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| Requirement | Text | Missing traceability links |
| Req-C02 | Triggered ADC current measurement is required. The trigger shall be timed 5 us before the falling edge of the chopping motor PWM. | Derive and/or decompose  And/or Satisfy  Added missing satisfy link. |
| Req-P003 | On every hall sensor edge, the current motor position shall be determined and the motor commutation immediately commanded. | Derive and/or decompose  And/or Satisfy  Added one of those crazy looking diagrams (the one that copy half the context and just add the green things) that was missing.  Added satisfy links for relevant blocks in the satisfaction diagram. |
| Req-M007 | Six independent PWM outputs shall drive the B6 according the attached timing diagram. | Derive and/or decompose  And/or Satisfy  Added the missing satisfy link to the already available commutation satisfaction diagram.  Noticed Req\_M009 without any links. Corrected. |
| Req-T04 | A PI control algorithm shall be executed every 100us. A sketch of the control algorithm is attached. | Derive and/or decompose  And/or Satisfy  Added missing elements and links in the already available torque control requirements satisfaction.  No “crazy diagram” added because the hardware modules involved are already linked in the commutation diagram a few packages above.  I added a note to the requirement. It seems to a duplicate (or a refinement) of the requirement it is apparently derived from.  Added other comments regarding the satisfy links. I don’t really know where to stop as it seems for example that in order to get a measurement you need a lot of stuff (filter, ADC, SW…). Anyway let me know what you think. |
| Req-C05 | The software shall react on a trigger by the hardware over current detection circuit by opening the bridge FETs. | Derive and/or decompose  And/or Satisfy  As far as I know, this has not been implemented in the SW and was meant to help in solving the extremely high currents the system was drawing at startup or if the duty-cycle was high and RPM low.  This is what we intended to do: The pre-driver has a comparator and the microcontroller has one too. We would configure one for a negative and the other one for a positive current threshold. One comparator signal would then go straight from predriver to a logical input of the microcontroller to signal an overcurrent on a signal edge, while the other one in the microcontroller triggers an interrupt to do the same.  I will have to think about a way to model it and once it’s done I will send you an updated version |
| Req-ADC09 | A 10bit ADC is required for all analogue inputs. | Derive and/or decompose  And/or Satisfy  Added missing satisfy link from requirement to the 3 ADC channels in Analog inputs Requirements satisfaction diagram. The ADC in the eVCP µC happens to be 10b (configurable to use as 12b but it becomes single channel only)  Not sure if a satisfy link should also go to the SW configuration block because of this… |
| Req-I03 | The input signal frequency and duty cycle shall be captured. The duty cycle precision shall be 0.5%. | Derive and/or decompose  And/or Satisfy  Added missing links.  I left some issues open in the same diagram, because you did not specifically ask for it and because at the moment I don’t know who I can talk with. If it becomes critical and I still have no solution I will improvise. |