



FLAT DISPLAY TECHNOLOGY CORPORATION



This product is RoHS compliant



Smart Graphic Module Plus Quick Start Guide (日本語版)

Version : 1.1

Date : August 7, 2015

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第 1 章 Smart Graphic Module Plusの紹介

1.1 まえがき

優れた SGM PLUS の特徴と利点をユーザー様が体験できるため Starter Kit に含まれる部品および技術資料を用意いたしました。その中ではハードウェアのインストール方法およびアクセサリ類について理解しやすく解説しております。また、異なるモードによるデモンストレーションの例題を体験いただければ SGM PLUS の特徴や動作が簡単に理解でき SGM PLUS を手軽なものと感じて頂けるものと信じています。

1.2 SGM Plus の特徴

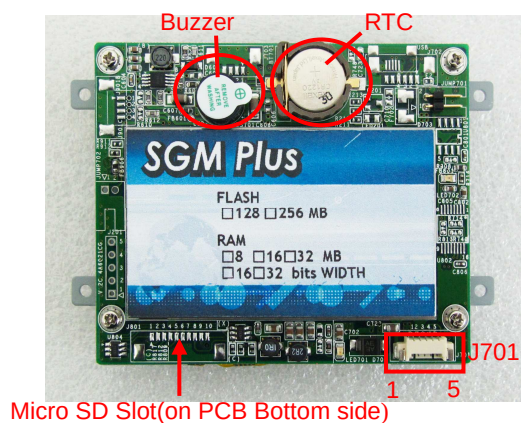
- | | |
|----------------------------|--|
| ■ Memory | ■ RTC |
| ◆ 128MB/256MB Flash Memory | ◆ Display date, clock, alarm and countdown . |
| ◆ 8MB/16MB RAM | ■ Touch Screen Panel |
| ■ Buzzer | ◆ 4W resistive touch panel. |
| ◆ 80dBA (min) | ■ Others |
| ■ Micro SD | ◆ Red LED Light- Status of Busy or Profile Update. |
| ◆ Micro SD Slot | ◆ Green LED Light: Status of Power. |
| | ◆ Supports BMP image format. |



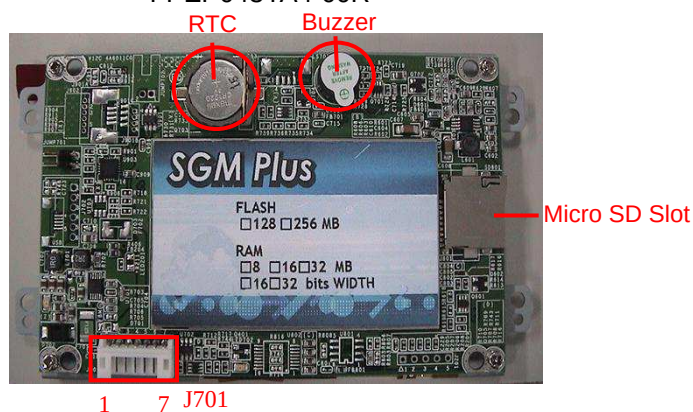
Size (Res.)	Start Kit P/N	Flash Memory	RAM
3.5" (320x240)	FPEP035QA4-00R	128MB	8MB
4.3" (480x272)	FPEP043YA4-00R	128MB	8MB
5.6" (640x480)	FPEP056VAx-00R	256MB	16MB
7" (800x480)	FPEP070WAx-00R	256MB	16MB
10.4"(800x600)	FPEP104SAx-00R	256MB	16MB

1.3 SGM Plusハードウェアの紹介

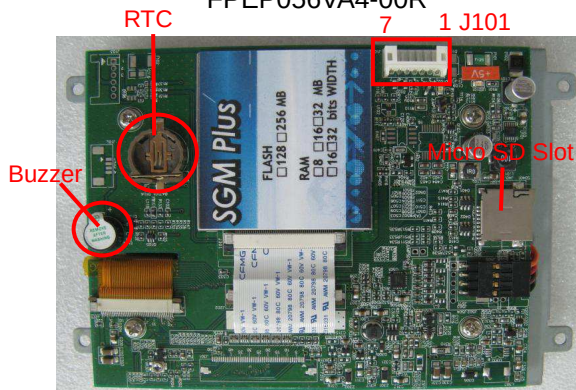
FPEP035QA4-00R



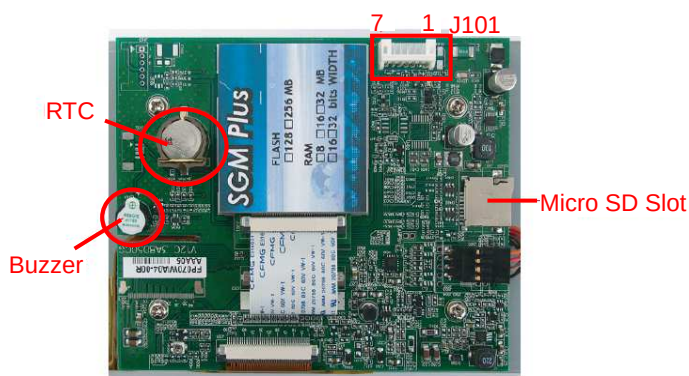
FPEP043YA4-00R



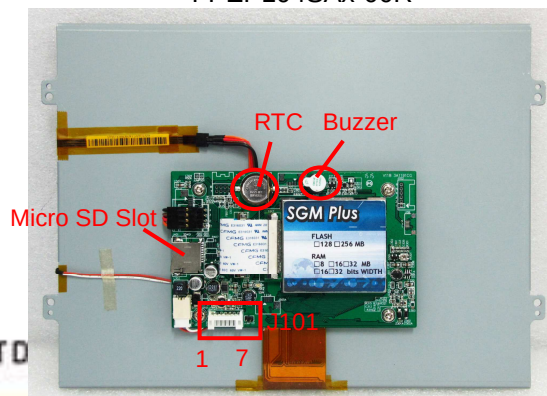
FPEP056VA4-00R



FPEP070WAx-00R



FPEP104SAx-00R



1.3 J101/J701: Pin Assignment of Power & UART For 4.3"~10.4" (Pitch 2.0mm 7Pin,Side Entry Type)

Pin No	Symbol	I/O	Description	Remark
1	VCC5V	-	+5V Input voltage	
2	VCC5V	-	+5V Input voltage	
3	GND	-	Ground	
4	GND	-	Ground	
5	BUSY	O	BUSY	High is busy, Low is normal
6	RXD	I	Receive	
7	TXD	O	Transmit	

