KwikBlue4-1

Bluetooth® Class 1 BC04 Module Operational Principle

Revision 0.1

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1. General

This Module is based on the Bluetooth technology.

Bluetooth is a global standard for short range wireless voice and
data communications. The frequency of Bluetooth is 2.4GHz ISM (Industrial- Scientific -Medicine)
band, working frequency is 2.400GHz to 2.4835GHz.

Use the frequency hopping technology to reduce interference of data transmission/ receiving, and
increase security of information transferring.

Data was transmitting and receiving among these 78 channels by the frequency hopping technology.

This Module can be a Master or Slave Bluetooth device. One Master and some Slave device can
become a Piconet for data transfer or Voice communication as below figure.

Piconet
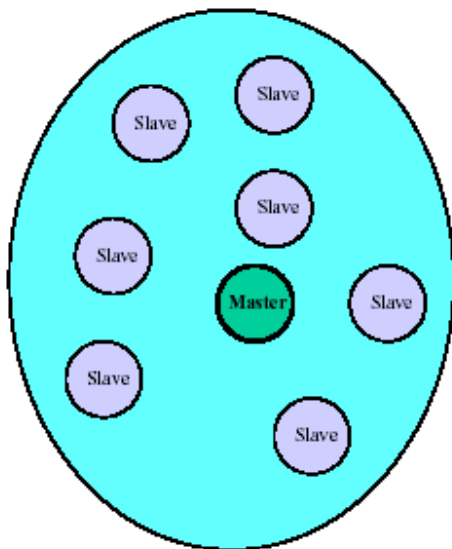
A piconet is an ad hoc collection
of up to 8 Bluetooth devices.

The Master provides clocking and
hop sequence data for
synchronisation of all devices in
the piconet

All devices in the same piconet
have the same hop sequence

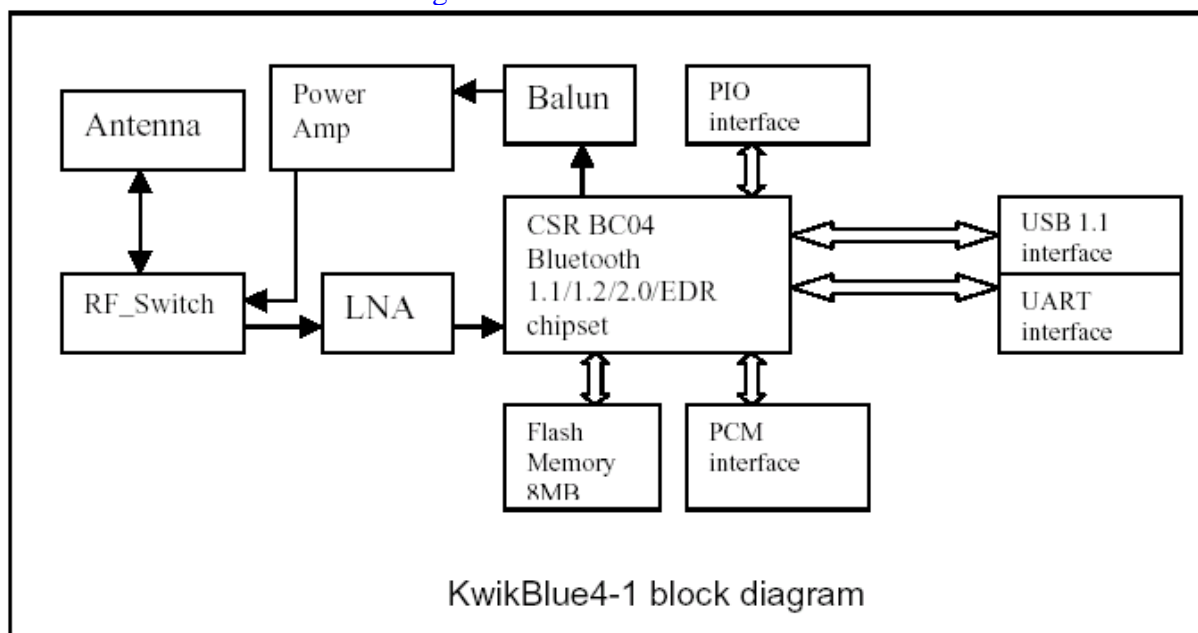Two Piconet can combine into a Scatternet for long distance data/voice communication, shown as below figure.

Scatternet

Two or more piconets in the same area may establish ad hoc connections called scatternets
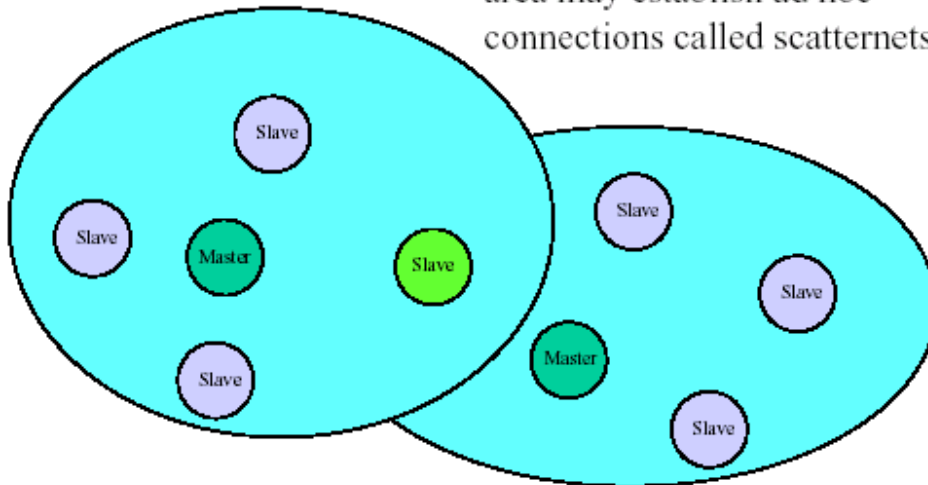
2. Product description

Please see the functional block diagram for the detail function and interface.

KwikBlue4-1 block diagram

From the diagram, the Power Amplifier provide 20dBm gain for the Bluetooth TX_power. This make this module into a class-1 bluetooth module.

The main chipset is a Bluetooth system which composed several interfaces including UART, USB, PCM and SPI.. The module is kernelled by a single chip radio and baseband IC for Bluetooth
system.

User just need to connect the required interface (UART, USB, PCM, SPI) to their main board, then a application system is ready for Bluetooth connection, shown as below.

Piconet Application(One to Seven)