TX Quad preamp

The purpose of this block is generating four analog signals with different phase and correct amplitude to be fed to the switching TX mixer from the generated IQ signals by the Codec.

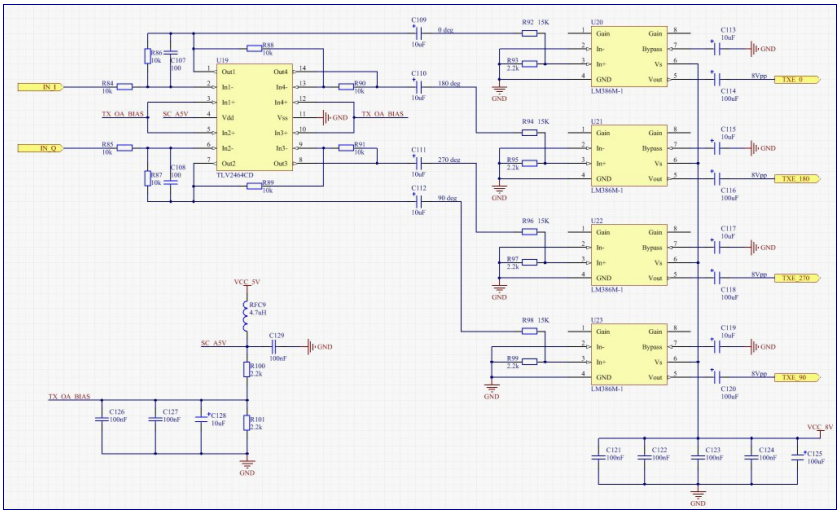

Fig1: Quad preamp schematics(click for larger view)

The TLV2464 quad op amps will produce the 0, 90, 180 and 270 signals, then four LM384Ms will amplify those signals to max 8Vpp, which is limited by the input attenuators and off course software settings in the MCU DSP routines. Larger signals fed to the mixer will produce larger RF drive, but not recommended as clipping on the waveforms will occur and the whole TX chain will be non linear. The value of the output capacitors for U20-U23 is selected high to prevent phase shift.