LTM1216
Multi-Function EVB
User Manual

Apr.2016

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Please notice that if the FCC identification number is not visible when the module is installed inside another device, then the outside of the device into which the module is installed must also display a label referring to the enclosed module. This exterior label can use wording such as the following: "Contains FCC ID: 2AISR-LTM1216" any similar wording that expresses the same meaning may be used.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled

environment. This equipment should be installed and operated with a minimum distance of 20cm

between the radiator & your body. This transmitter must not be co-located or operating in

conjunction with any other antenna or transmitter.

The module is limited to OEM installation ONLY.

The OEM integrator is responsible for ensuring that the end-user has no manual instruction to remove or install module.

The module is limited to installation in mobile application;

A separate approval is required for all other operating configurations, including portable configurations with respect to Part 2.1093 and difference antenna configurations.

There is requirement that the grantee provide guidance to the host manufacturer for compliance with Part 15B requirements.

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1 General Description

1.1 The Development board circuit diagram

The development platform is used for functional demonstration of GT1216 and LTP1218, in order to accelerate user's development process, it supports LTM1216 and GT1216 module by two modes: Hostless and USB mode. It also contains 4 LEDs which are drivered by GPIO easily for function display. Please see Figure 1-1 for the Evaluation board circuit diagram.
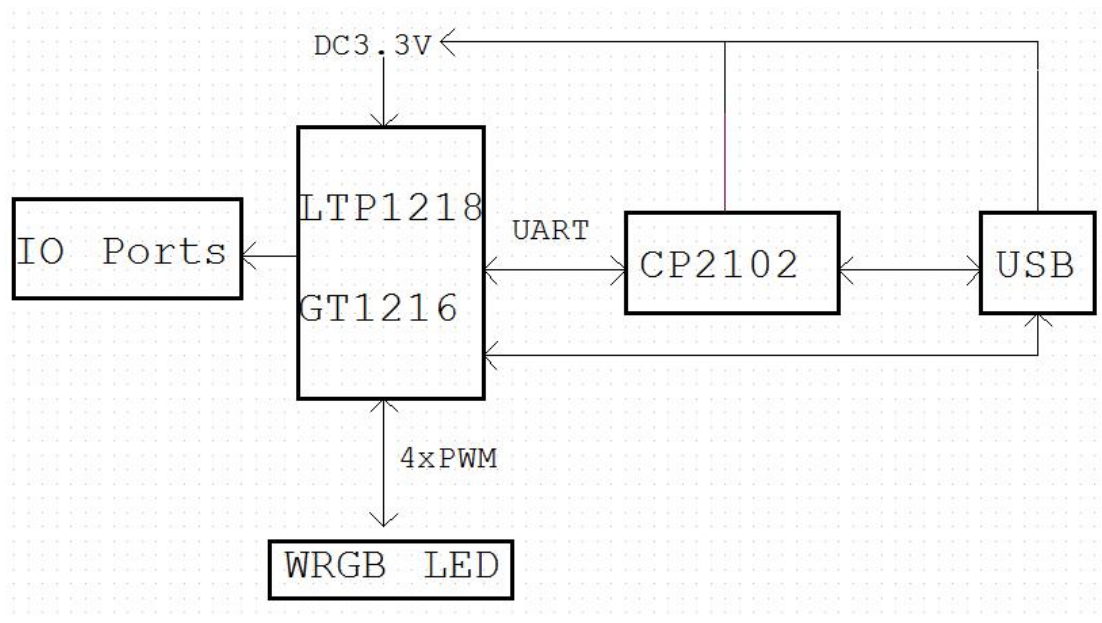

Figure 1-1 EVB Circuit Diagram

1.2 The picture of the actual object

The figure 1-2 and 1-3 is the physical picture for LTM1216 and GT1216, Both of them have the same function and Pin outs. LTM1216 is a demo board P2P with GT1216 for LTP1218 SIP.

