



MARCH, 2007

SERVICE MANUAL

MODEL : LN735



# PORTABLE NAVIGATION SERVICE MANUAL

## INFORMATION

If you have other questions about the Navigation Device, please contact your supplier or Technical Support:

## SUPPORT - HOTLINE

LGEUS : 1-800-243-0000    <http://www.lgusa.com>  
LGECI : 1-888-542-2623    <http://www.lg.ca>  
To purchase the Upgrade Map, contact at [www.lgusa.com/navigation](http://www.lgusa.com/navigation)



**MODEL : LN735**

LG

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# SECTION 1. GENERAL

## SAFETY PRECAUTIONS

### Electrostatically Sensitive Devices (ESD)



Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive Devices (ESD). Examples of typical ESD devices are integrated circuits and some field-effect transistors and semiconductor chip components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ESD devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ESD devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ESD devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ESD devices.
6. Do not remove a replacement ESD device from its protective package until immediately before you are ready to install it. (Most replacement ESD devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive materials).
7. Immediately before removing the protective material from the leads of a replacement ESD device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

**CAUTION : BE SURE NO POWER IS APPLIED TO THE CHASSIS OR CIRCUIT, AND OBSERVE ALL OTHER SAFETY PRECAUTIONS.**

8. Minimize bodily motions when handing unpackaged replacement ESD devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ESD device).











### CAUTION. GRAPHIC SYMBOLS

	THE LIGHTNING FLASH WITH APOWHEAD SYMBOL. WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.
	THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE SERVICE PERSONNEL TO THE PRESENCE OF IMPORTANT SAFETY INFORMATION IN SERVICE LITERATURE.

## SPECIFICATIONS

ITEM	SPECIFICATION	REMARK
OS	Win CE 5.0	
CPU	Centrality Atlas-II ARM9	
MEMORY	LN730 : 1 GB	Built-in Memory
	LN735 : 2 GB	Built-in Memory
DISPLAY	3.5 inch TFT LCD Resolution 320 X 240 LED type Backlight Touch Screen	LG Philips LCD   Analog resistive type
AUDIO	Mono, Internal Speaker	Typical 1.0W (1EA)
GPS	SiRF star III, Internal Antenna	
NAVI	Full Map	Voice Guidance
MAP	Navtaq	
POWER	DC 5.0 +/- 0.2V	Vehicle Power Cigar-jack Input (12-24V)
TEMPERATURE	Operating : -10~60 °C Storing : -30~80 °C	
Built-in BATTERY	3.7 V (Li-Ion), 1100mA	Up to 4 hours
INTERFACE	Mini-USB Port External GPS Jack	USB 1.1
Multimedia	Image Audio	BMP, JPG MP3, WMA

## ❑ ACCESSORIES

	 (801) Quick Start Guide	 (825) USB Cable	 (826) SD Memory Card (Optional)	 (827) Cigar Light Adapter
 (828) AC Adapter	 (829) Carring Case	 (830) Suction-Mount Cradle	 (835) Installation CD	 (836) GPS aerial (Optional)

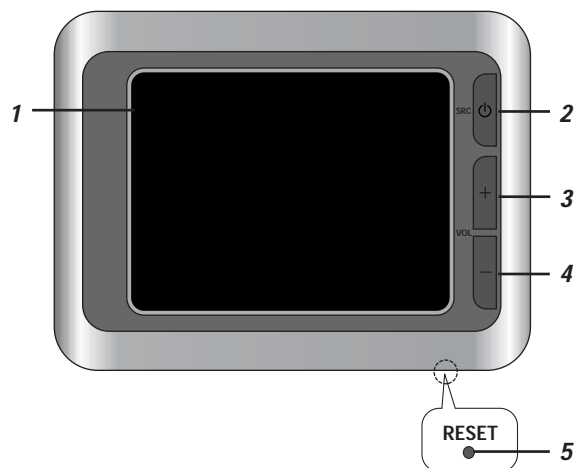
Contents may be changed without notices.

### **SD memory card (Optional)**

The supplied SD Memory Card space may be insufficient after upgrade. In this case, another SD Memory Card that has bigger space has to be purchased..

## □ NAME OF EACH PART

### • Front panel



#### 1. LCD

#### 2. SRC (Source) button

Move to the main menu screen or the previous screen.

##### **Power sleep**

Entering power sleep mode.

On : Press and hold.

Off : Press and hold again.

#### 3. Volume Up

Increases the volume level.

#### 4. Volume Down

Decrease the volume level.

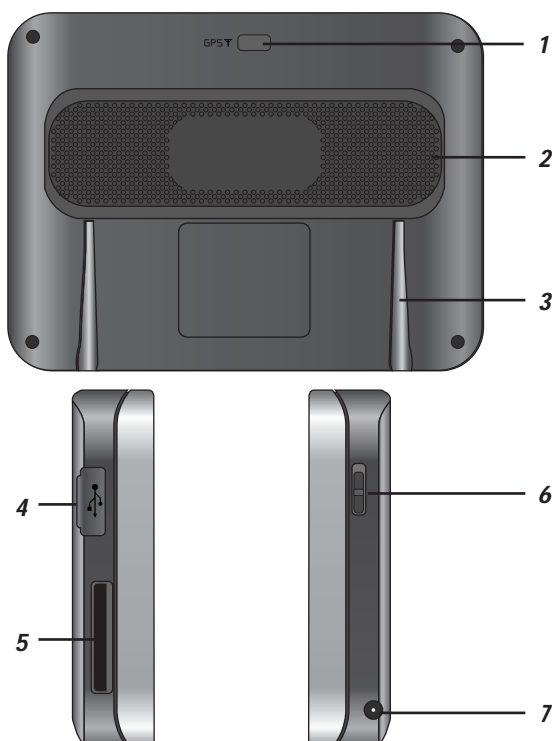
#### 5. RESET hole

If the unit fails to operate properly, press the reset button using a ball point pen or a similar tool.



To activate the menu function through the LCD screen, touch the LCD screen with a finger.

## • Rear / Side panel



### 1. External GPS Antenna Slot

### 2. Speaker

Gets a voice guidance service.

### 3. Docking connector

### 4. USB port

### 5. Memory Card Slot

Insert a SD Memory Card.

### 6. Power Hold On / Off button

On : Push button up.

Off : Push button down.

### 7. Power supply connector

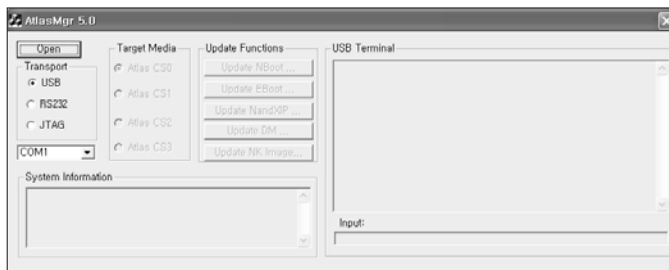
Tiffical DC 5V



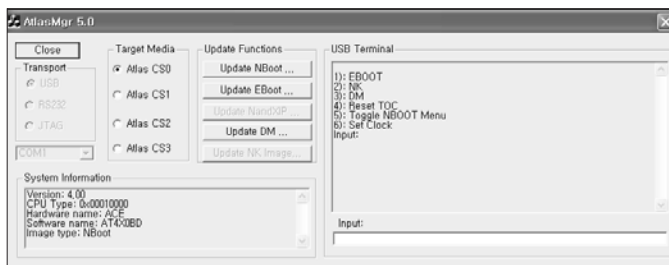
Deleting or altering the map data in the built-in memory or the SD memory card randomly, may cause problems in the navigation function.

# ❑ SOFTWARE UPGRADE METHOD (OS IMAGE)

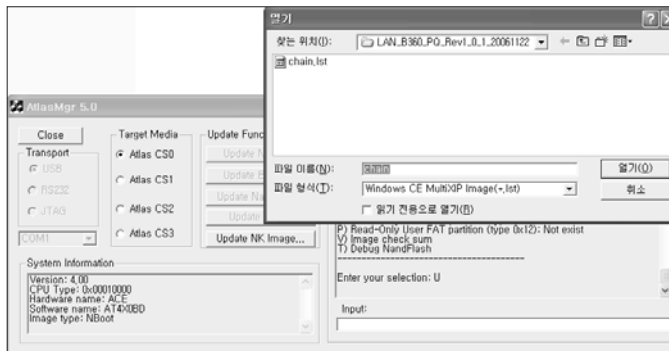
## 1. Execute Atlas Mgr 5.0



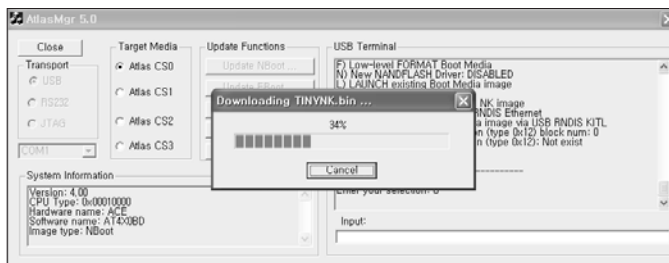
- Press and hold the **VOL-** button, push up the slide switch and press **OPEN** button, then **INPUT** window is activated. Keep pressing **VOL-** button until **INPUT** window is activated.
- Input **1** on **INPUT** window and then press **ENTER** on keyboard.
  - EBOOT** is displayed on screen.



- The log is created on **USB Terminal** and **enter your selection** is displayed, input **u**. Then press **Update NK Image** icon and file selection windows is displayed, select **chain.lst** file from **OS IMAGE** file.



- Os image** is downloaded, then disconnect **USB** cable after product is turned on.



