



1. Totum Transmitter (DUT)
2. Block Diagram
3. Description on DUT
4. Operation
5. Specification

2009.7

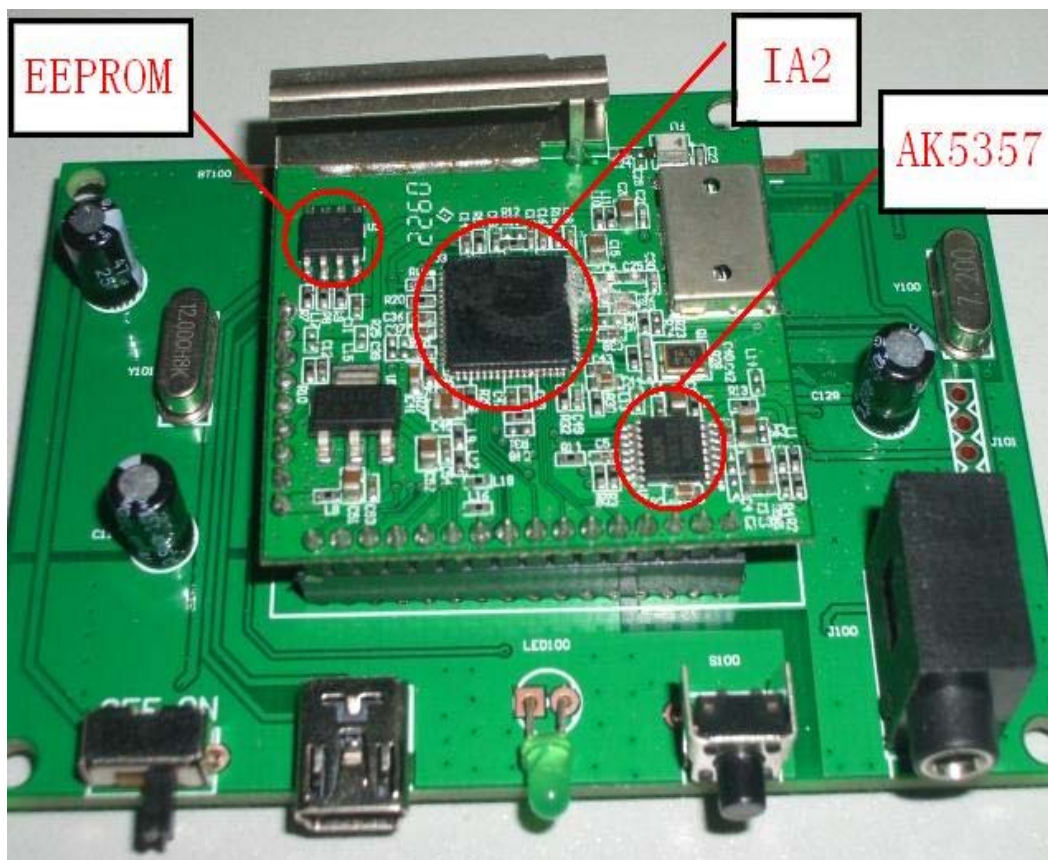
Aulong Technology Company Limited

Tel: (852) 31722560    Fax: (852) 31192417    E-mail: [info@aulong-tech.com](mailto:info@aulong-tech.com)

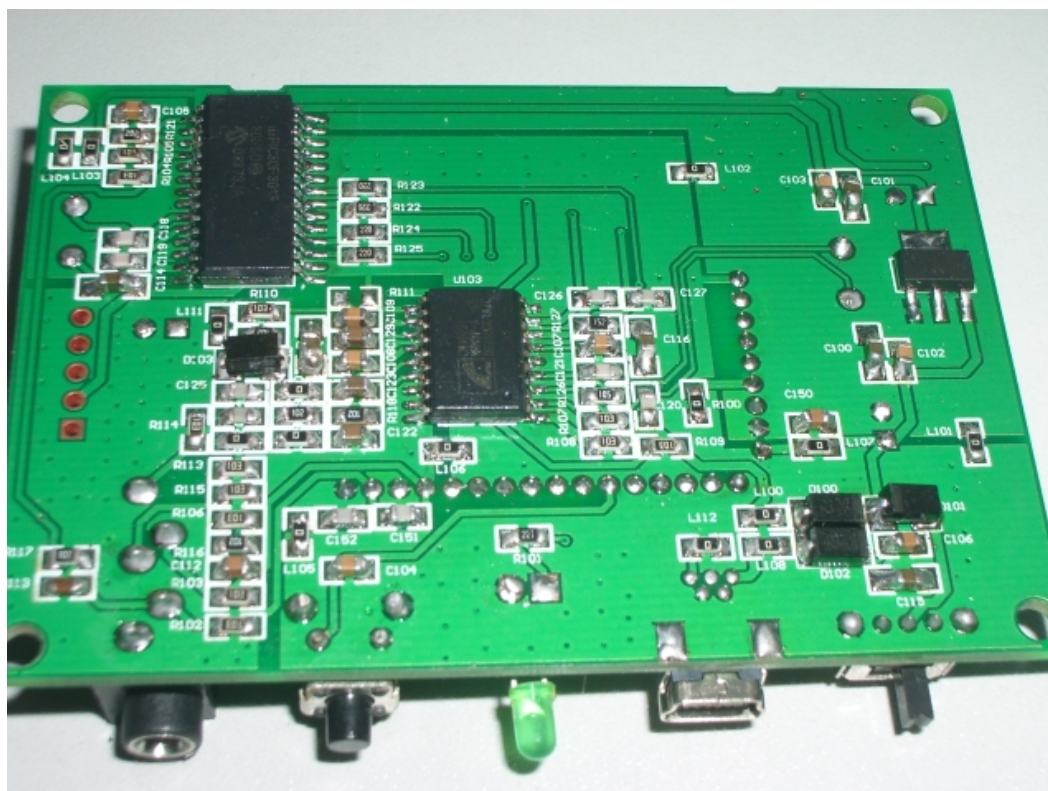


## 1. Totum Transmitter (DUT)

Top:

