;

an antenna assembly layer, disposed subjacent the card body, the antenna assembly layer comprising:

an antenna, comprising a set of end regions;

a UV-transparent layer, supporting the antenna; and

a set of curable connectors, disposed on the set of end regions, and comprising a chemical or set of chemicals that are amenable to curing when exposed to UV radiation, the set of end regions, and set of curable connectors being disposed within the window; and

a contactless chip module, disposed within the window, and electrically connected to the set of end regions, via the set of curable connectors.

11. The contactless transaction card of claim 10, the set of curable connectors and the contactless chip module not being in contact with the card body.

12. The contactless transaction card of claim 10, wherein the set of curable connectors comprises a conductive epoxy material.

13. The contactless transaction card of claim 10, wherein the card body is electrically conductive, wherein an outer portion of the antenna extends subjacent the card body, the contactless transaction card further comprising an insulator material, disposed between the outer portion of the antenna and the card body.

14. The contactless transaction card of claim 10, wherein the set of curable connectors extends partially over the set of end regions of the antenna, and partially over exposed regions of the UV-transparent layer, not covered by the antenna.

15. The contactless transaction card of claim 10, wherein the set of end regions of the antenna comprise a serpentine pattern.

16. The contactless transaction card of claim 10, wherein the UV-transparent layer defines a recess, wherein the window comprises a first area, the recess comprises a second area, smaller than the first area, wherein the recess is aligned within the window.

17. The contactless transaction card of claim 16, wherein the set of end regions comprises a first end region and a second end region, wherein the recess is disposed between the first end region and the second end region.

18. A method of forming a contactless transaction card, comprising:

providing a card body, the card body defining window;

coupling an antenna assembly layer to the card body, the antenna assembly layer comprising an antenna, and a transparent layer, supporting the antenna;

providing a first curable connector on a first end region of the antenna, and a second curable connector on a second end region of the antenna, wherein the first end region, the second end region, the first curable connector and the second curable connector are disposed in the window, the first curable connector and the second curable connector comprising a chemical or set of chemicals that are amenable to curing when exposed to radiation;

providing a contactless chip module within the window on a first side of the transparent layer; and

directing radiation through the transparent layer from a second side of the transparent layer, opposite the first side, wherein the radiation cures the first curable connector and the second curable connector, and wherein the contactless chip module is electrically connected to the antenna via the first curable connector and the second curable connector.

19. The method of claim 18, wherein the directing the radiation through the transparent layer comprises:

directing a UV laser beam exposure to the first curable connector; and

directing a second UV laser beam exposure to the second curable connector.

20. The method of claim 18,

wherein the first curable connector extends partially over the first end region of the antenna, and partially over a first exposed region of the transparent layer, not covered by the antenna, and

wherein the second curable connector extends partially over the second end region of the antenna, and partially a second exposed region of the transparent layer, not covered by the antenna.