The ways software upgrade for **LAN-B360 two**, **OS IMAGE** and **MAP DATA**. **MAP** is executed by **DESTINATOR CONSOLE**. (Refer to **USER\_GUIDE**)



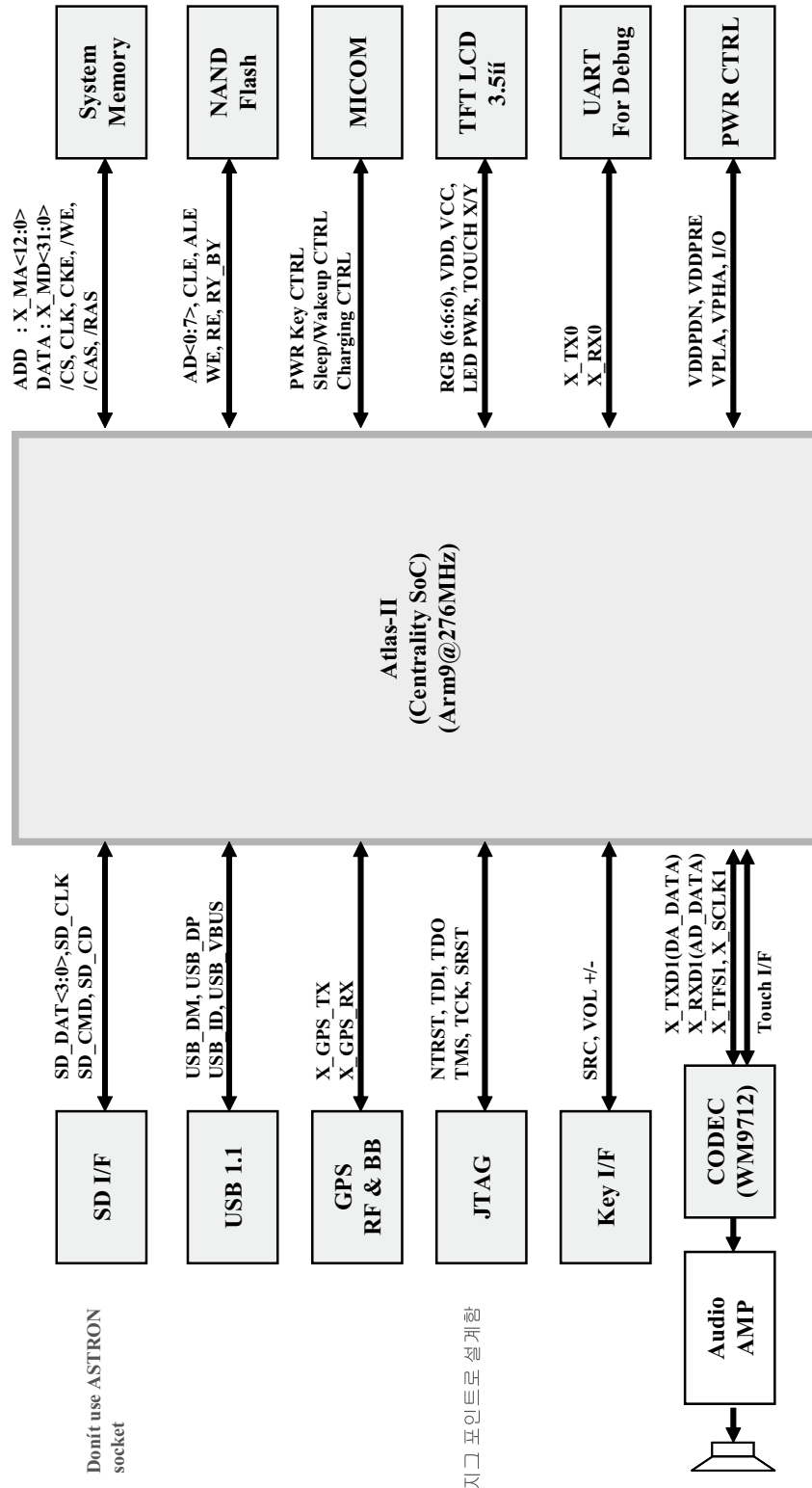
# MEMO

Handwriting practice lines consisting of 25 horizontal dotted lines.

