

### SANYO Microcontrollers

Low power /  
High performance products

On-chip flash memory, USB interface integrated 8-bit microcontrollers

#### Merits of flash microcontrollers

Shorten new product development time and enable early startup of mass production

### LC87F1HC8A

USB Host controller integrated flash microcontrollers

Onboard Programmable Via USB \*1

USB Regulator, PLL Circuit Internal for USB and Audio Interface



#### Specifications / Features

- Package : QFP48 pin 7.0mm□
- ROM/RAM size : ROM=128KB/RAM=16KB
- Minimum instruction cycle time : 0.25μs (12MHz) Bus cycle time=0.083μs
- Operating supply voltage : 2.7V to 5.5V
- Standby mode power consumption : 0.04μA (Hold Mode)
- USB Specifications : USB 2.0 (1.1) Full-Speed
- Serial I/O : Synchronous: 8 bits×3 (automatic data transfer possible), Asynchronous/Synchronous: 8 bits×1, Full duplex UART×1
- A/D : 8 bits×12 channels
- ◎ Standard software available : Enables the new product development period to be reduced and mass production to be commenced at an earlier stage.
- Lower cost version : Mask versions are also available.

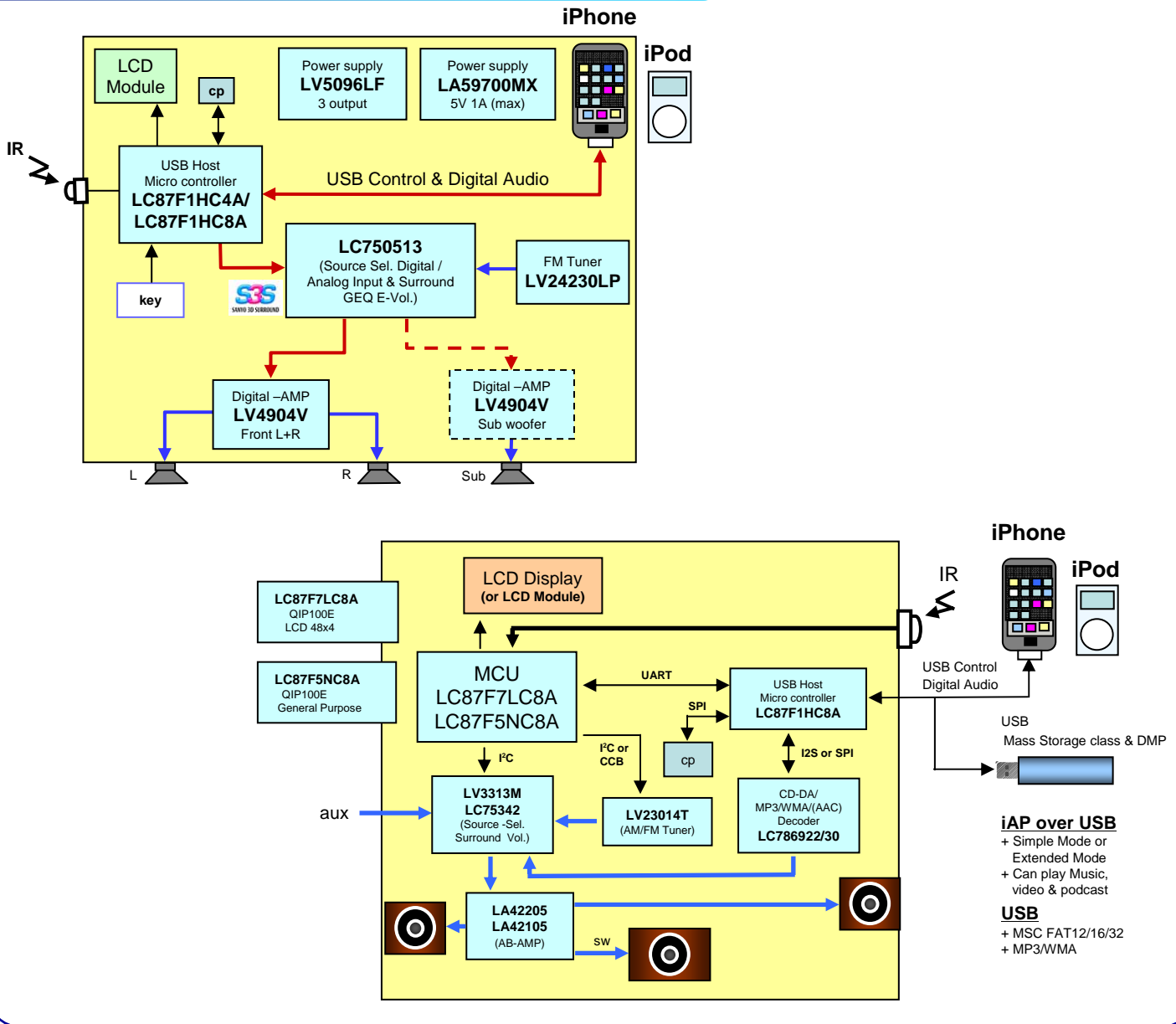
\*1 System-level considerations are required. For details, please contact your SANYO sales representative.

\* Flash products are licensed from Silicon Storage Technology, Inc., (USA), and manufactured and sold by SANYO Semiconductor Co., Ltd.

\* Apple and Apple logos are registered trademarks of Apple Computer, Inc. in the United States. iPhone is a trademark of Apple Computer, Inc. The iPhone trademark is used under the license of Aiphone Co., Ltd.

\* iPod is a trademark or registered trademark of Apple Computer, Inc. registered in the United States and other countries. And product names mentioned herein are the trademarks or registered trademarks of their respective owners.

Circuit Example



Standard Software and Main Specifications

- CPU interface : UART (19.2Kbps, 8bit, Non-Parity, Stop bit 2)
- USB dvice class : Mass storage class
- Supported file systems : Fat12/16/32 supported
- MP3/WMA/AAC file playback support (Tag analysis function)
- Folder layer : 8 layer
- Number of folders : 256 folders
- Number of files : 65,535 files
- Number of files per folder : 999 files
- iPod Advanced Remote Control (iPod Accessory Protocol)

\* Flash products are licensed from Silicon Storage Technology, Inc., (USA), and manufactured and sold by SANYO Semiconductor Co., Ltd.  
 \* S3S is a registered trademark of SANYO Electric Co., Ltd.  
 \* Apple and Apple logos are registered trademarks of Apple Computer, Inc. in the United States. iPhone is a trademark of Apple Computer, Inc. The iPhone trademark is used under the license of Aiphone Co., Ltd.  
 \* iPod is a trademark or registered trademark of Apple Computer, Inc. registered in the United States and other countries. And product names mentioned herein are the trademarks or registered trademarks of their respective owners.