Description

1. Introduction

The CPE RF portion consists of four major sub-circuits:

- Transmitter
- Receiver
- Local Oscillator
- Antenna Switch

Figure 1 shows the block diagram of the CPE.

2. Transmitter Sub-circuit

The I & Q modulator mixes the baseband I & Q modulating signals with the 700MHz IF LO signal to generate a modulated IF out signal at 350MHz. The modulated IF signal is filtered and amplified before it is mixed with an RF LO signal by a mixer to up-convert to an RF signal. The RF modulated signal is again filtered and amplified to a desired output power level at the Antenna Switch Sub-circuit.

3. Receiver Sub-circuit

The receiver receives an RF signal from the Antenna Switch Sub-circuit. This RF signal is amplified and filtered before it is mixed with the RF LO signal by the mixer to down-convert to a 350MHz IF. The received IF signal is again filtered and amplified before it is mixed with the 700MHz IF LO by the I & Q demodulator to generate the demodulated I & Q signals. These I & Q signals are then sent to the baseband circuit for signal processing.

4. Local Oscillator (LO) Sub-circuit

The LO Sub-circuit is phase-locked to a stable 16MHz reference oscillator to generate the 700MHz IF LO and the RF LO. The 700MHz LO is for the I & Q modulator/demodulator and the RF LO is for the up-converting/down-converting mixer.

5. Antenna Switch Sub-circuit

The Antenna Switch Sub-circuit switches the transmitter and the receiver to one of the three antennas.

Note: Only one antenna transmits for any single instant in time.

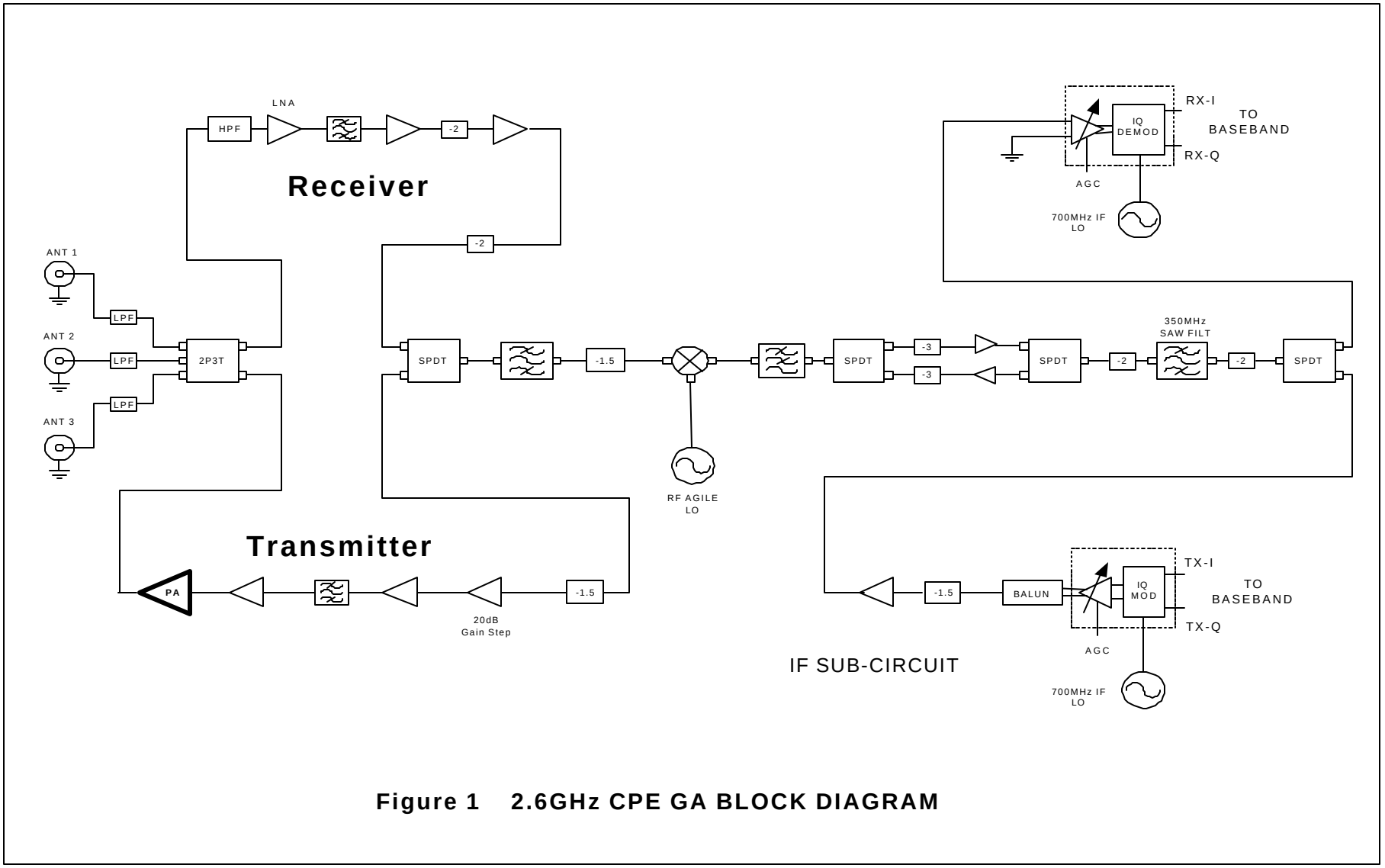

Figure 1 2.6GHz CPE GA BLOCK DIAGRAM