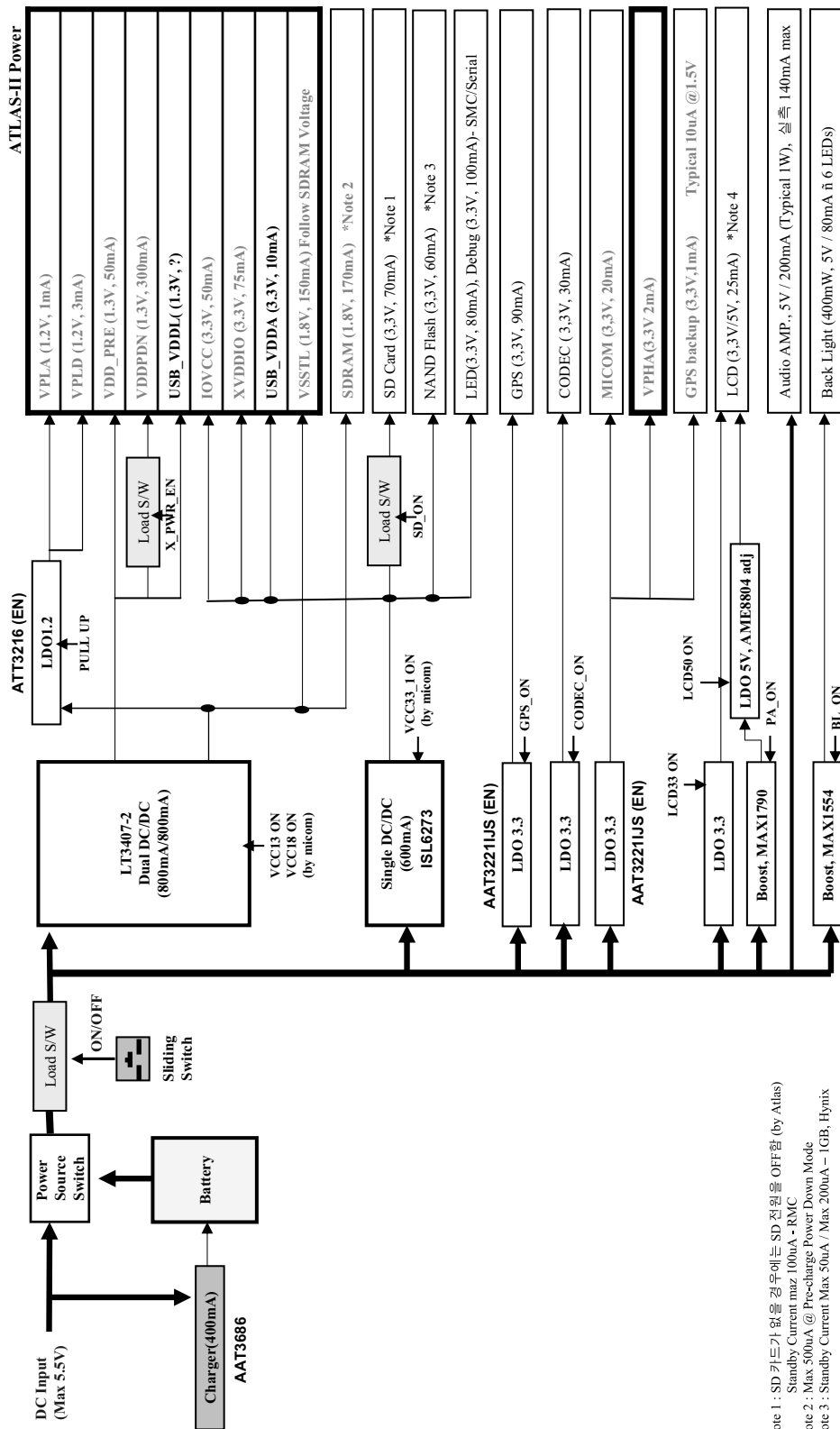
# SECTION 2. ELECTRICAL SECTION

## □ BLOCK DIAGRAM

### • SYSTEM BLOCK DIAGRAM

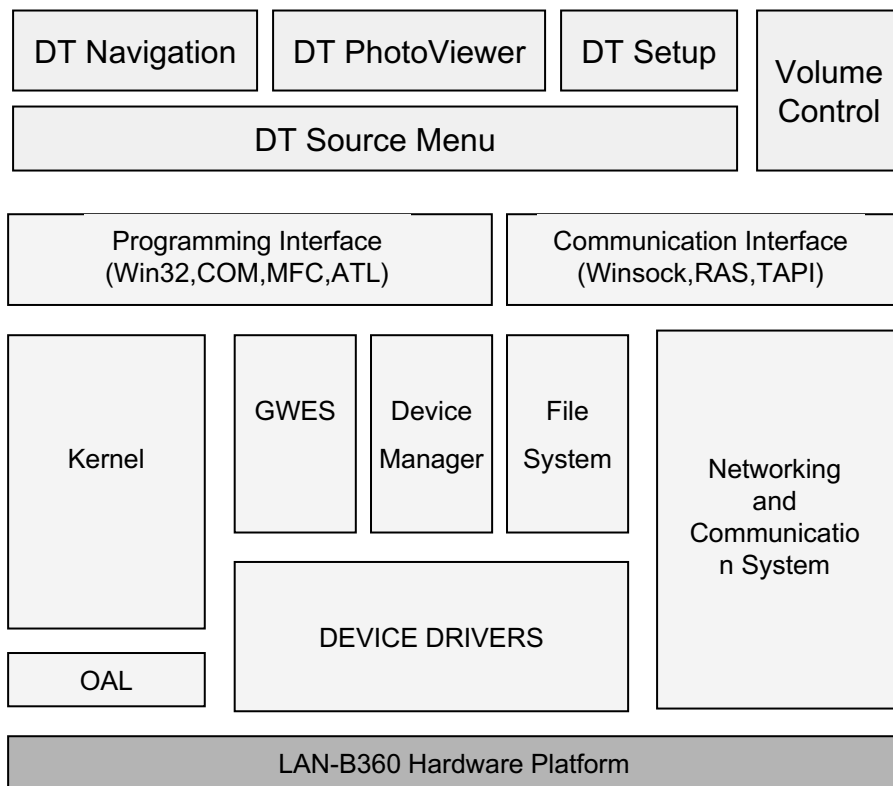


- **POWER BLOCK DIAGRAM**



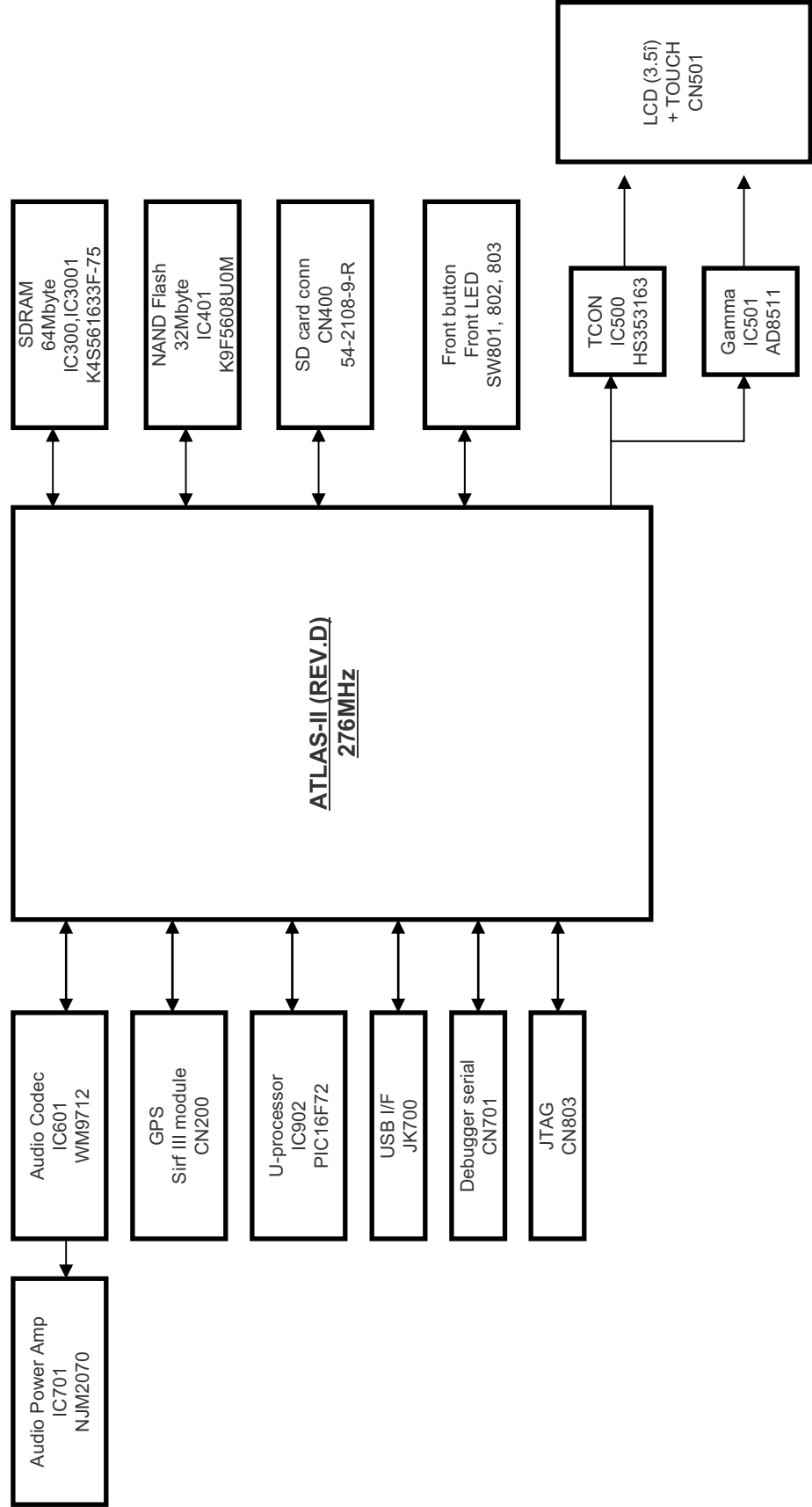
Note 1 : SD 카드가 없을 경우에는 SD 전원을 OFF함 (by Atlas)  
 Standby Current max 100uA - RMC  
 Note 2 : Max 500uA @ Pre-charge Power Down Mode  
 Note 3 : Standby Current Max 50uA / Max 200uA - IGB, Hynix

## • SW BLOCK DIAGRAM

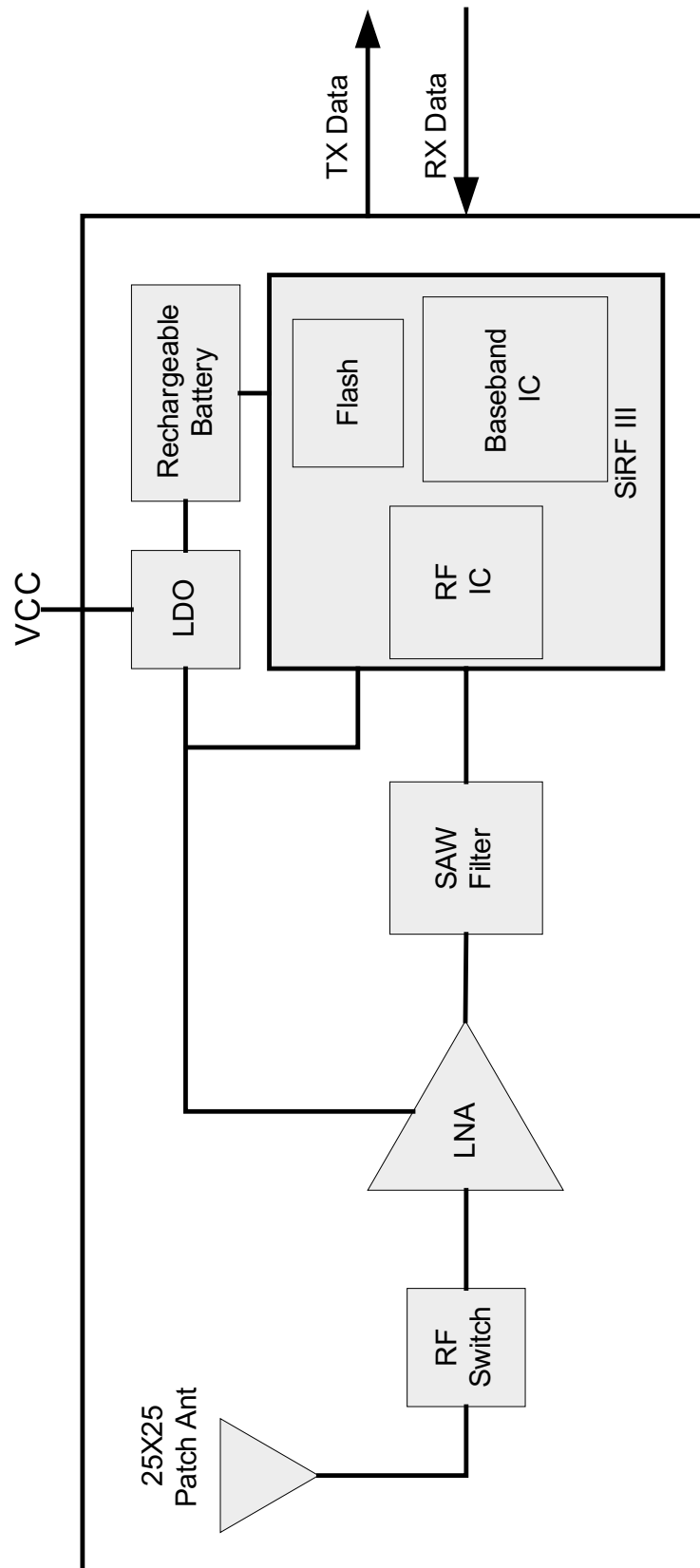


OAL : OEM Adaptation Layer  
 GWES : Graphics, Windowing and  
           Event Subsystem  
 COM : Component Object Model  
 MFC : Microsoft Foundation Class  
 ATL : Active Template Library  
 RAS : Remote Access Sever  
 TAPI : Telephony Application Program Interface

• CPU CONNECTION DIAGRAM



- GPS BLOCK DIAGRAM



# □ VOLTAGE SHEET

## • MAIN PCB

1. TEST VOLTAGE : DC 10.5~16V
2. CHECK METHOD : VR MIN(10.5V)/MAX(16V)

PART NAME	SPEC	10.5V	16V
C518	10uF/50V	18.81	18.82
C519	10uF/16V	3.31	3.31
C616	10uF/16V	5.35	5.36
C627	22uF/16V	5.06	5
C639	10uF/16V	3.35	3.35
C633	10uF/16V	5.03	5.01
C642	10uF/16V	5.03	5
C904	47uF/10V	5.17	5.17
C909	22uF/6.3V	5.16	5.17
C902	10uF/10V	5.4	5.41
C905	47uF/10V	4.18	4.18
C1004	10uF/16V	4.72	4.7
C1000	10uF/16V	1.81	1.8
C1011	10uF/16V	1.34	1.35
C1019	10uF/16V	3.27	3.28
C1008	10uF/16V	1.19	1.19
C1020	10uF/17V	3.23	3.23
C1024	10uF/18V	3.31	3.31
C1018	10uF/19V	3.31	3.31
C1009	22uF/6.3V	1.34	1.33