J701: Pin Assignment of Power & UART for 3.5" (Pitch 1.25mm 5Pin,Side Entry Type)

Pin No	Symbol	I/O	Description	Remark
1	VCC5V	-	+5V Input voltage	
2	GND	-	Ground	
3	BUSY	O	BUSY	High is busy, Low is normal
4	RXD	I	Receive	
5	TXD	O	Transmit	

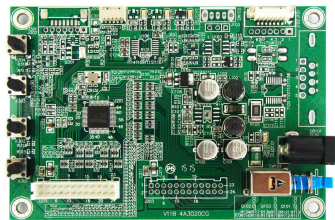
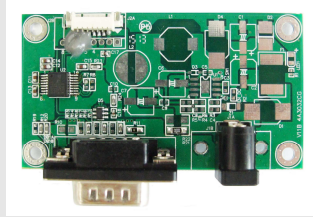
Reference:

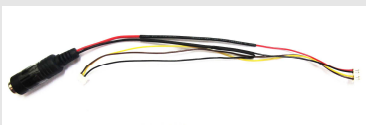
Size	Path	File name
3.5"	Disk:\Specifications\	FP035QIA1x-00R.pdf
4.3"	Disk:\Specifications\	FP043YIA1x-00R.pdf
5.6"	Disk:\Specifications\	FP056VIA0x-00R.pdf
7"	Disk:\Specifications\	FP070WIA0x-00R.pdf
10.4"	Disk:\Specifications\	FP104SIA2x-00R.pdf

1.4 System Requirement

Item	Requirement
CPU	Intel Pentium Core 2 Duo 2.0GHz or above (4 Core recommended)
Memory	Minimum 4GB (8GB recommended)
Disk space	Minimum 1GB
OS	Window 7 / 8 / 8.1 64 bit (No support 32bit OS)
Display	Resolution at least 1024x768 (recommend 1920x1080)
External Storage	DVD-ROM

1.5 Accessories

NO	Item	Order P/N	Picture	Note
1	Graphic Control Kit (GCK-003)	LOMCU0003B- FDR		
2	SGM Plus 5V Input + RS232 to UART	LOPOWER011-FDR		
3	USB To UART Converter Board	LOUSB00001-FDR		

4	Power Cord for Europe (L:1800mm) (shipping depend on Area)	LACABLE047-FDR		
5	Power Cord for USA (L:1800mm) (shipping depend on Area)	LAAC818000-FDR		
6	L:1500mm,100-240VAC 47-63Hz to +5VDC @ 3A, ψ 2.5	LASTD05030-FDR		
7	USB Extended Cable (A-Type Plug _A-Type Receptacle L:1800mm)	LAUSB18001-FDR		
8	RS232 Cable Female/Female Null Modem type L:1800mm (white)	LACABLE045-FDR		
9	Power & UART Cable 7Pin 2.0mm to DC Jack+4Pin 1.25mm (L:150mm)	LACABLE008- FDR		for 4.3"~10.4"
10	Power & UART Cable 5Pin 1.25mm to DC Jack+4Pin 1.25mm (L:150mm)	LACABLE012-FDR		for 3.5" only
11	GCK-003 Signal Cable 7Pin 2.0mm to 7Pin 1.25mm (L:150mm)	LACABLE009- FDR		for 4.3"~10.4"
12	CK-003 Signal Cable 5Pin 1.25mm to 7Pin 1.25mm (L:150mm)	LACABLE016-FDR		for 3.5" only

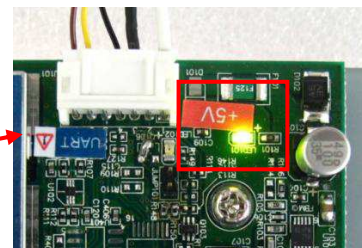
デモンストレーションをモード別に紹介： Auto/ UART/ MCU control Mode.

(Start Kit\Documents\Start_Kit_Demo_User_Guide.pdf for details.)

\\Start Kit\Documents\Start_Kit_Demo_User_Guide_Compact.pdf for details)

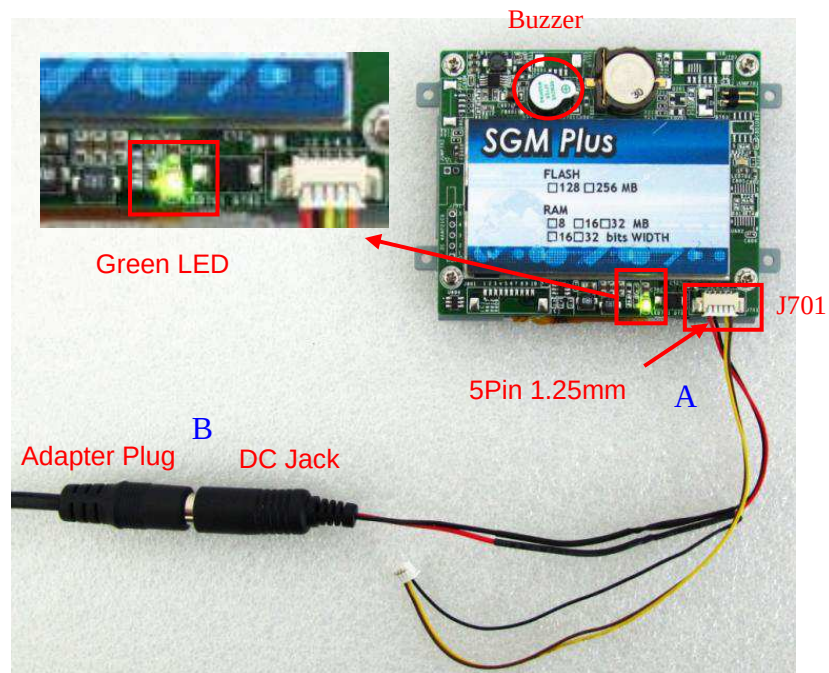
内部に搭載された SGM Plus の機能をサンプルでデモします。

- A. Connect Power & UART Cable(LACABLE008- FDR) 7Pin (2.0 mm) with J101 (7Pin 2.0mm) Connector as below.
- B. Connect 5V Adapter Plug with Cable DC Jack
Green Led light will be one when powering up.



