



General functional description Node G 840

The Node G is designed to amplify signals between multiple mobiles and a Base Transceiver Station in a GSM system. The unit consists of a filter and amplifier chain in the downlink and one filters and amplifier chains in the uplink. The uplink and downlink paths are connected via a duplexer on both ends of each path.

In the primary uplink path, a signal originating from the mobile phone is separated from the downlink signal via the UL IN duplexer. It is then amplified by an integrated low noise amplifier (LNA) and forwarded to the uplink Digital Channel Module (DCM). The DCM down-converts the signal to base-band, digitally filters it, amplifies it and then up-converts it. In addition the interference cancellation technology is implemented in the DCM. Finally, the signal is sent to the final amplifier and combined with the downlink input signal in the DL IN duplexer.

In the downlink path, a signal originating from the Base Transceiver Station is separated from the uplink signal in the DL IN duplexer. It is then amplified by an integrated low noise amplifier (LNA) and forwarded to the downlink digital channel module (DCM). The DCM down-converts the signal to base-band, digitally filters it amplifies it and then up-converts it. In addition the interference cancellation technology is implemented in the DCM. Finally, the signal is sent to the final amplifier and combined with the uplink input signal in the primary UL IN duplexer. The downlink DCM is also responsible for communication and control of the entire unit.

The Main unit (MU) is able to transmit 2channels. With the Extension Unit (EU), which is connected to the MU via cable bridge, the system can be extended up to channels 6 channels.