## • GPS

1. TEST VOLTAGE : DC 10.5~16V
2. CHECK METHOD : VR MIN(10.5V)/MAX(16V)

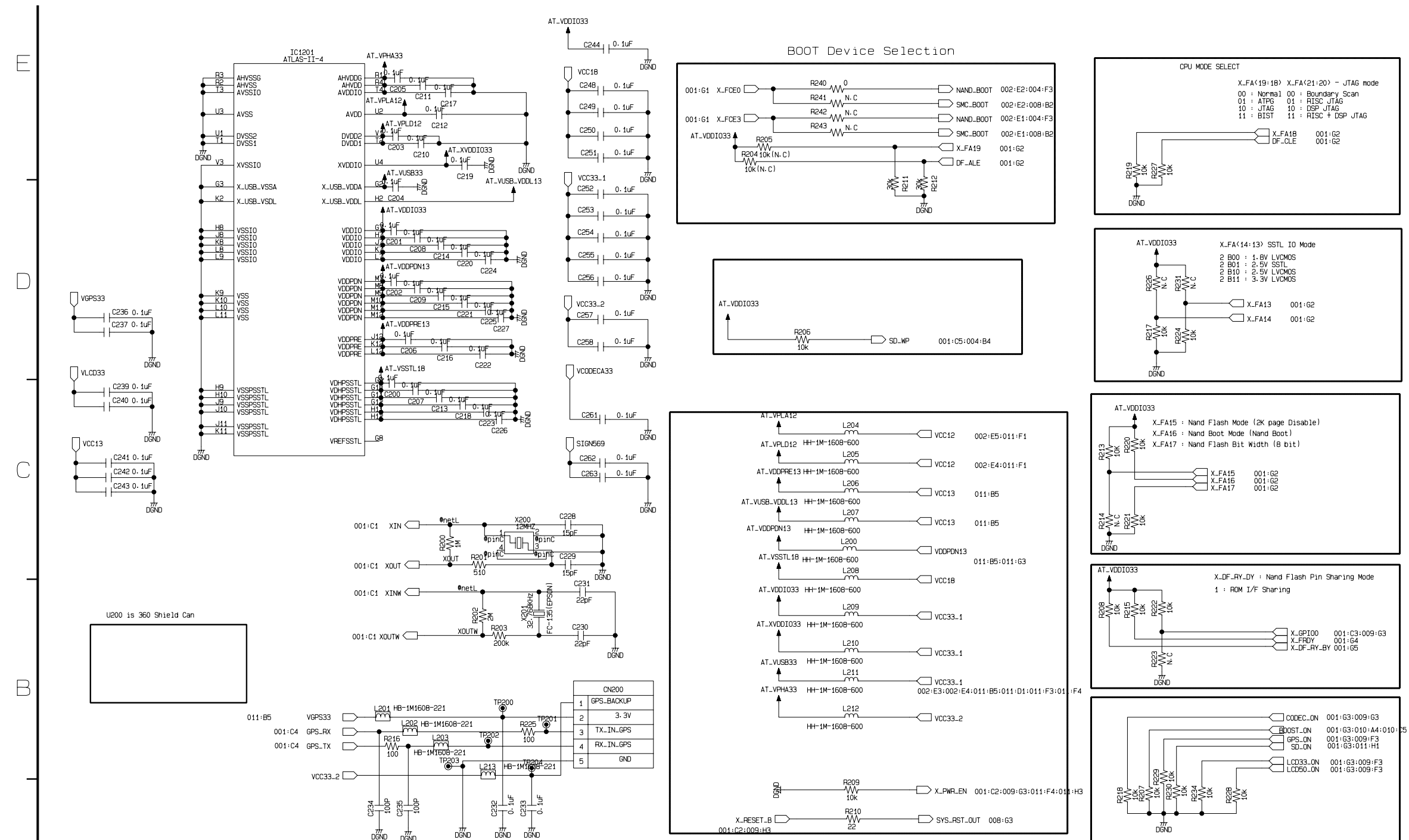
PART NAME	SPEC	10.5V	16V
C121	10uF/16V	3.29	3.3
C128	10uF/16V	1.18	1.18

- **CPU I/O SCHEMATIC DIAGRAM**





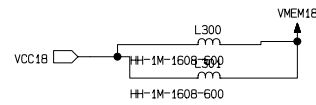
- **CPU POWER & CONFIGURATION SCHEMATIC DIAGRAM**



CPU PWR &amp; CONFIG

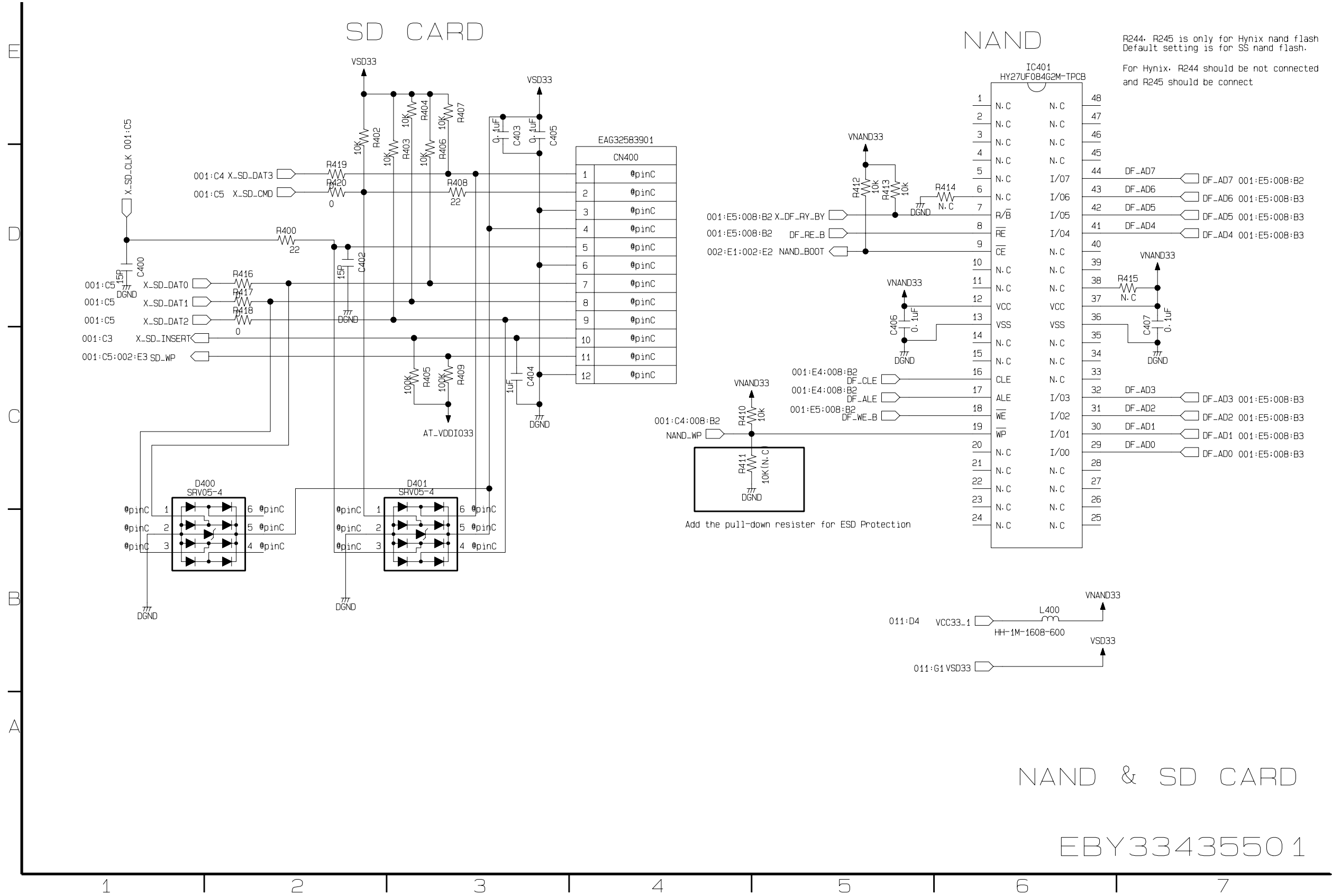
EBY3343550 1

A vertical number line with five tick marks. From bottom to top, the tick marks are labeled A, B, C, D, and E. The line is a solid black vertical bar.