Step 1.2 3.5" モジュールの接続

- A. Connect Power & UART Cable (LACABLE012-FDR) 5Pin (1.25mm) with J701 (5Pin 1.25mm) Connector as below.
- B. Connect 5V Adapter Plug with Cable DC Jack
Green Led light will be one when powering up.



Step 2 ブザーは起動時および起動時画面が以下のような時に 1 回鳴ります。



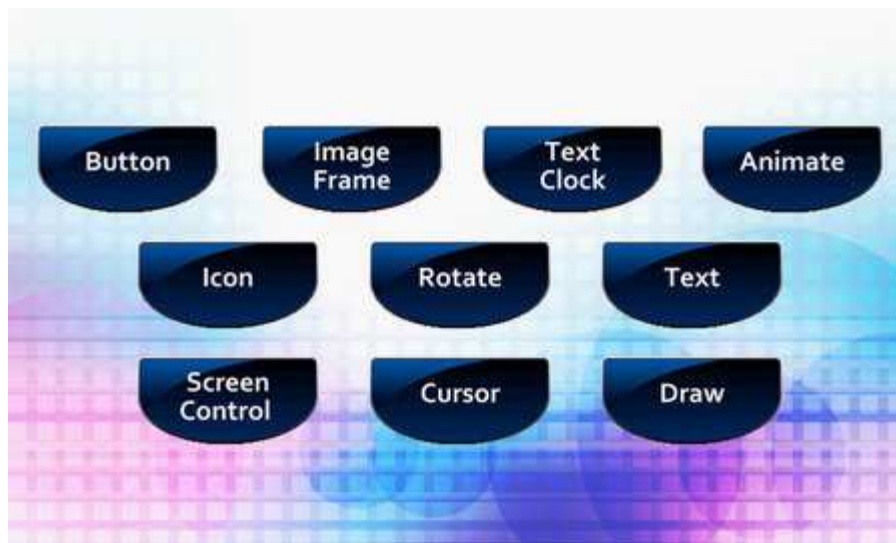
Step3. “AUTO”に入ると次のようなアイコンが画面に現れます Button, Image, Frame, Text/Clock, Animate, Icon, Rotate, Text, Screen Control, Cursor and Draw

(Note: 5.6~10.4”Refer to CD:

\\Start Kit\\Documents\\Start_Kit_Demo_User_Guide.pdf for details.)

(Note: 3.5~4.3” Refer to CD for details.

\\Start Kit\\Documents\\Start_Kit_Demo_User_Guide_Compact.pdf for details.)



