

# OPERATIONAL DESCRIPTION

FCC ID: P27-TPM540

## **LTE Functional Description (B2/B4/B12/B13/B25/B26)**

The LTE receiving path includes LNA, RF band pass filter and the receiver IC down-converts the received signal from RF to baseband using ZIF techniques.

The LTE transmitting path consists of a transmitter, power amplifiers, duplexer, and antenna switch. Beginning with analog based band signal out from baseband processor Altair ALT1250, the transmitter up-converts the baseband signal directly to RF signal by modulating with an internal LO which is generated by Phase Locked Loop(PLL) circuit.

The PLL circuit which is in Altair ALT1250 consists of a VCO, a frequency synthesizer, a loop filter, and a reference frequency oscillator. The TX up mixer is incorporated in the transmitter Altair ALT1250. After modulation in transmitter, the RF enters into the power amplifier circuit.

Out from PA, the transmitting signal goes through duplexer and antenna switch and then routes into antenna. The TX power is monitored by power control circuit and will not exceed the set limit value.