

Description of Operation

Power supply:

The FM transmitter is fed by 3.3V LDO whose power source is the main battery.

Antenna:

The FM transmitter utilize Pifi antenna.

The power enable signal (Power manager) will be sent from MCU. Then 3-wire bus from MCU controls the write/read, clock and data line and operated at a typical clock frequency 400KHz. Then it selects 7.6MHz reference frequency which is provided by a 7.6MHz external crystal. Audio signal will be processed by Codec in the device.

There are two Integer-N synthesizers. The RF PLL (including RF VCO) is designed to tune the FM transmitter frequency operating from 88.1MHz to 107.9MHz with 100KHz channel spacing. The other one, stereo encoder PLL (including 7.6MHz CCO), is utilized to produce 19KHz pilot tune and 38KHz sub-carrier needed in MPX encoder as well as a 100KHz signal used for reference clock basis of generating RF VCO. The serially digital signal of encoder will mixed in the MPX encoder with the carrier from 7.6MHZ CCO, then this encoding signal will pass through RF VCO to change into the frequency that required. This signal then passes through PA and will be sent to transmitter antenna for transmitting.

Ground:

There is no external ground connection. The ground is only that of the printed circuit board.