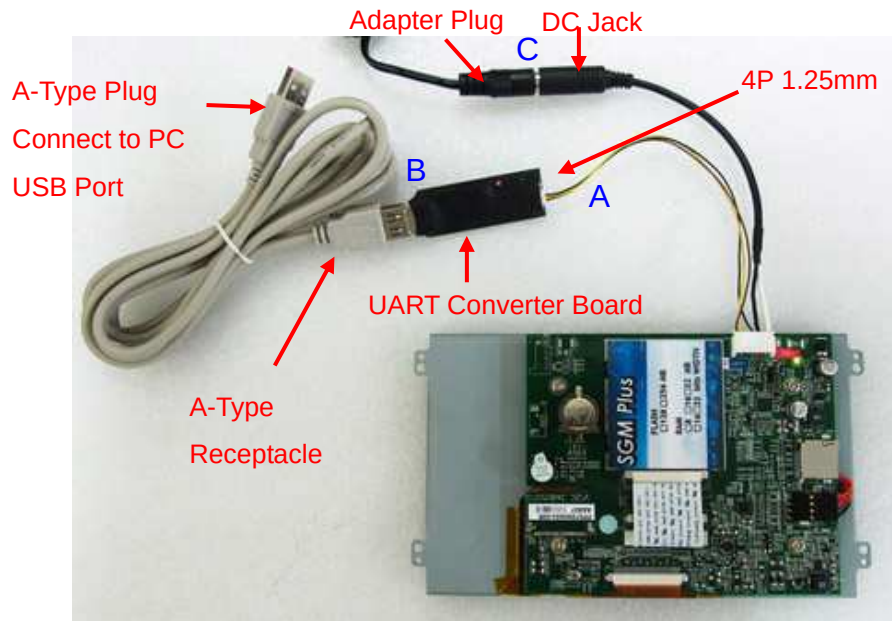
2.2 UART Mode

Command_Pilot2 が command を SGM PLUS へ送ります。

Step1.1 4.3”~10.4” UART Mode

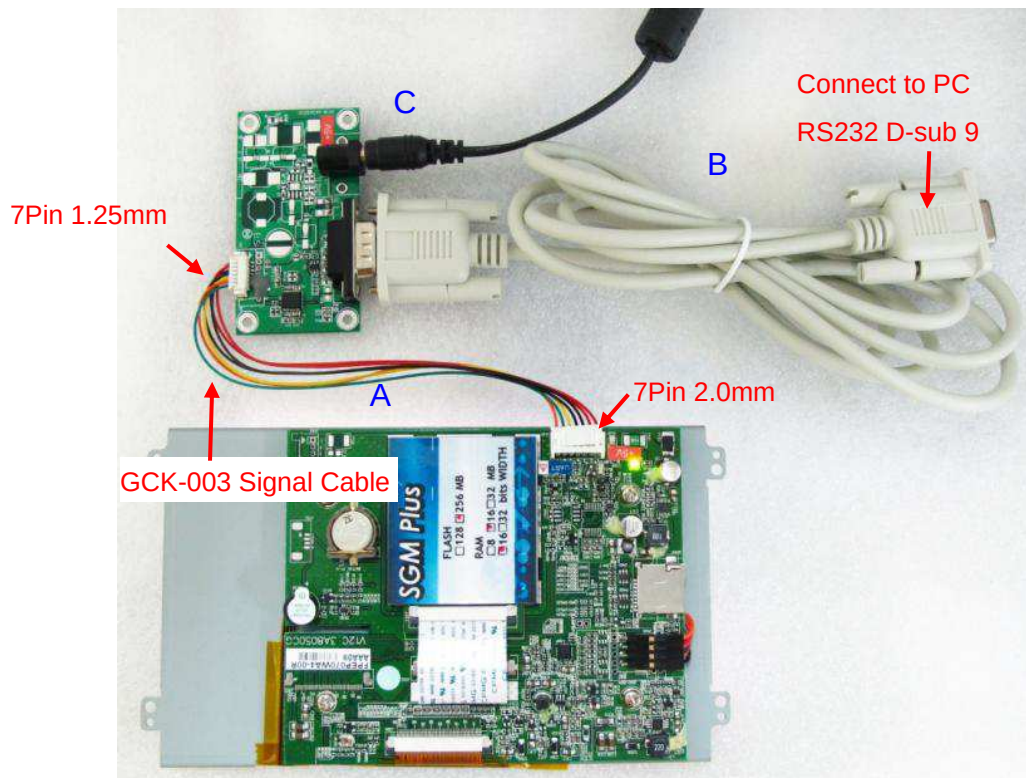
接続方法

- A. Connect Cable 4P (1.25mm) to 4-P (1.25 mm) pin header on USB To UART Converter Board as **A** below.
 - B. Connect UART Converter Board to PC USB Port per USB extension cord as **B**..
 - C. Connect 5V Adapter Plug to Cable DC Jack
- モジュールに電源を入れるとブザーが1回鳴ります。



RS-232 を使った接続 (4.3"~10.4")

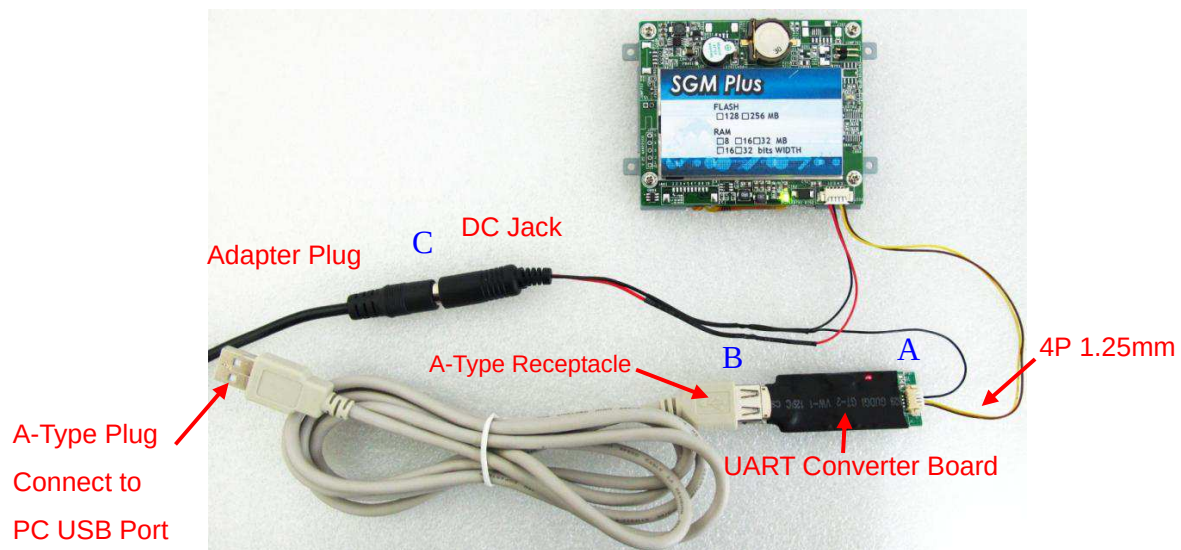
- Connect cable **A** between SGM PLUS and RS232 converter board.
- Connect the other end of 7P (1.25 mm) cable to J2A (7P- 1.25mm) on UART Board.
- Connect RS232 Cable between RS232 to UART board and PC RS232 por
- Connect 5V Adapter Plug to Cable DC Jack
- Power up the module and buzzer will beep once..



Step1.2 3.5" モジュール UART Mode

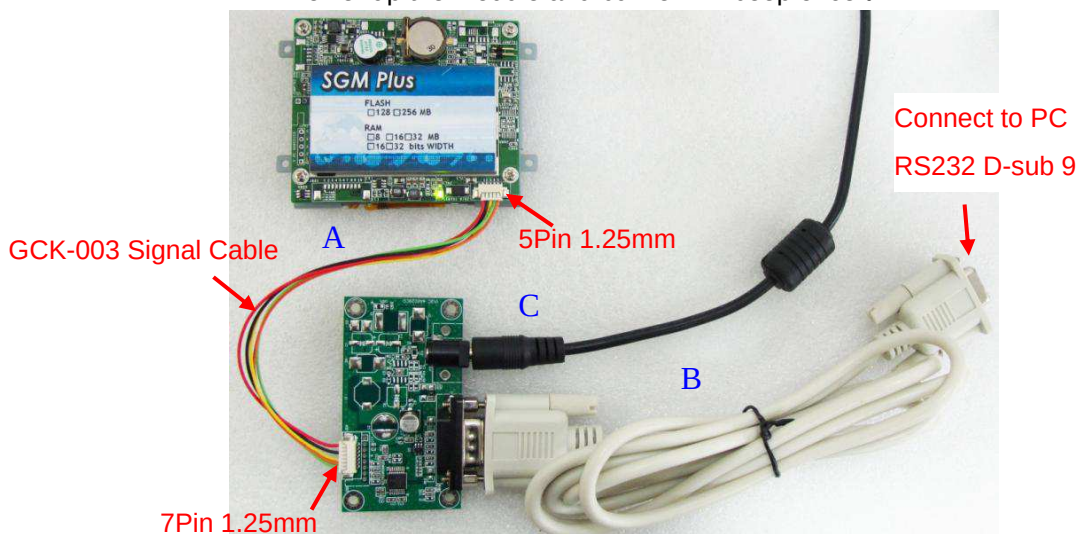
接続方法

- Connect Cable 4P (1.25mm) to 4-P (1.25 mm) pin header on USB To UART Converter Board as **A** below.
- Connect UART Converter Board to PC USB Port per USB extension cord as **B**..
- Connect 5V Adapter Plug to Cable DC Jack
Power up the module and buzzer will beep once.



