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# *i*MediLogger

Multi Channel Data Acquisition System

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## iMedilogger ITIE41T and ITIE41R

### Salient Features

- Compact, portable, battery operated 4-channel EMG and 1-channel ECG monitoring system.
- 3.7V Li-Ion battery where software optimized for lower power consumption.
- The data can also be captured onto a micro-SD Card or transmitted on wireless to a receiver unit connected to a PC/Laptop to capture/display in real-time.

### ITIE41T - Transmitter

#### EMG Section

Number of channels	4
Electrode connectivity	Single ended or differential
Type of electrode	Passive
Maximum input range	755 $\mu$ VPP
Bandwidth	10 to 400Hz
Noise level referred to input	< 3 $\mu$ VRMS
Amplification Gain	4500 V/V
Input impedance	> 90 MOhm on the entire bandwidth
CMRR	>96 dB
Output range	0 to 3.3 V
A/D converter resolution	24 bits
Sample frequency	800 Hz

#### ECG Section

Number of channels	1
Type of electrode	Passive
Maximum input range	4.7 $\mu$ VPP
Bandwidth	15 to 160Hz
Noise level referred to input	< 3 $\mu$ VRMS
Amplification Gain	700 V/V
Input impedance	> 90 MOhm on the entire bandwidth
CMRR	>96 dB
Output range	0 to 3.3 V
A/D converter resolution	24 bits
Sample frequency	800 Hz

## Radio Frequency section

Type of device	ISM band Transmitter
Band	915MHz ISM band
Power	+12dBm @ 915MHz without RF amplifier
Modulation	FSK/MSK
Antenna	PCB antenna (optional external antenna on request)
Data rate	Upto 600Kbps
Range	Upto 500 feet in open space Upto 200 feet in enclosed space/building/room

## Data storage

PC/Laptop	Through USB cable or RF
Memory card	microSD Card, 4Gb

## Power Section

Power supply	Li-ion battery 3.7V, 3400mA or/and 5V through mini USB connector from AC power adapter/PC/laptop
Power consumption	200 mW max with RF Transmitter ON

## Connectors and Indicators

Front panel	15-pin Connector for EMG sensor cable 15-pin Connector for ECG sensor cable Green LED to indicate power ON Amber LED to indicate data capture and transfer in progress
Back panel	miniUSB connector for charging and data transfer microSD card connector Reset switch Power switch
Enclosure	ABS plastic case
Dimensions	250 x 250 x 50 mm
Weight	350 g including battery

## ITIE41R – Receiver

### Radio Frequency section

Type of device	ISM band Receiver
Band	915MHz ISM band
Receiver sensitivity	-112dBm @ 875MHz with 1% packet error rate
Modulation	FSK/MSK
Antenna	PCB antenna (optional external antenna on request)
Data rate	Upto 600Kbps
Range	Upto 500 feet in open space Upto 200 feet in enclosed space/building/room

### Power Section

Power supply	USB power from PC/Laptop through USB cable. No external power supply required.
Power consumption	40 mW max with RF Transmitter ON

### Connectors and Indicators

Front panel	Green LED to indicate power ON Amber LED to indicate data capture and transfer in progress
Back panel	USB A male connector for power and data transfer microSD card connector Reset switch
Enclosure	ABS plastic case
Dimensions	100 x 50 x 25 mm
Weight	150 g

### Recommended operating condition

Temperature	from 0°C to +40°C
Maximum relative humidity	75%
Atmospheric pressure	from 700 hPa to 1060 hPa