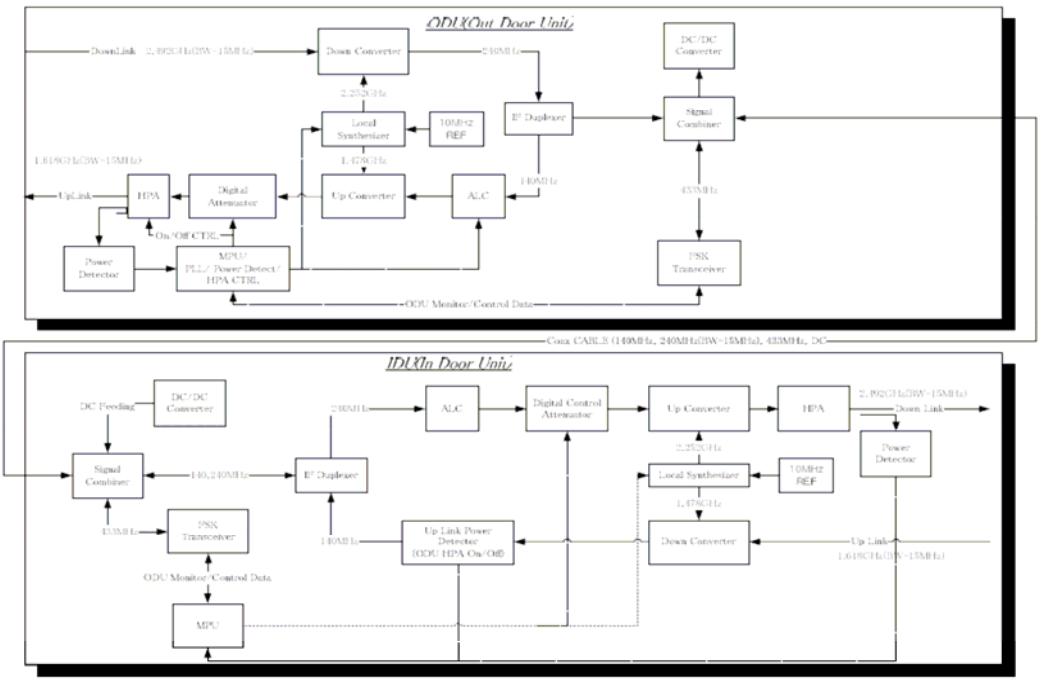


## Circuit Description



“GIR-2005” is consists of the IDU (indoor unit) and ODU (outdoor unit), and each units is installed at indoor and outdoor.

2.4GHz signal from a satellite comes in receiving antenna of the ODU and the signal comes in the inside of ODU after amplified by LNA.

The inside of the ODU has a Down Converter, so the signal frequency is changed to 240MHz. At this time, amplify of the signal is carried out also.

Using ALC and Digital Attenuator, the signal level is controlled and the signal is changed as a satellite signal frequency by Up Converter.

This signal is emitted by indoor antenna and if the terminal receives the proper signal, the terminal carries out a certification process.

Upper system is a downward (Rx) signal and Rx signal always maintains On state.

When the terminal receives Rx signal and carries out a certification process, the terminal transmit a RF upward (Tx) signal. At this time, frequency is a 1.6GHz

This signal is changed to 140MHz by Down Converter of the IDU’s first block and the signal is detected by Power Detector of the IDU’s second block.

If the signal is detected by Power Detector, the IDU commands ‘HPA On’ to the ODU by FSK Transceiver.

Because the Block, before HPA block of the ODU, has a Digital Attenuator and an ALC, the Tx power can be controlled.

Only one cable exists between the IDU and the ODU. Using this cable, Tx RF signal, Rx RF signal, FSK signal (role of communication between the IDU and the ODU), power supply (from the IDU to the ODU) are carried out.

Inside of the IDU has a Control Panel. Control and monitoring of the transmission signal strength, HPA Mode control (On, Off, Auto), HPA Off Delay (waiting time to turn it off of HPA when the signal disappears), Fan control and temperature monitoring are carried out using this Control Panel.

The signal from a satellite and the transmission signal of the IDU use the same frequency. If this signal goes into input part of the ODU, it may cause a spurious. Also, the transmission signal from the terminal and the transmission signal from the ODU to a satellite use the same frequency. If the transmission signal of the ODU goes into input part of the IDU, it may cause a spurious too. So, the isolation, between the ODU and the IDU, must be more than 80dB at least and more than 100dB for steady operation.

With reference, FSK Transceiver frequency is a 433MHz.