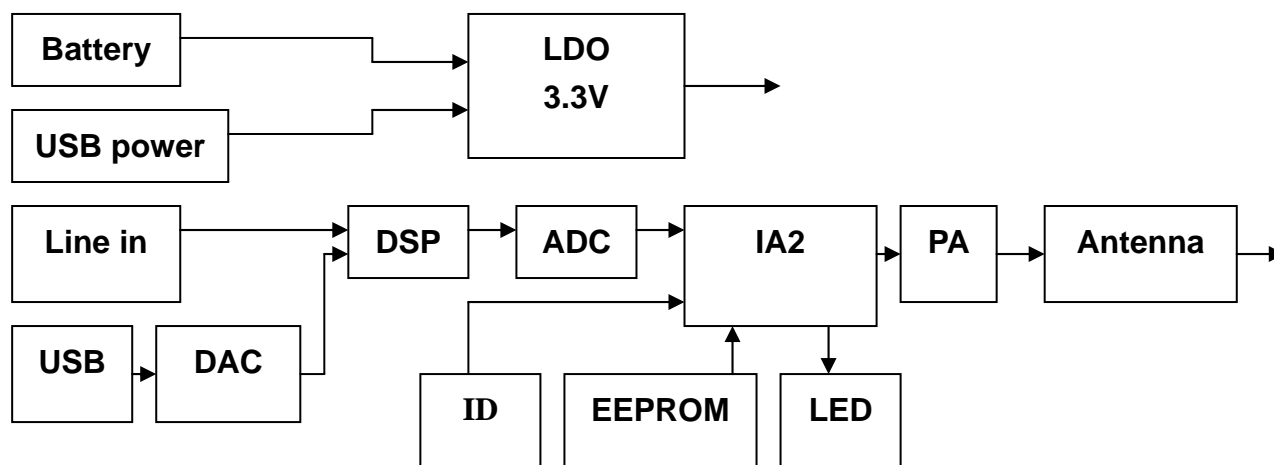


Bottom:





## 2. Block Diagram



Block	P/N	Description
Battery		4 x AA Battery (6V)
USB Power		5V (500mA)
USB		PC Audio Signal
Line in		Analog Audio Signal (e.g. MP3)
DAC	CM102	2-Channel USB Audio Controller
DSP	dsPIC30F3013	High-Performance, 16-bit Digital Signal Controllers
ADC	AK5357	24Bit 96kHz Analog to Digital Converter
IA2	IA2	2.4G Wireless Audio Transmitter
EEPROM	FM24C32A	Two-wire Serial EEPROM (32K bits)
LED		ID / No Audio indication
PA	AP1110	2.4G-2.5G Power Amplifier
Antenna	PIPF	PIPF Antenna (transmitter the FSK signal),2.0dBi gain



### 3. Description on DUT

Totum Transmitter is operating at 2.4GHz ISM band and it is designed as a FSK digital 2.4GHz transmitter.

The PC Audio (USB port) works with Windows 98, Windows ME, Windows 2000, Windows XP, Windows Vista, Mac OS 9 and Mac OS X operation systems (with the latest fixes from Apple). The Analog Audio (Line in) can also be playback by input to the 3.5mm audio jack.

PC Audio signal (PC Audio signal will be converted to Analog Audio signal by the DAC (CM102, 2-Channel USB Audio Controller)) or Analog Audio signal will be input to the DSP (dsPIC30F3013, High-Performance, 16-bit Digital Signal Controllers). The DSP will extract the rhythm information and pass to the IA2

Then, the Audio signal will be converted to Digital Audio signal by the ADC (AK5357, 24Bit 96kHz Analog to Digital Converter)

Next, the Digital Audio signal will enter the IA2 (2.4G Wireless Audio Transmitter). IA2 will (1) compress the audio signal and (2) modulate the compressed audio signal and rhythm information to a FSK carrier. The IA2 output (FSK signal) will be sent to the PA (AP1110, 2.4G-2.5G Power Amplifier)

The PA will sent the FSK signal to the PIPF Antenna (2.4G-2.5G)

- All IC are working in 3.3V
- EERPOM (FM24C32A) will store the IA2 program and configuration
- ID button is using to do the ID matching with the Receiver
- In the Receiver side, Receiver needs to demodulate the FSK signal and decompress the audio signal



### 4. Operation

- a) For direct line in playback, please use the battery power
  - ◆ open the battery compartment on the bottom, put in 4 x AA battery and close the compartment
  - ◆ Turn on the battery power switch
  - ◆ connect the Audio cable provided to the audio source and the 3.5mm audio jack
  - ◆ start playing songs in the music sources (e.g. MP3 Player)
- b) For USB input, please use the USB bus power
  - ◆ Turn off the battery power switch
  - ◆ Connect the USB cable provided to your PC and the USB port of the Transmitter Box
  - ◆ start playing songs in your PC

### 5. Specifications

Item	Specification	Unit	Note
Frequency Range	2406 ~ 2472	MHz	
Channel	34		
Modulation	GFSK		
RF TX Power	16±2 (typ)	dBm	Radiation Power
USB power	5	V	DC
Battery power	6	V	4 x AA battery