RS-232 を使った接続 (3.5" Module)

- Connect cable **A** (LACABLE016-FDR) between SGM PLUS and RS232 converter board.
- Connect the other end of 5P (1.25 mm) cable to J2A (7P- 1.25mm) on UART Board.
- Connect RS232 Cable between RS232 to UART board and PC RS232 por
- Connect 5V Adapter Plug to Cable DC Jack
- Power up the module and buzzer will beep once..



Step2. Boot screen is as below.



Step3. "UART"に入ると "Please Link PC and Use Command Pilot 2"というメッセージが表示されます。

(Note: 5.6~10.4"Refer to CD:

\\Start Kit\\Documents\\Start_Kit_Demo_User_Guide.pdf for details.)

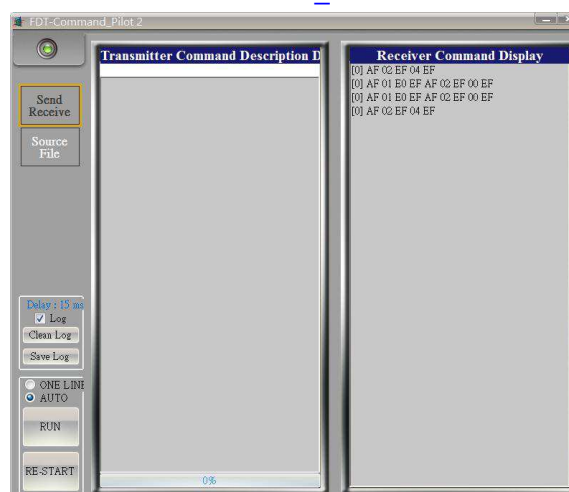
(Note:3.5~4.3" Refer to CD for details.

\\Start Kit\\Documents\\Start_Kit_Demo_User_Guide_Compact.pdf for details.)

SGM Plus



PC Command_Pilot2



参考資料:

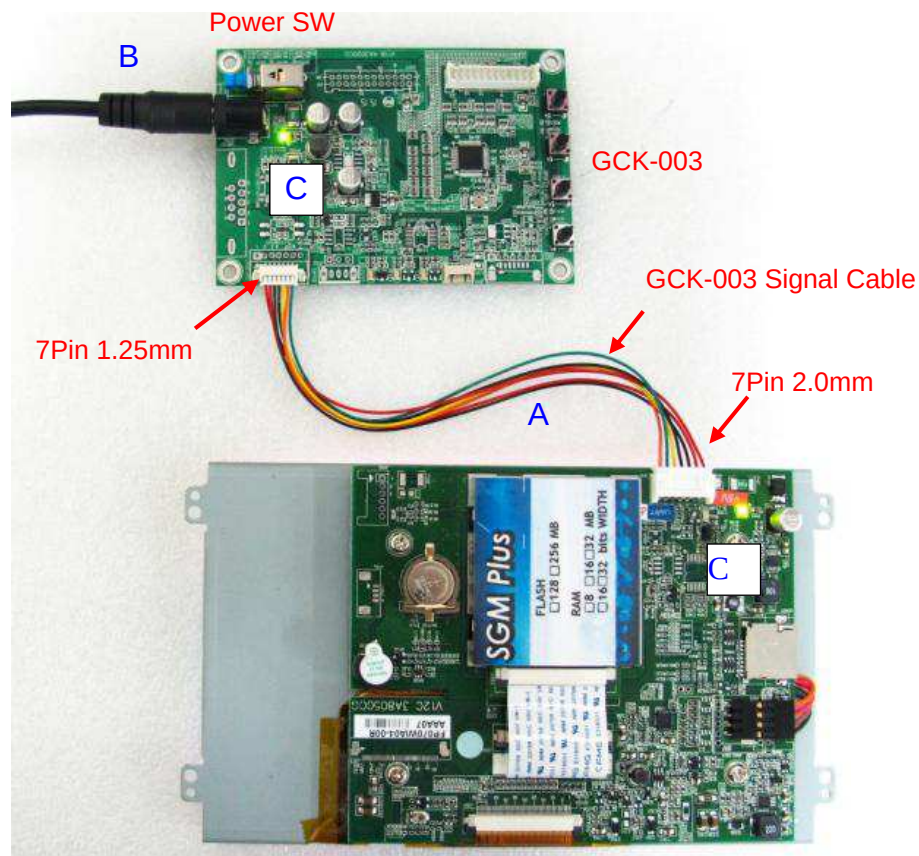
Item	Path	File name	Note
Operation Guide to Command_Pilot2	CD:\ Tools(software)\ FDT-Command_pilot2\	Command_Pilot2_Operation_Guide.pdf	
SGM PLUS UART Command	CD:\ Tools(software)\ FDT-Command_pilot2\	SGM_Plus_UART_Command_Manual.pdf	
UART Converter Board PC Installation Guide	CD:\ Tools(software)\ USB to Uart Converter Driver\	USB_to_UART_Converter_Installation_Guide.pdf	

2.3 MCU Control Mode

内部に搭載されているサンプルのデモ例はマイコンボード GCK-003(MCU Board)経由でも実行できます。

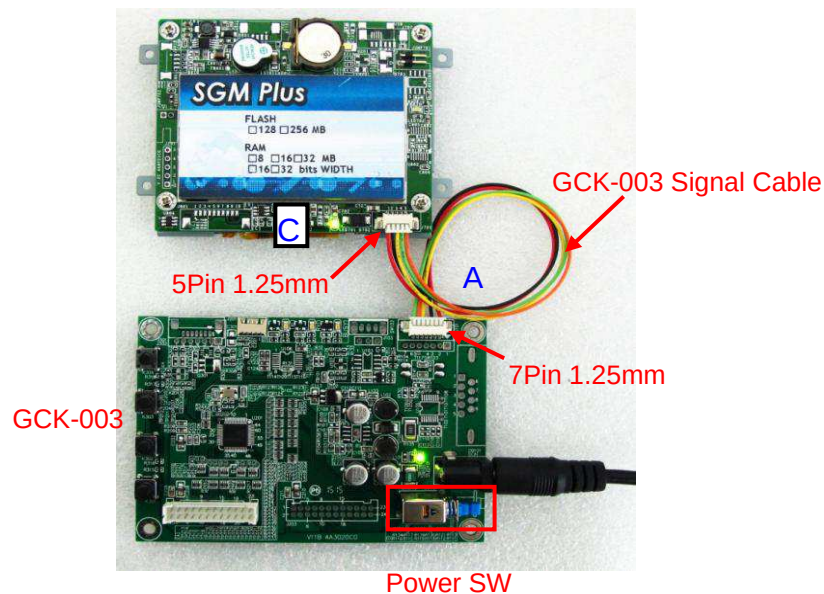
Step1.1 4.3"~10.4"Module's Connection

- Connect cable **A** (LACABLE009- FDR) between SGM Plus and GCK-003 as below.
- Connect cable **B** to DC jack on GCK-003 and press PWR switch to power up.
- Buzzer will beep one and boot-up is finished.