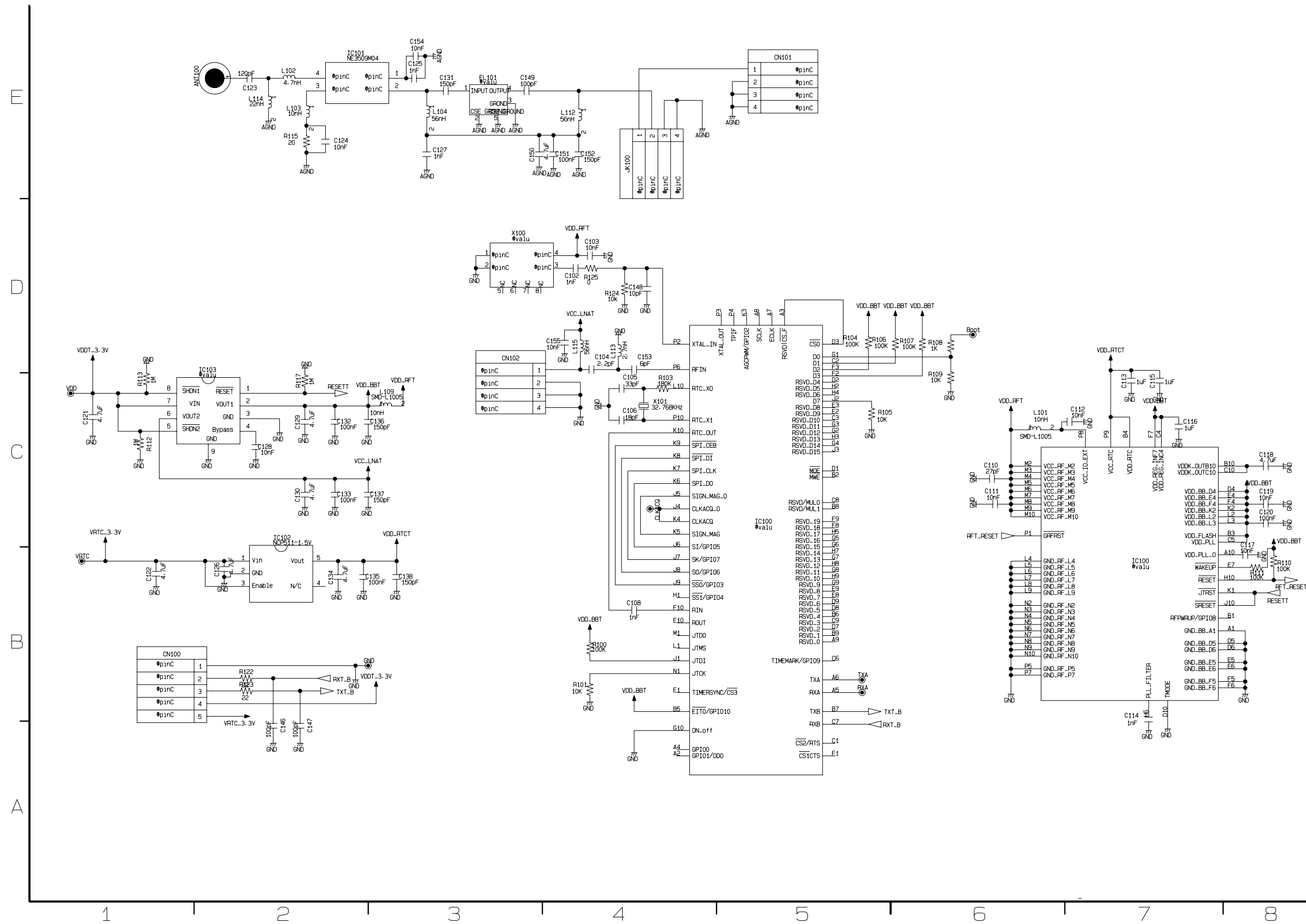
EBY3343550 1

• NAND FLASH & SD CARD SCHEMATIC DIAGRAM

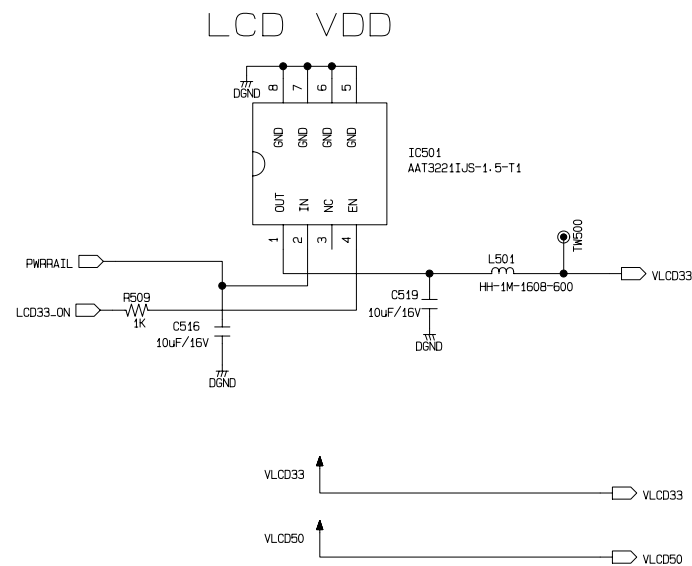
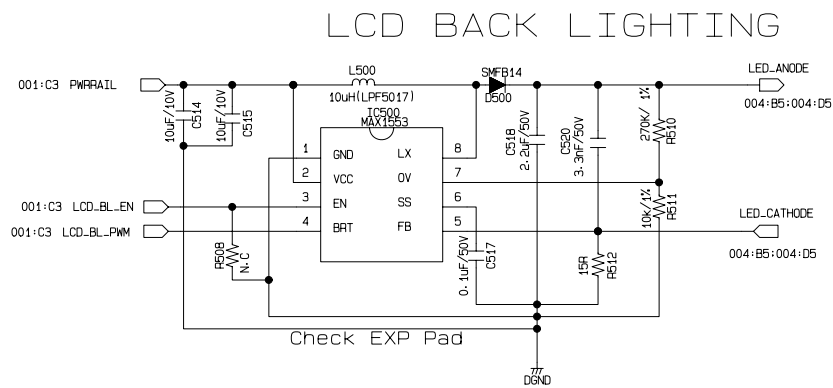
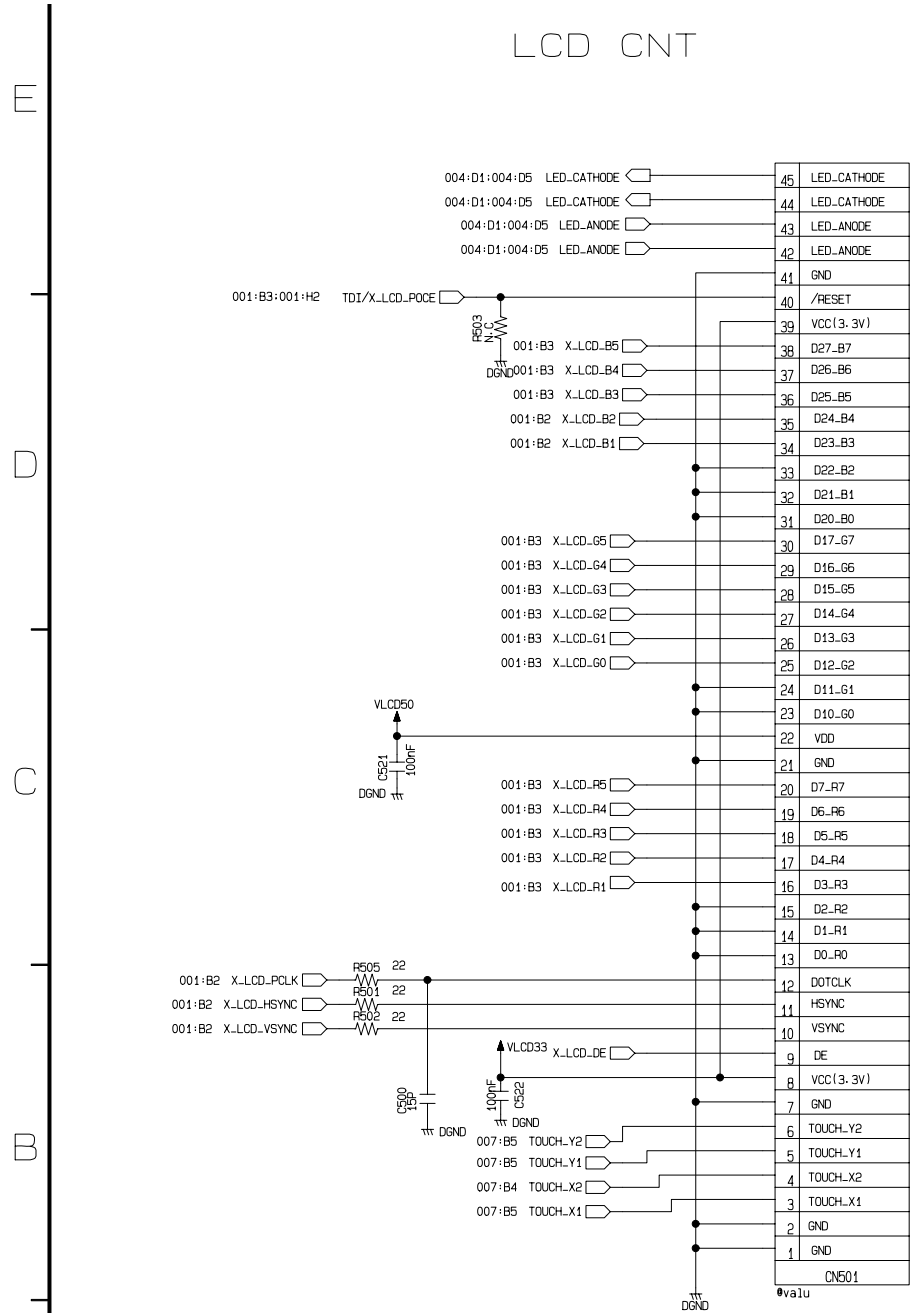