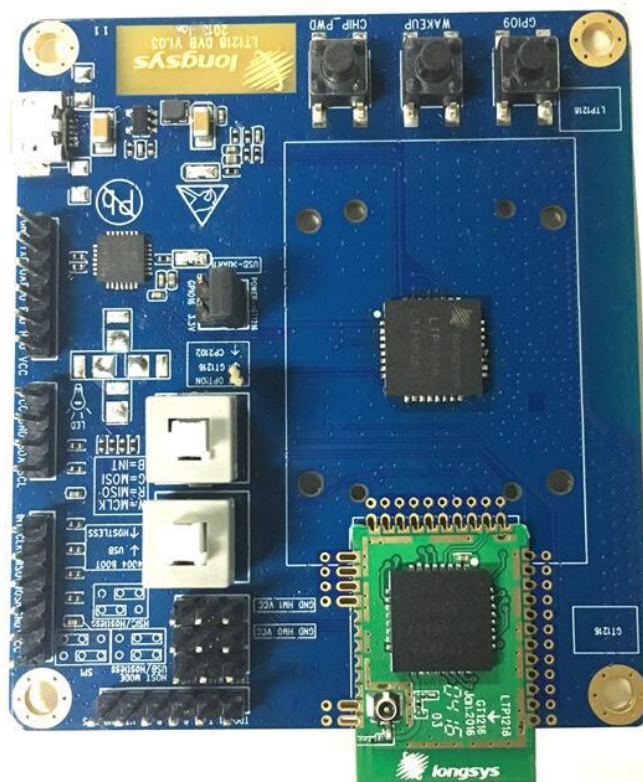**Figure 1-2   LTM1216**   **Figure 1-3   GT1216**

Figure 1-4 LTM1216 on the board
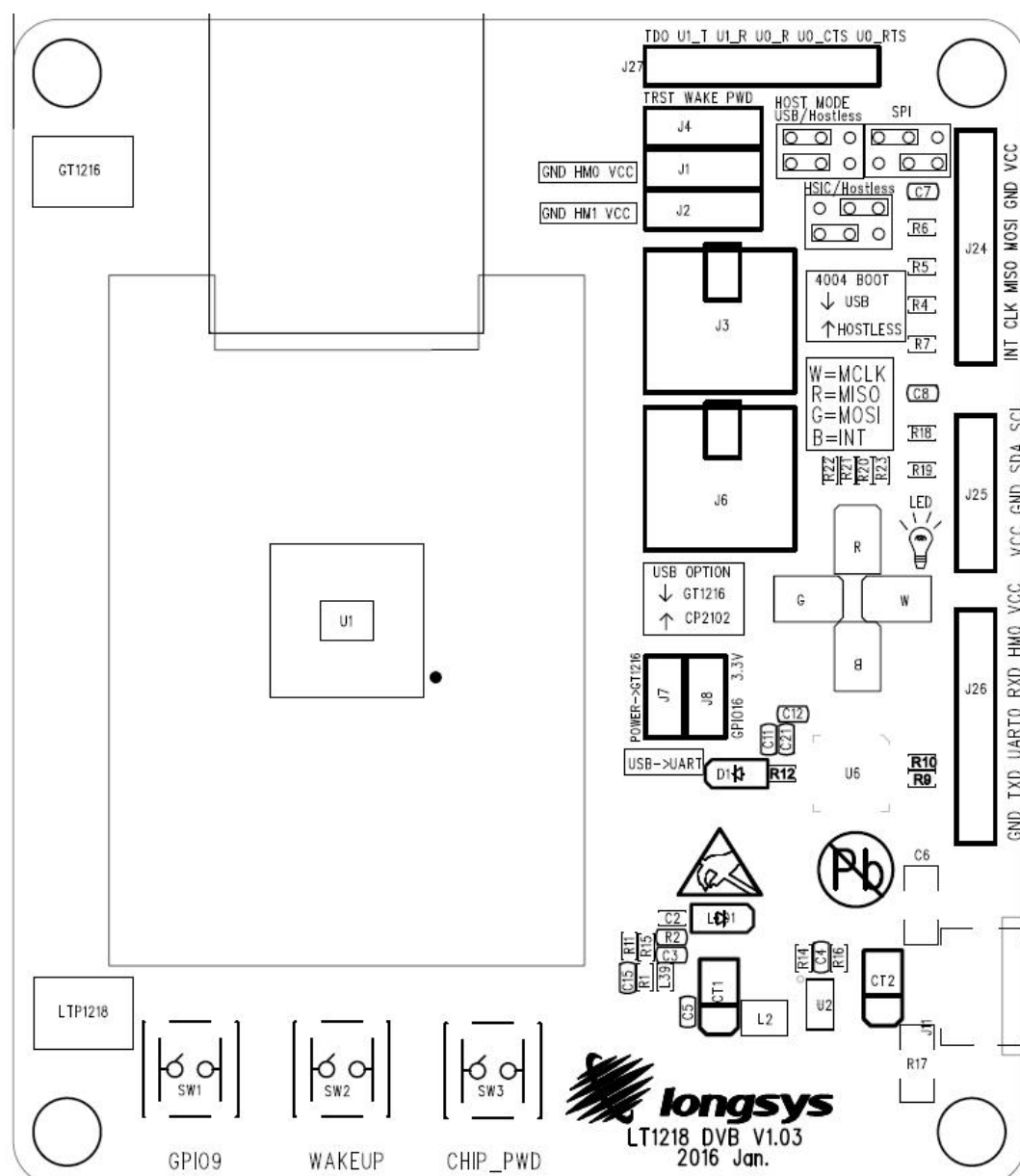
2 The Development board layout and interface

