

## The „Electronic Antenna“ – a short analysis

Hello,

some weeks ago I inherited a small antenna. It has an interesting triangular shape and the only information on it was “Electronic Antenna” and on the back “Made in Taiwan”. As I could not satisfy my curiosity on the spot because the little plastic encasing was sealed, I took it with me for a later analysis.

Today I decided to investigate the antenna some more in order to understand how it works:

- is it a passive or active antenna design ?
- maybe a patch antenna as it is quite thin ?
- the connector indicated some VHF/UHF use – maybe for the TV bands ?
- maybe something broadband enough for my broadband receivers ?
- which impedance does it have ?

Ok, let’s have a further look. First this is the antenna including the cable and the connector:



Looks interesting, doesn't it ? The black coaxial cable is approximately 2m long and a metal shielded coaxial connector as normally used for TV systems is attached to it. Here are some more pictures of the front and back of the neat little antenna.



It really took some force to open the plastic encasing. Finally I managed to do it without damaging the encasing of this little masterpiece. Here are the front and back part of it.

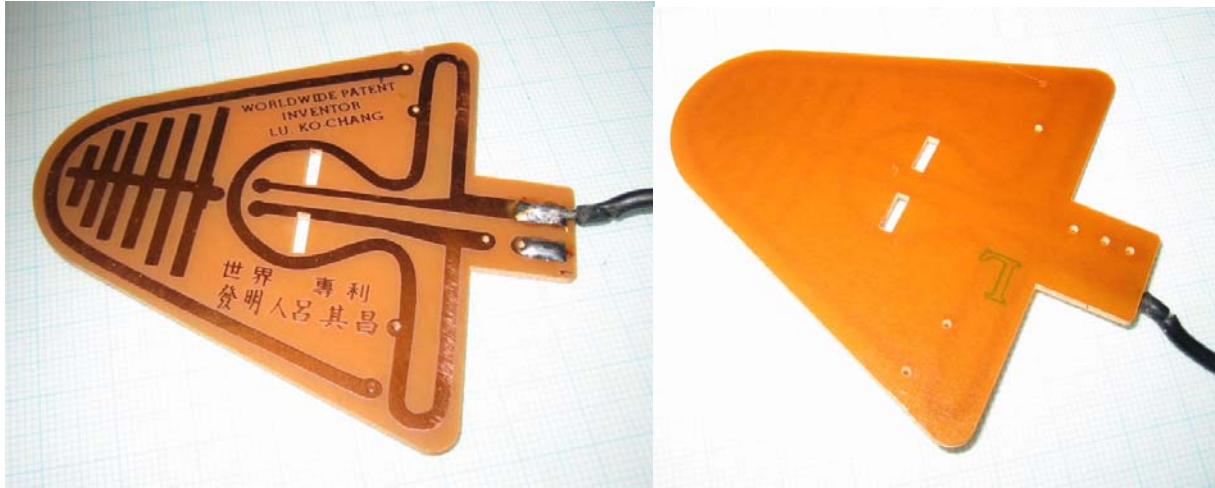


Inside I found an interesting looking PCB with a rather complex printed antenna design on it.



Hm, that looks difficult to understand ... is it a kind of folded dipole? Is this strange structure in the center a kind of balun? Maybe some of the structures are connected by the via holes? Maybe there are more components on the other side?

More questions than answers ... so I decided to take out the antenna from the plastic encasing and check the other side of the PCB.



What the heck is this .. the other side is empty ... and hey ... the cable is only soldered to one point and no shielding is visible .... time to open the connector to check what kind of coaxial cable this might be:



Hm, this is not really a coaxial cable .. it is a simple wire only attached to the center pin of the coaxial connector ... and the other side of the wire is attached to a piece of PCB without any sense ... cut the whole thing off and the wire will still act as the antenna ....

Well, but at least the inventor Mr. Lu Ko Chang holds a worldwide patent for this design. Congratulations ! You can be absolutely sure that no one will ever copy this design !

I hope you enjoyed this little story as much as I did when I opened this little piece of crap and started laughing ...

Best regards

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