EBY33435501

- **GPS SCHEMATIC DIAGRAM**



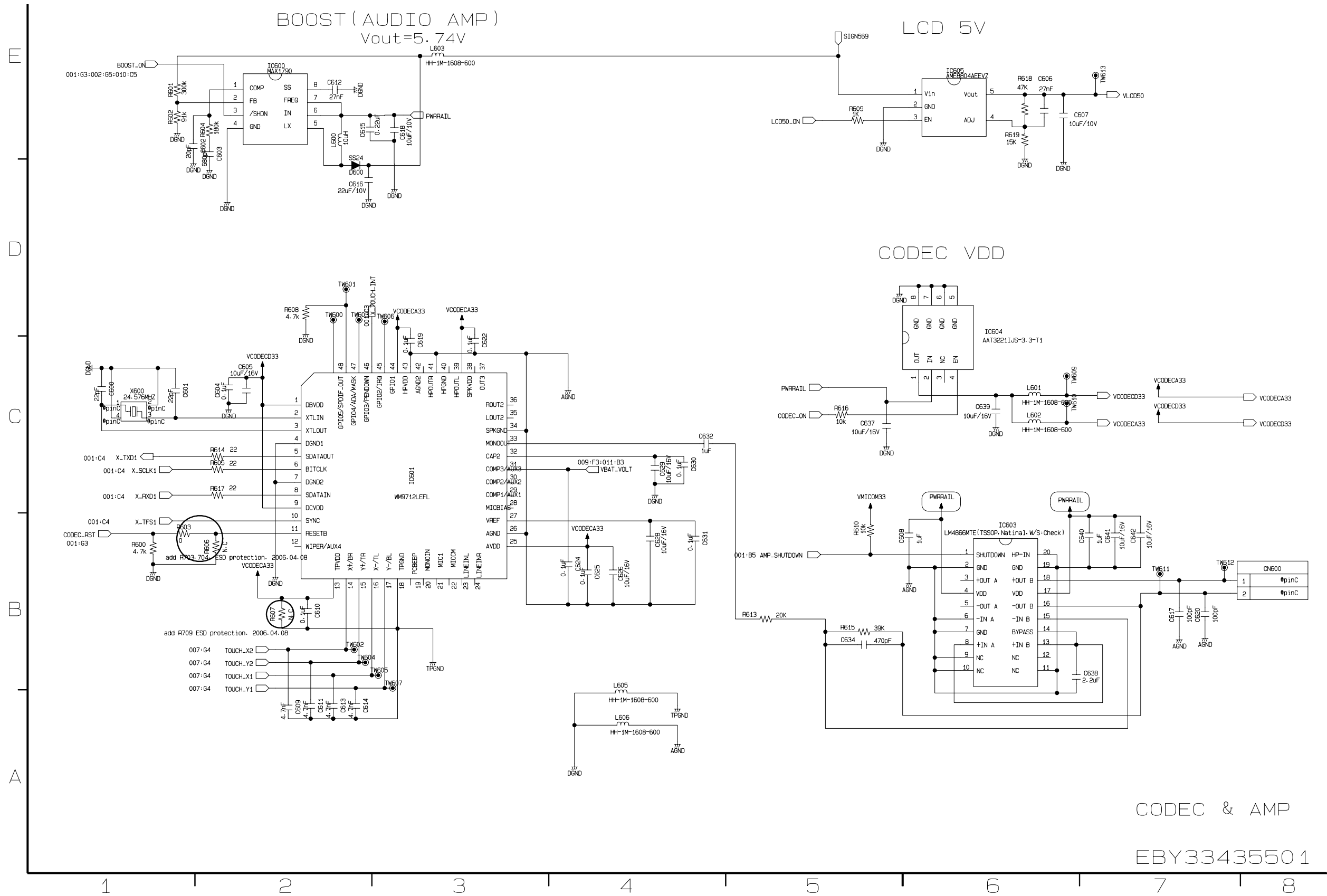
• LCD POWER & CONNECTOR SCHEMATIC DIAGRAM



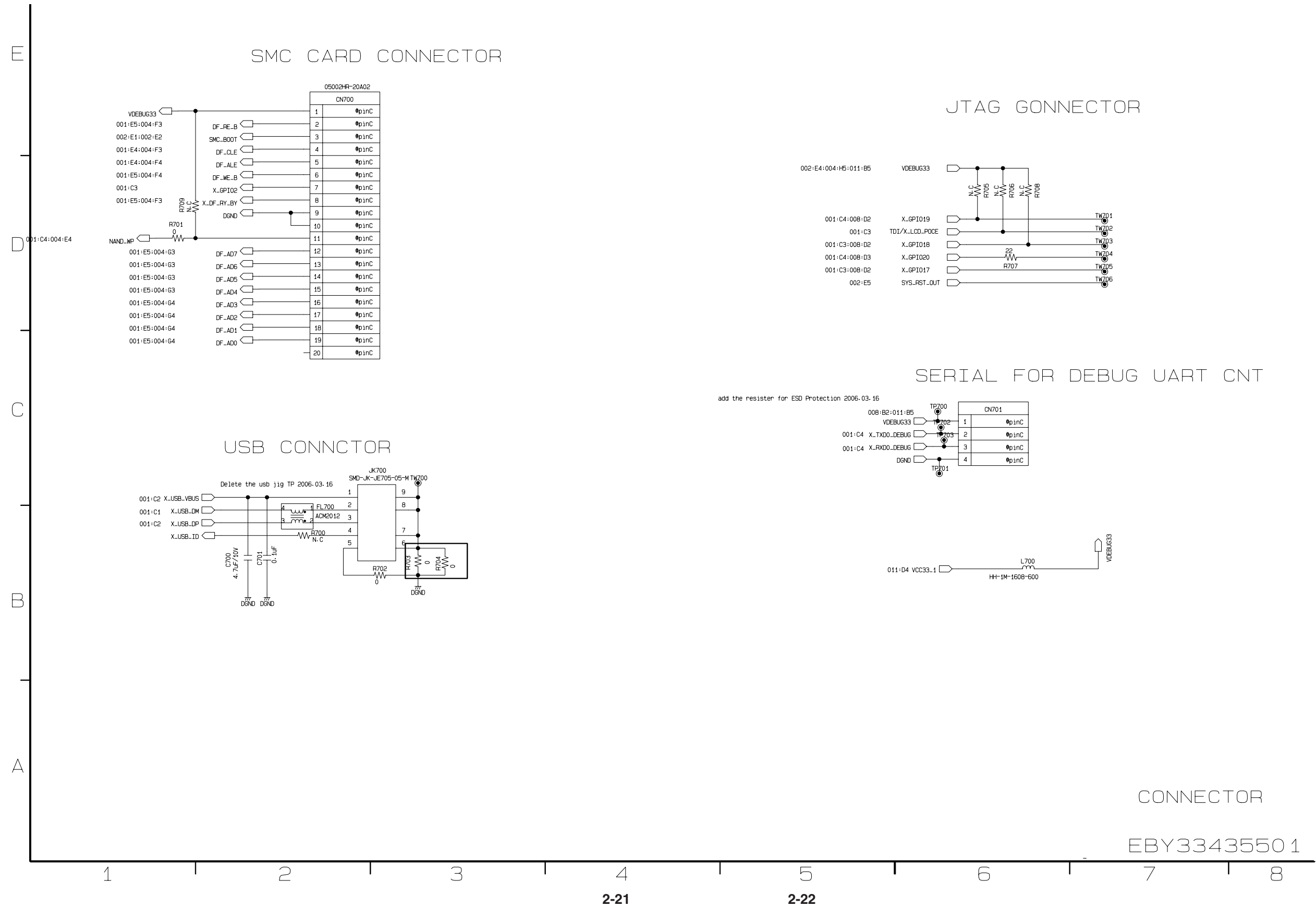
LCD DON & LED PWR

EBY33435501

• CODEC & AMP SCHEMATIC DIAGRAM



• CONNECTOR SCHEMATIC DIAGRAM



JTAG GONNECTOR

002:E4:004:H5:011:B5

VDEBUG33

001:C4:008:D2

001:C3

001:C3:008:D2

001:C4:008:D3

001:C3:008:D2

002:E5

X\_GPI019

TDI/X\_LCD\_POCE

X\_GPI018

X\_GPI020

X\_GPI017

SYS\_RST\_OUT

TW701

TW702

TW703

TW704

TW705

TW706

R705

R706

R708

R707

SERIAL FOR DEBUG UART CNT

add the resister for ESD Protection 2006-03-16

008:B2:011:B5

VDEBUG33

001:C4 X\_TXD0\_DEBUG

001:C4 X\_RXD0\_DEBUG

DGND

TPZ00

