Scaling The MM-Wave Implementation of the Transmitter Chain Currently Operating at 122.88 MHz to 491.52 MHz

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ABSTRACT

In this report we have tried to explain various aspects of Tx chain running at 122.88 MHz. As the objective was to increase the working frequency to 491.52 MHz, we have discussed the idea how we approached the problem and what issues we faced in achieving our target. We have thoroughly explained all the critical modules and whatever extra module was added has been explained so as to give the picture why those modules were needed at first place.

We had to make several changes in the module to make it run on frequency as high as 491.52 MHz so that there was no timing failures. However eventually we were able to scale the running frequency to 245.76 MHz rather than 491.52 MHz. Which is to say we were able to successfully double the frequency of complete Transmitter chain and test it on hardware on ZCU111 Evaluation board.

Keywords: BBU, RRH, MUX, SIGNAL EXTENDER, START MUX, FIFO