Step1.2 3.5" モジュールの接続

- A. Connect cable **A**(LACABLE016-FDR) between SGM Plus and GCK-003 as below.
- B. Connect cable **B** to DC jack on GCK-003 and press PWR switch to power up.
- C. Buzzer will beep one and boot-up is finished.



Step2. GCK-003 Operation menu will show on screen and please follow instructions and conduct the matching actions.

(Note: 5.6~10.4" Refer to CD:

\\Start Kit\\Documents\\Start_Kit_Demo_User_Guide.pdf for details.)

(Note: 3.5~4.3" Refer to CD

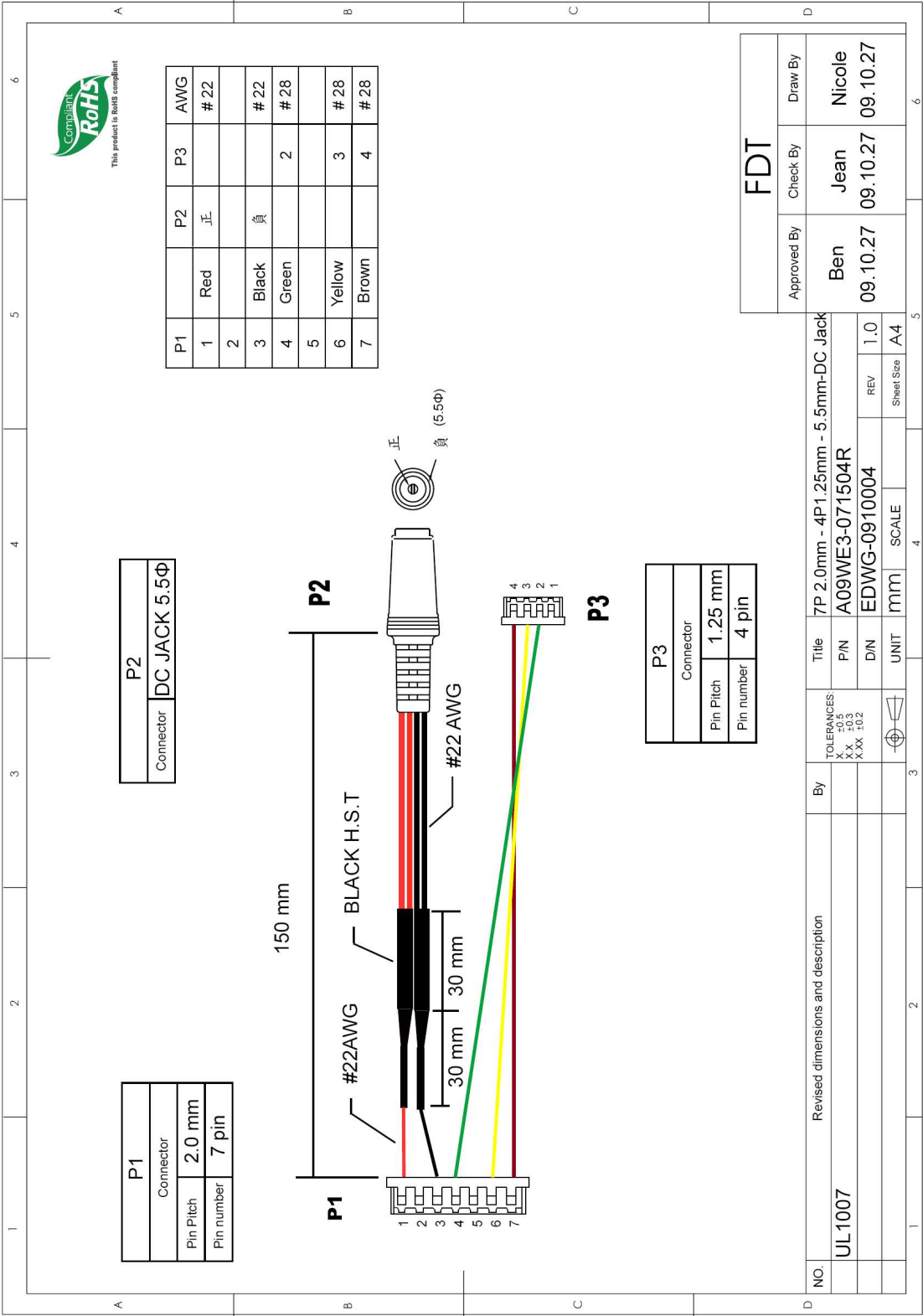
\\Start Kit\\Documents\\Start_Kit_Demo_User_Guide_Compact.pdf for details.)