TPZ02

TPZ03

TPZ01

CN701

1

2

3

4

0pinC

0pinC

0pinC

0pinC

011:D4 VCC33..1

L700

H+1M-160B-600

VDEBUG33

USB CONNCTOR

JK700

SMD~JK~JE705-05-M TK700

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

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26

27

28

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30

001:C2 X\_USB\_VBUS

001:C1 X\_USB\_DM

001:C2 X\_USB\_DP

X\_USB\_ID

FL700

ACM2012

B700

N.C

R702

R703

R704

DGND

C700

4.7uF/10V

C701

0.1uF

DGND

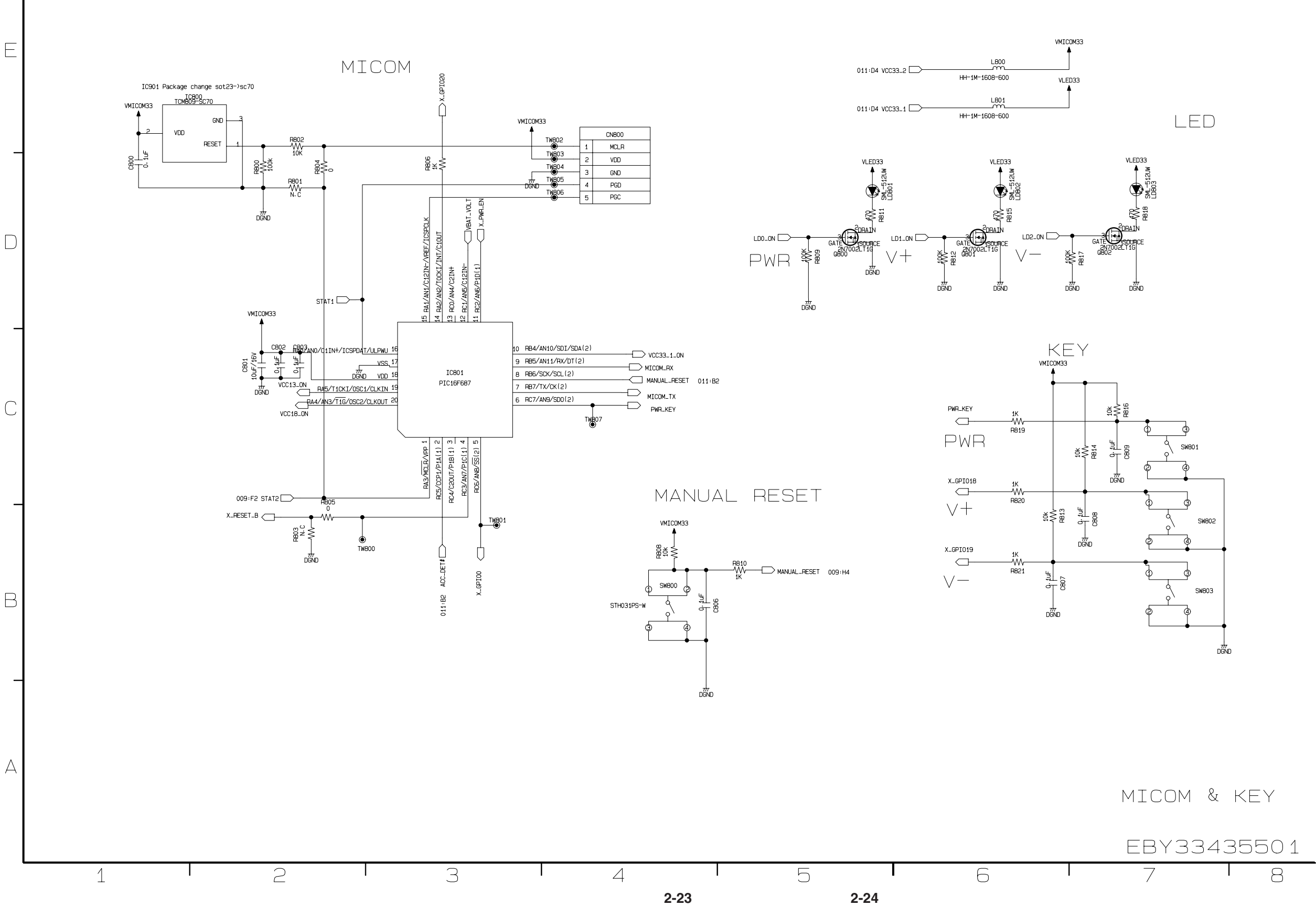
DGND

Delete the usb jig TP 2006-03-16

CONNECTOR

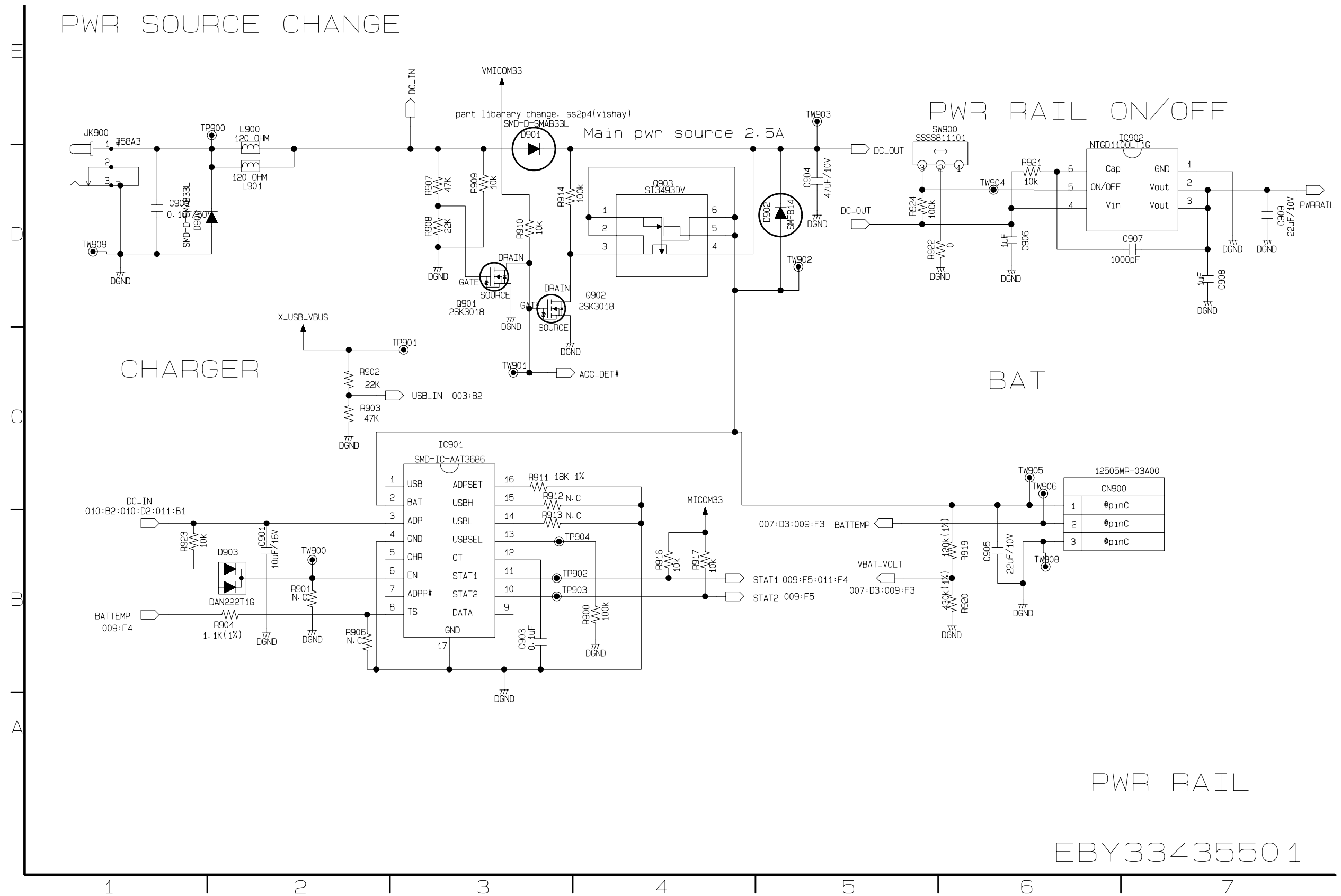
EBY3343550 1

• MICOM, KEY & LED SCHEMATIC DIAGRAM

