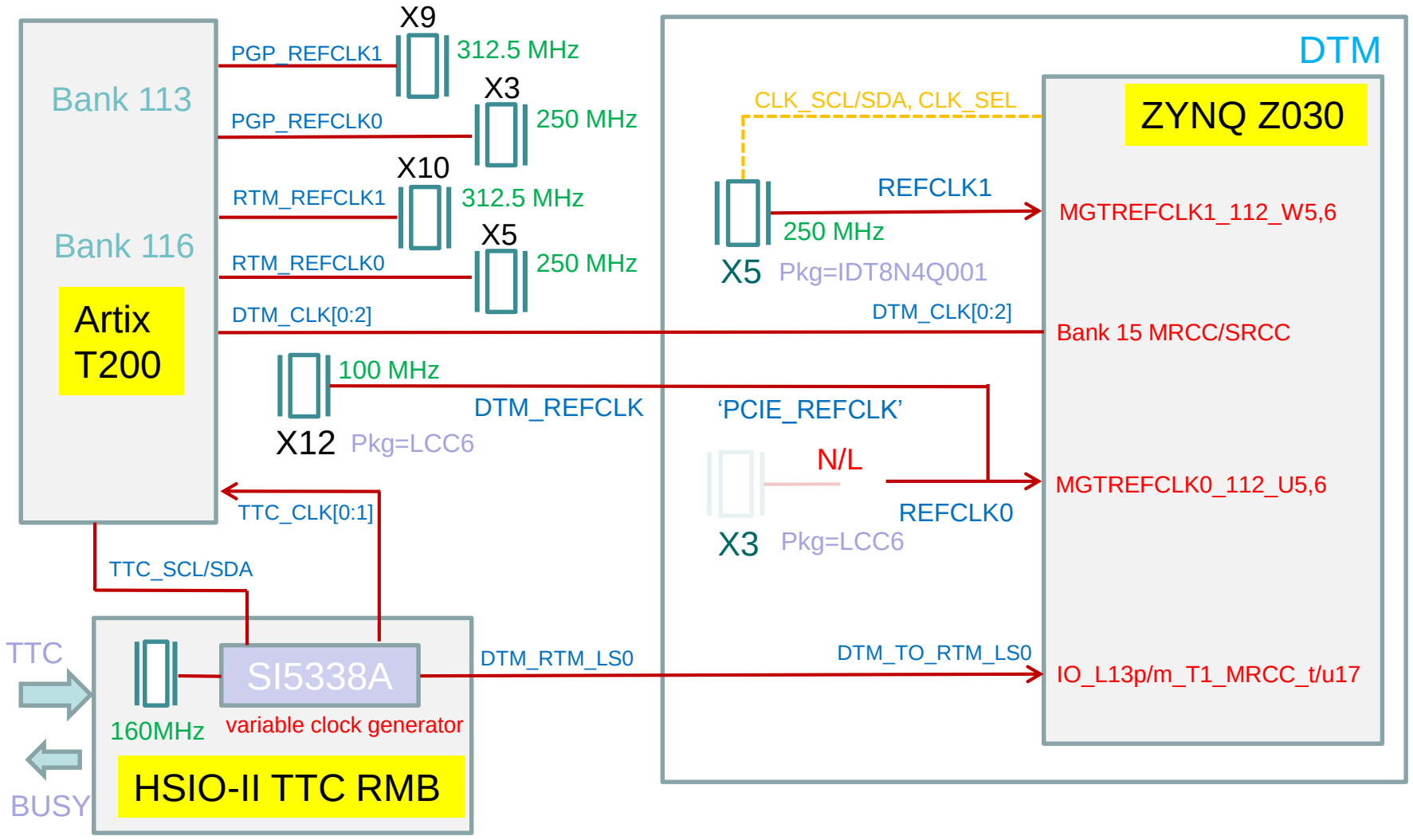
Clock Configuration for GBT Application

GBT application requires 120MHz clock for MGT

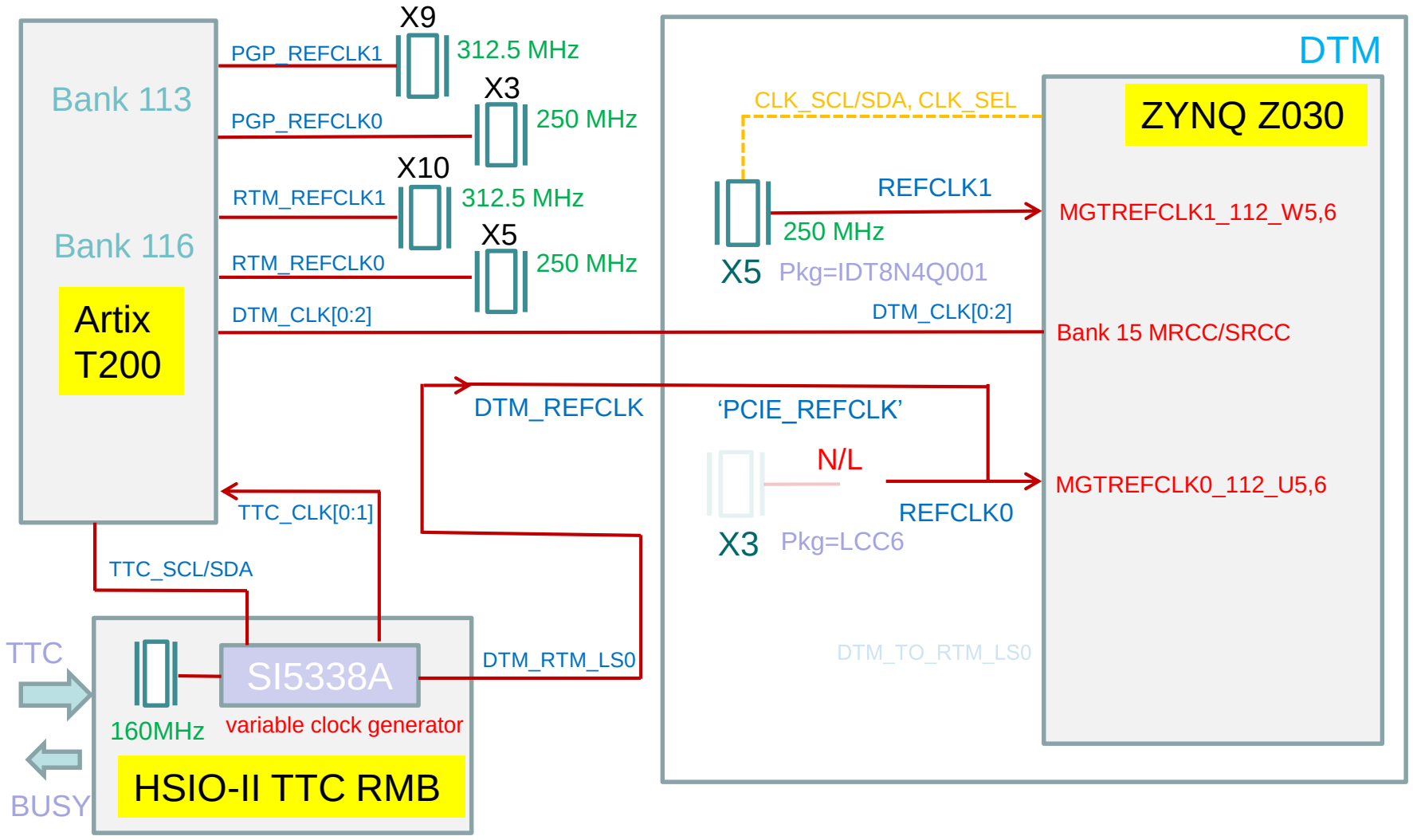
HSIO-II:

* TTC RMB variable clock generator has 120MHz TTC clock for Artix, but clock to DTM is delivered to a regular fabric clock pin.
* Simplest to to replace HSIO-II X12 100 MHz Oscillator with 120 MHz part, but only on-shelf part has a central ground pad that can short out HSIO-II board pads. Tried one replacement with central pad taped over.
* Possible revision for HSIO-II to redirect TTC RMB clock to DTM REFclock path to replace the X12 oscillator.

Existing HSIO-II (C03) Clock Configuration



Possible revise HSIO-II (C04) Clock Configuration



120MHz Source for COB

* Current COB+RTM rely on external TTC source to generate 120 MHz
* Cannot touch the 100MHz oscillator on the COB – needed for PCIe control
* Only need 120 MHz MGTrefclk for DPM which can only come from the TTC distribution path from DTM, while DTM itself don't need to run GBT on the COB
* Can do a simple revision of the TTC RTM with a clock generator to output 120 MHz, but how does this co-exists with TTC if that needs to be run at the same time ?