**參考資料:**

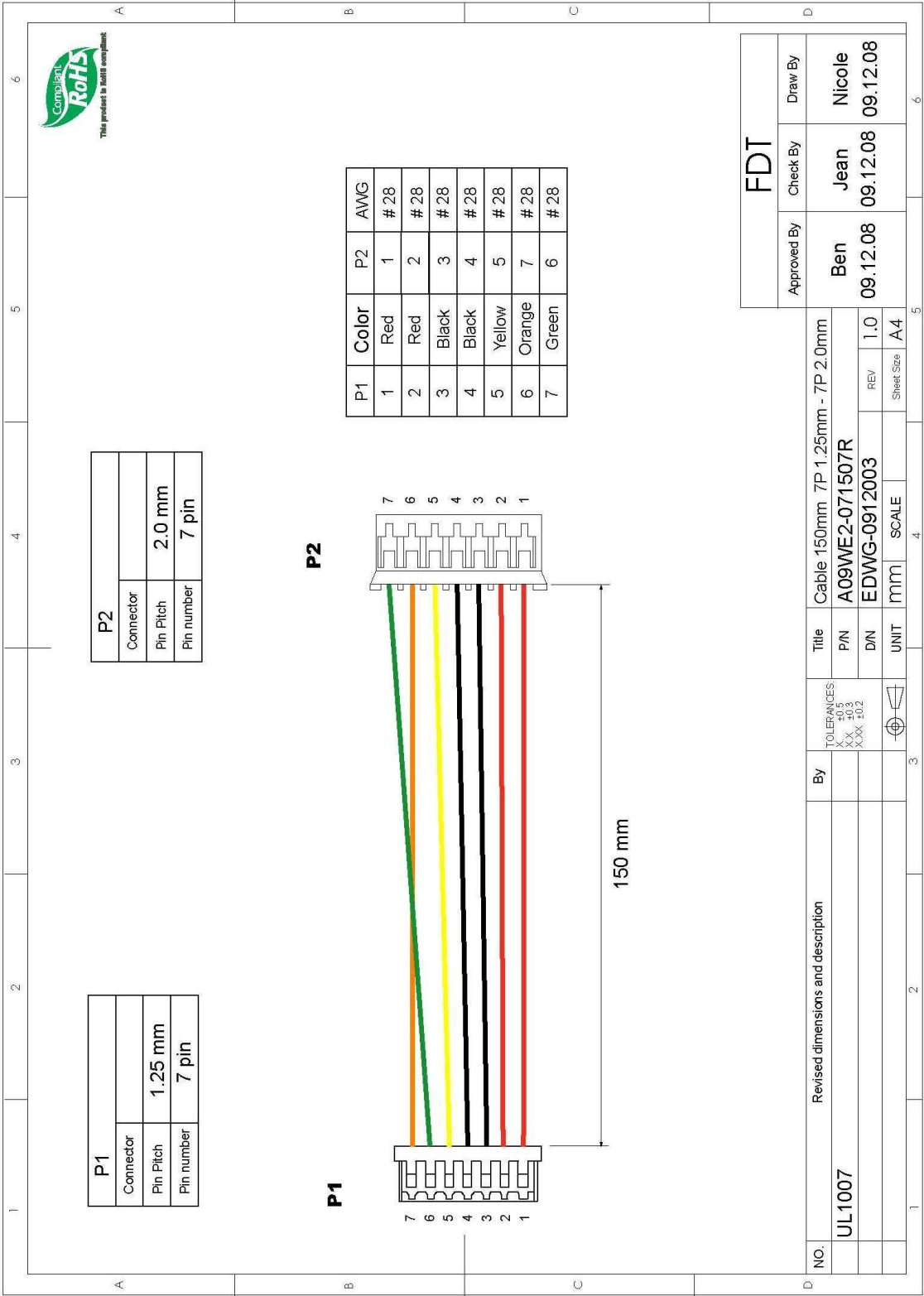
Item	Path	File Name	Note
Diagram circuit of Graphic Controller KIT (GCK-003)	CD:\ Start Kit\ GCK-003_Tools\GCK-003 Circuit\	GCK-003_Circuit_v1.2C.pdf	
MCU data in Graphic Controller KIT (GCK-003)	CD:\ Start Kit\ GCK-003_Tools\ WT61P9 Datasheet\	WT61P9.pdf	
Firmware Update Manual of Graphic Controller KIT (GCK-003)	CD:\ Start Kit\ GCK-003 Tools\	GCK-003_Programming_Operation_Guide.pdf	

