

October 19, 2011

The following changes have been made to the LPT-24 transmitter:

- The synthesizer was changed from National Semiconductor part number LMX2364TMX NOPB to a National Semiconductor part number LMX2485ESQ/NOPB. The synthesizer was changed because the LMX2364TMX part has become obsolete. The new synthesizer uses the same reference frequency and provides the same voltage to the VCO. As a result, the transmitter channels are identical with both the old and new synthesizers.
- A Skyworks switch part number AS214-92LF was added to switch the transmitter output to a 50 ohm load when not transmitting. The addition of this switch lowers output power of the transmitter. The switch was added to further limit the output power of the transmitter when not in transmit mode.

The processor is the same and has the same 3.6864 MHz X-tal, the VCTCXO is the same and generates the same 13 MHz reference for the PLL chip. The RF VCO is the same part MAX2750. There are no new or changed clocks or LO's. The modulation is done in the same way on the frequency control pin of the VCTCXO, with the same data rate as before and with the same circuitry as before. The PA is the same and the maximum output power has not increased, but slightly decreased by the addition of an antenna switch.

There are no frequency multiplication stages in the design. A multiplier circuit is a nonlinear circuit that is driven by a high enough signal such that harmonics are generated followed by a filter circuit that selects one of them. The synthesizer chip contains dividers, not multipliers.

The product is the same from a functional point of view; all the signals on the board have the same frequencies.