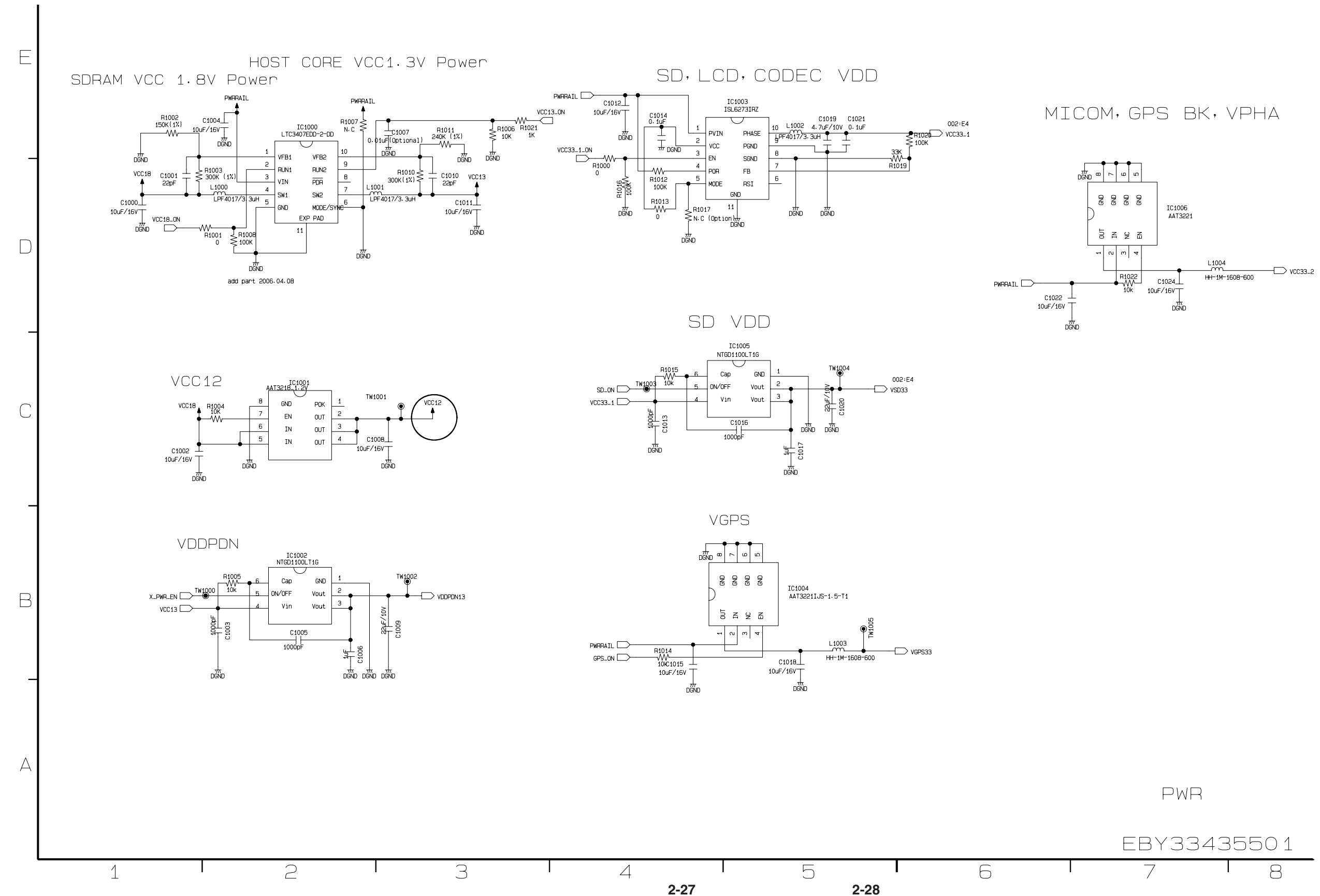




- **POWER RAIL SCHEMATIC DIAGRAM**



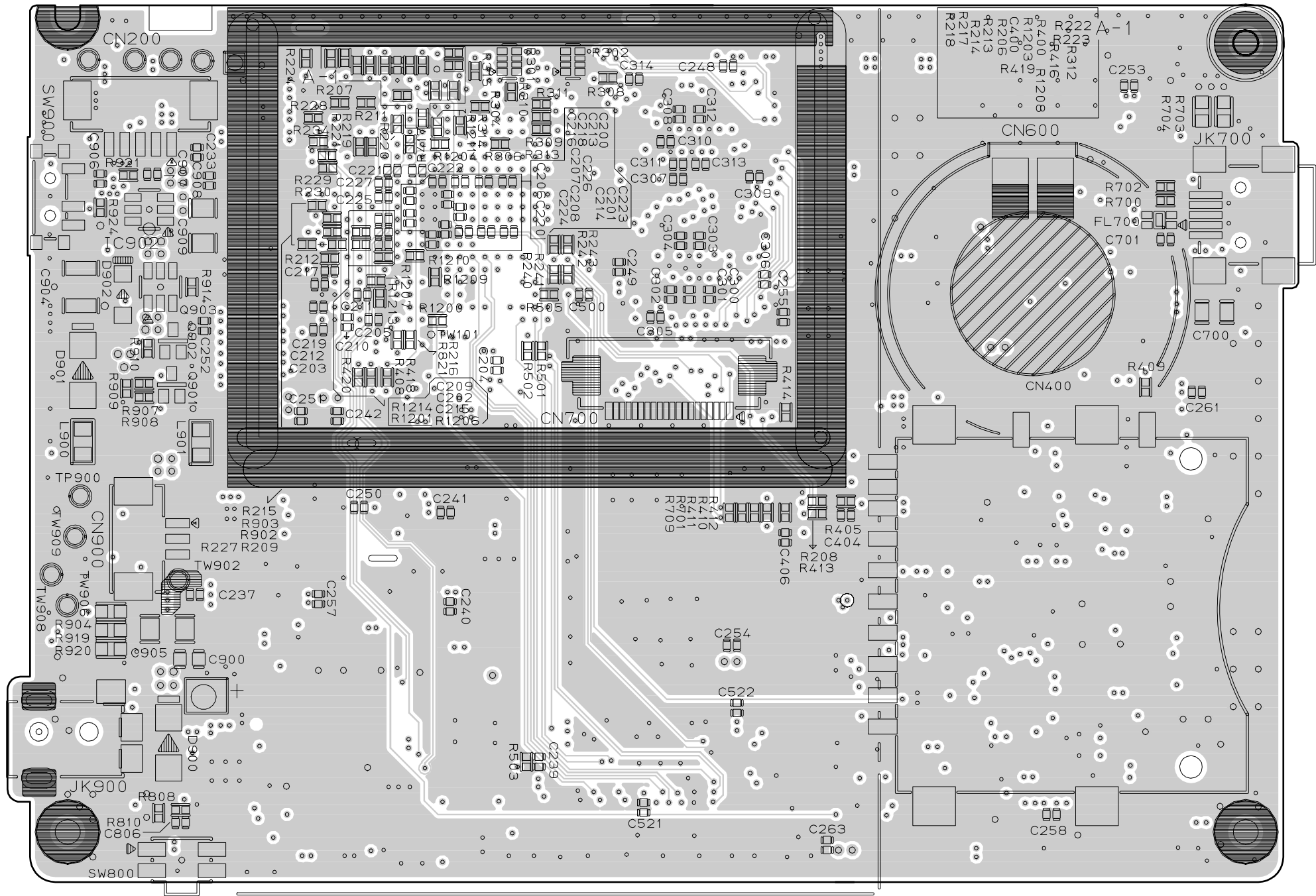
- **POWER SCHEMATIC DIAGRAM**



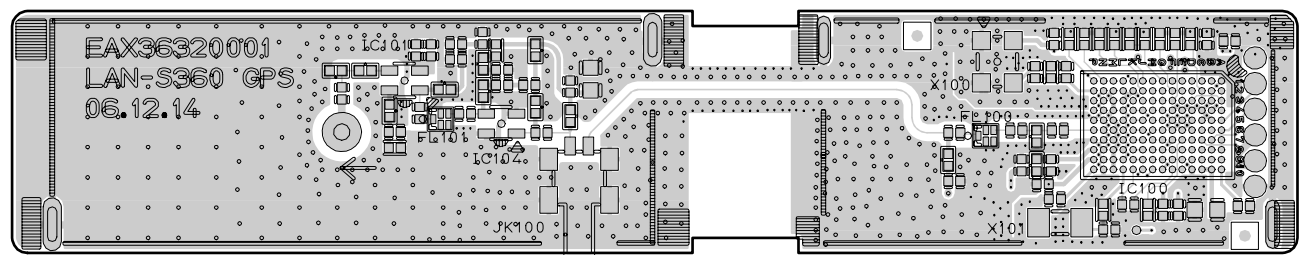
- **MAIN P.C BOARD DIAGRAM (TOP SIDE)**



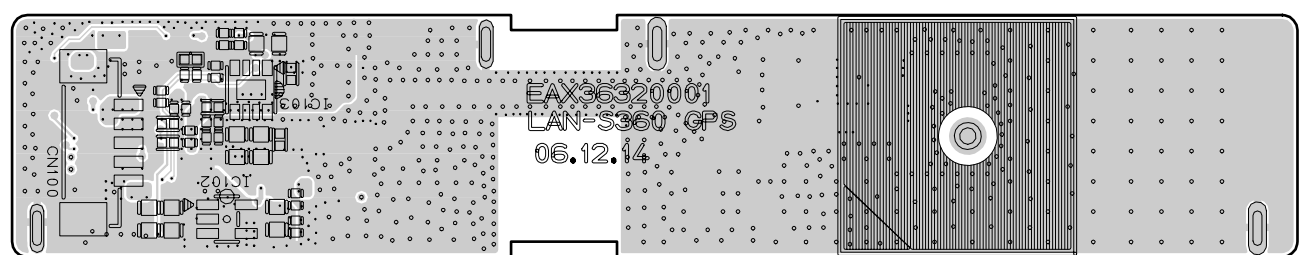
• MAIN P.C BOARD DIAGRAM (BOTTOM SIDE)



• GPS P.C BOARD DIAGRAM (TOP SIDE)



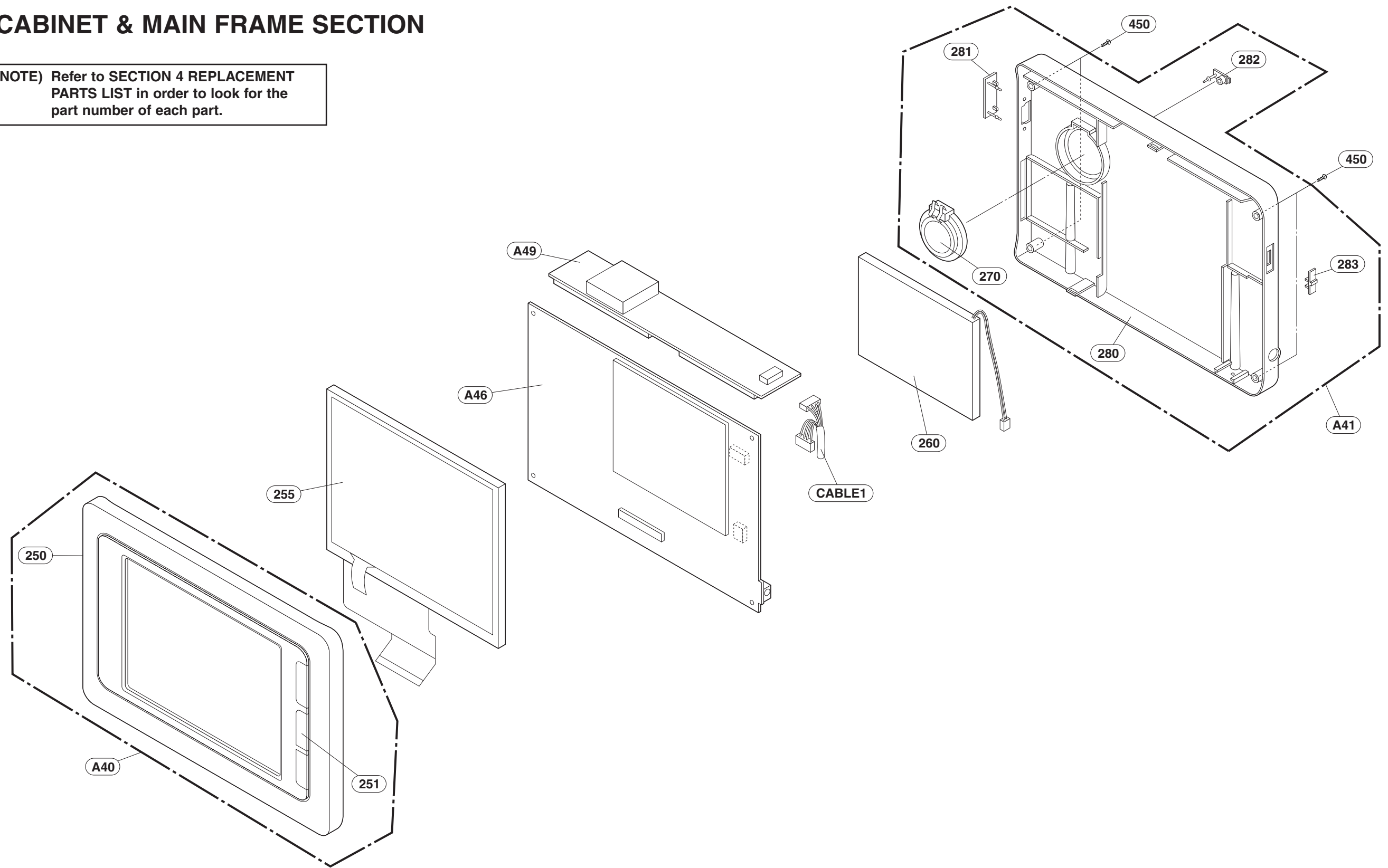
• GPS P.C BOARD DIAGRAM (BOTTOM SIDE)



## SECTION 3. EXPLODED VIEW

### □ CABINET & MAIN FRAME SECTION

NOTE) Refer to SECTION 4 REPLACEMENT PARTS LIST in order to look for the part number of each part.





MEMO

Lined area for writing on the left page.

MEMO

Lined area for writing on the right page.