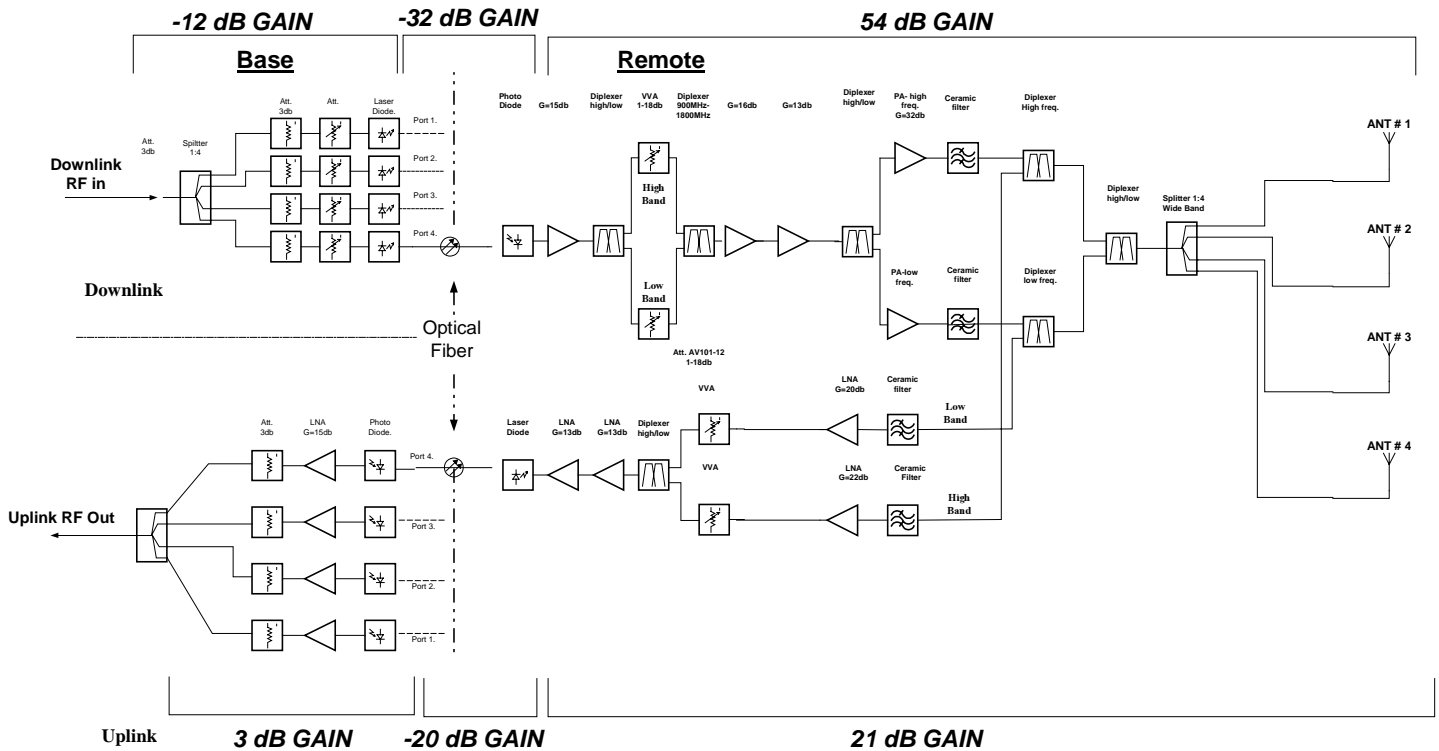


Litenna explanation Block Diagram

Litenna-in building coverage system

The Litenna system consist of two parts: the base unit that connects to the microcell in one side and in the other it is connected to the remote unit that transmit the signals to the antennas and receive the signal from them.



Left side shows the inputs/outputs of the system parts (BASE inputs/outputs). shows the internal structure of the BASE unit. The BASE unit can be consist of two equal boards (for 8 channels).

Every board has four courses with optical output, optical input, RF input and common RF in. shows the splitting of the RF input to the BASE unit to every course of the laser circuits that converts the RF signal to a light signal and exits it through the optical fiber to the remote unit.

Right side shows the basic structure of the receiver course. A photodiode receive the optic signal and converts it to RF. Then the signal pass trough an Amplifier and exits the unit. shows the basic structure of the REMOTE unit:

The photodiode receives the light and converts it back to RF signal. Since the remote is dualband unit, the signal pass through amplifier, then splits to the lower band and to the upper band for different VCA'S (voltage Controlled attenuator). Than we combine again the signals, and transmit the signal through two others low power amplifiers. The signal splits again to the upper band and lower band for passing the signals through different lower and upper bands power amplifiers. the signals filtered, pass through duplexers (for separating- between the transmitted signals and the received signals), combined again the upper band and lower band then splits to four antennas.

In the receive course, we sum the signals from all the four antennas, pass the signal to the receive course, filtering the needed frequencies, controlling the level of the signal through a vca (voltage- controlled attenuator, amplify the signal and convert it to light that passes through the optical fibers to the BASE unit.