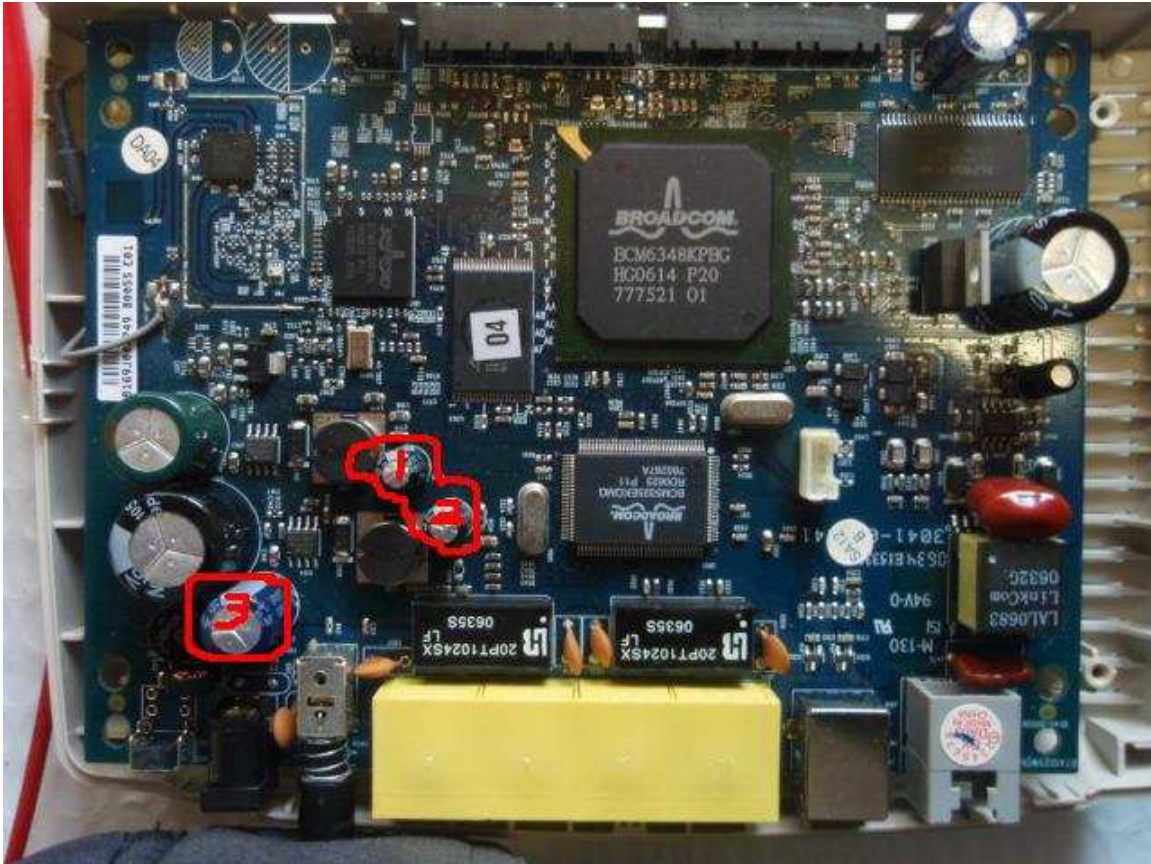


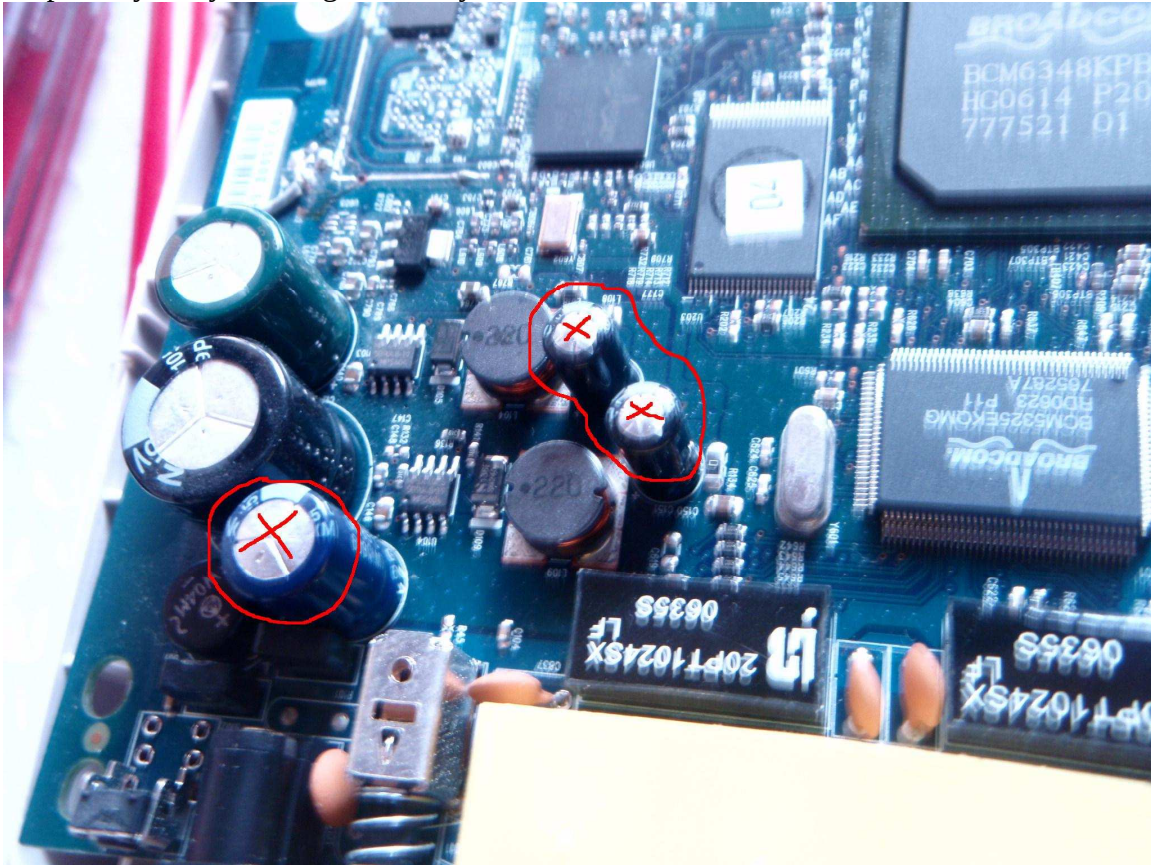
Repair of caps in the RTA1025W.



The two caps next to the 220uH inductors on the board, (I have roughly written in red 1,2) they are 470uF 10v. These power supplies are 1.8v and 3.3v and work at extremely high freq, around 200khz. Much higher than previous dc converter supplies. This enables them to use smaller light weight inductors but the caps need to be very high spec. They need to be 105deg low esr caps. A 1000uF for example as used in a PC mobo would be a great replacement if you find it hard to get the right value. 6.3v would also be fine. It is just size that is critical if you want the lid to go back on.

The other one is not that big a deal. Marked 3 on the board next to the switch. It is a GP (general purpose) main supply capacitor since the modem is running on 12v AC supply. It is 1000uF 25v. The actual value has dropped to 250uF but it will probably still work ok with increased ripple. The reason it went bad was because it is 85deg capacitor. This is no good for a router in Australia. The other two caps next to it are 2200uF 25v but is the correct 105deg so in good condition. The other one is 1000uF 25v Low ESR. Don't know why it is there. But it is TEAPO which is generally a very poor brand, although in this case it seemed to be fine.. It isn't one I would trust.

Why build it with such a strange mix of caps... cost mostly. Cheapest ones they can get. Stupid ways they do things nowadays.



The bad caps are as obvious as can be, since the tops are bowed. It doesn't actually imply all bad caps will show this so obviously. But I would replace any 85deg caps as inadequate for the job.

To do it properly you need an esr meter but these are expensive even the kit available from Altronics.

Let me also reiterate the warning, Jaycar in Australia are stocking very poor quality low esr caps. The brand is Suntan... they are near to useless and probably worse than the ones you are pulling out. They used to stock Samxon which are fine.

The GP ones don't matter for the main rectifier. Just make sure the replacement is 105deg. But the low esr type are essential in the dc converter circuit.

Cheers

Ray

Alias

Revs Per Min from Whirlpool.