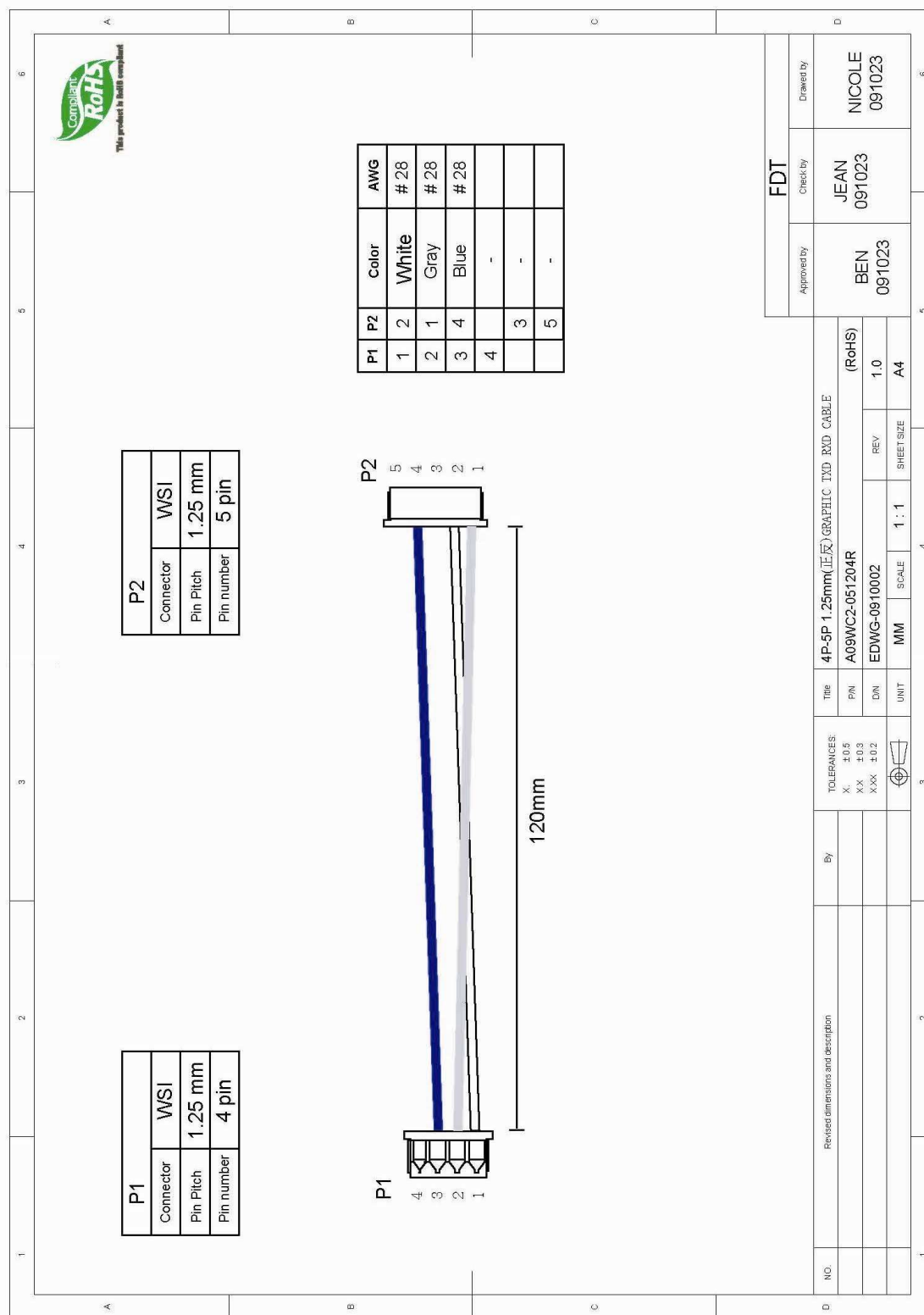
第 3 章 アクセサリーの外形寸法図

3.1 LACABLE008-FDR(Optional)



3.2 LACABLE09-FDR (Option)



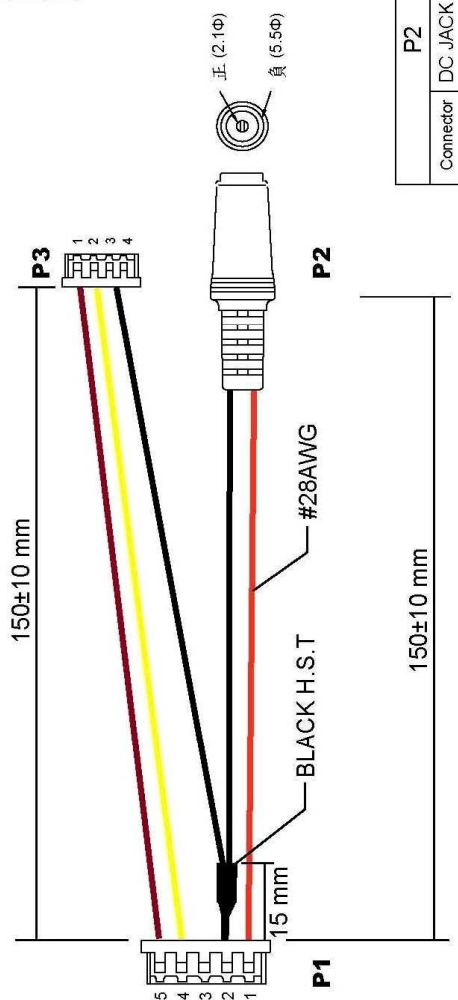
3.3 LACABLE010- FDR (Option)

This product is RoHS compliant

P1	P2	P3	Color	AWG
1	正	-	Red	# 28
2	負	3	Black	# 28
3	-	-	-	-
4	-	2	Yellow	# 28
5	-	1	Brown	# 28

P3	
Connector	P24014
Pin Pitch	1.25 mm
Pin number	4 pin

P1	
Connector	P24015
Pin Pitch	1.25 mm
Pin number	5 pin



P2	
Connector	DC JACK 2.1Φ/5.5Φ

[illegible]

P1	
Connector	
Pin Pitch	1.25 mm
Pin number	7 pin

P2	
Connector	
Pin Pitch	1.25 mm
Pin number	5 pin

P1	Color	P2	AWG
1	Red	1	# 28
2			
3	Black	2	# 28
4			
5	Yellow	3	# 28
6	Orange	5	# 28
7	Green	4	# 28

Title	
Cable 150mm 7P 1.25mm - 5P 1.25mm	
A09WC2-071505R	
EDWG-1003014	
mm	SCALE

TOLERANCES	
X	±0.5
XX	±0.1
XXX	±0.2

Revised dimensions and description	
UL1007	

By	

UNIT	
mm	SCALE

Title	
Cable 150mm 7P 1.25mm - 5P 1.25mm	
A09WC2-071505R	
EDWG-1003014	
mm	SCALE

TOLERANCES	
X	±0.5
XX	±0.1
XXX	±0.2

Revised dimensions and description	
UL1007	

By	

UNIT	
mm	SCALE

Title	
Cable 150mm 7P 1.25mm - 5P 1.25mm	
A09WC2-071505R	
EDWG-1003014	
mm	SCALE

TOLERANCES	
X	±0.5
XX	±0.1
XXX	±0.2

Revised dimensions and description	
UL1007	

By	

UNIT	
mm	SCALE

Title	
Cable 150mm 7P 1.25mm - 5P 1.25mm	
A09WC2-071505R	
EDWG-1003014	
mm	SCALE

TOLERANCES	
X	±0.5
XX	±0.1
XXX	±0.2

Revised dimensions and description	
UL1007	

By	

UNIT	
mm	SCALE

Title	
Cable 150mm 7P 1.25mm - 5P 1.25mm	
A09WC2-071505R	
EDWG-1003014	
mm	SCALE

TOLERANCES	
X	±0.5
XX	±0.1
XXX	±0.2

Revised dimensions and description	
UL1007	

By	

UNIT	
mm	SCALE

Title	
Cable 150mm 7P 1.25mm - 5P 1.25mm	
A09WC2-071505R	
EDWG-1003014	
mm	SCALE

TOLERANCES	
X	±0.5
XX	±0.1
XXX	±0.2

Revised dimensions and description	
UL1007	

By	

UNIT	
mm	SCALE

Title	
Cable 150mm 7P 1.25mm -	

第 4 章 改訂履歷

NO.	Date	Description	Page	Note
1.0	July 17, 2015	. First draft	20	
1.1	August 7, 2015	. Update System Requirement	20	

Chapter 5 Revision History

NO.	Date	Description	Page	Note
0.0	May 5,2015	. First draft (Tentative)	15	
0.0	May 22,2015	. 新增 5.6"模組,修改 DVD 料號	14	
0.0	June.8.2015	. 修正解析度錯誤的標示值	14	
0.0	June.15.2015	. 新增 10.4"模組	15	
0.0	July.7.2015	. 新增 3.5/4.3"模組/連接示意圖/線材	20	
1.0	July 17, 2015	. 版更 1.0 版	-	
1.1	August 7, 2015	. 變更系統硬體需求	20	