Figure 2-1 Top Screen of the LTP1218 development board

Table 2-1 LTP1218 DVB components

J1、J2	HOST MODE option	D1	LED for Cp2102
J3	HMO&GPIO16	W、R、G、B	Four color LEDs
J6	USB option	U1	LTP1218
J7	VCC interface	U6	Cp2102
J8	GPIO_16 option	SW1	GPIO9
J11	Micro USB	SW2	WAKEUP
J4,J24,J25 ,J26,J27	GT1216 GPIOs	SW3	CHIP_PWD
LED1	Power LED		

3 The Development board interfaces

3.1 HOST MODE OPTION

The GT1216 have two different host mode.

1、 USB Mode： user can download and calibration LTP1218 through USB mode, just push the button J3 and J6 or jumper J1 and J2 （**Figure3-1**)

2、 Hostless Mode: if user want to the module work in normal mode, just release the button J3 and J6 or jumper J1 and J2 . (**Figure3-2**)
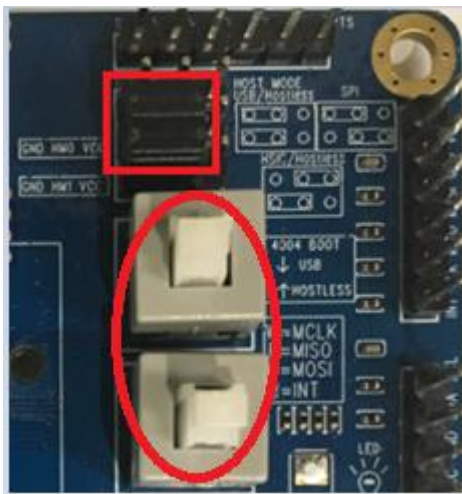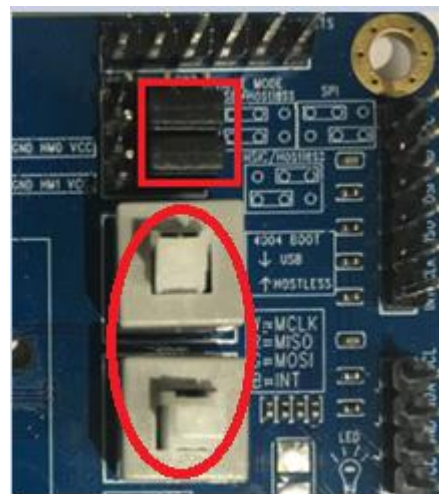

Figure 3-1

Figure 3-2

3.2 UART&USB OPTION

If user need to use USB mode (download or test), only need to press the button (J6), if you use UART mode (debug software) only need to release the button.

Table 3-1 J3

Left Pin	Right Pin	Button	Description
1216_USB_DN	1216_USB_DP	↓	USB
USB_DN	USB_DP		
CP2102_USB_DN	CP2102_USB_DP	↑	UART

Figure 3-3

3.3 RXD Option

For the UART RXD, users need to choose HM0 or UART0 by the software, and then you can select one by shorting J26.2&J26.3 or J26.4&J26.3. (2or4)

Table 3-2 J26

Pin	Description
1	VCC
2	HM0
3	**RXD**
4	UART0
5	**TXD**
6	GND

3.4 GPIOS

Table 3-3 J4

Pin	Description
1	PWD
2	WAKEUP
3	TRST

Table 3-4 J24

Pin	Description
1	SPI_INT
2	SPI_CLK
3	SPI_MISO
4	SPI_MOSI
5	GND
6	VCC

Table 3-5 J25

Pin	Description
1	SCL
2	SDA
3	GND
4	VCC

Table 3-6 J27

Pin	Description
1	UART0_RTS
2	UART0_CTS
3	UART0_RXD
4	UART1_RXD
5	UART1_TXD
6	TD0

3.6 VCC Interface

Table 3-7 J7

Pin	Description
1	VCC- LTP1218
2	3.3V