

Service Manual



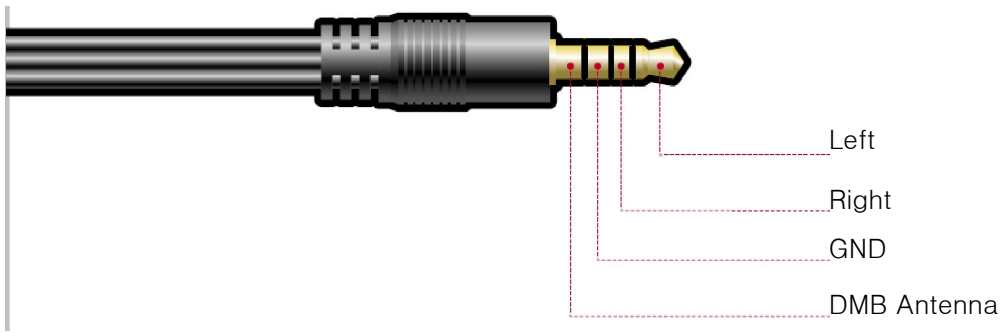
COWON D2

| | |
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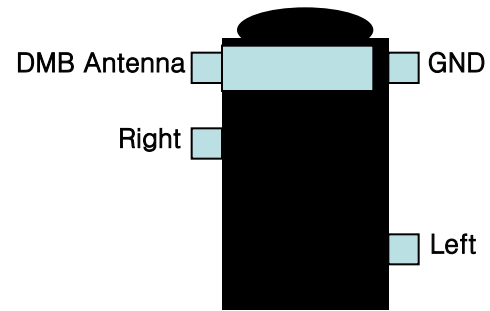
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3. Components (2/2)

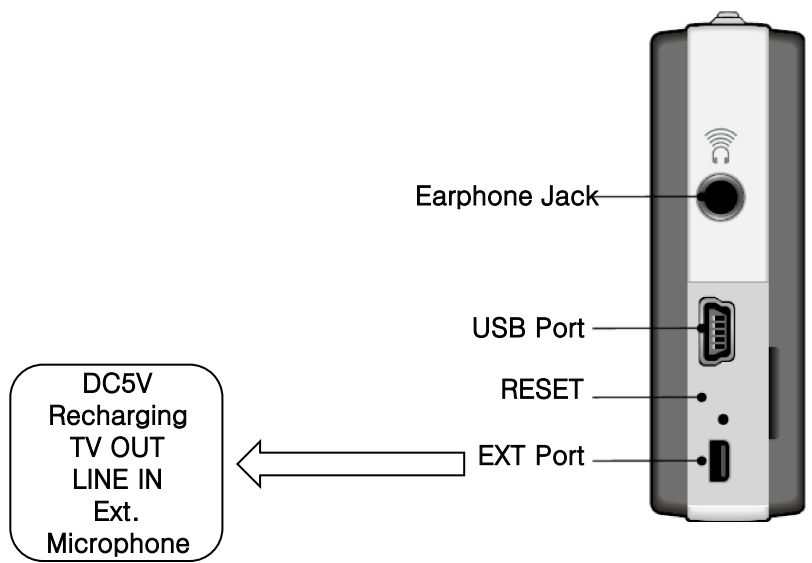
Phone-jack Polarity



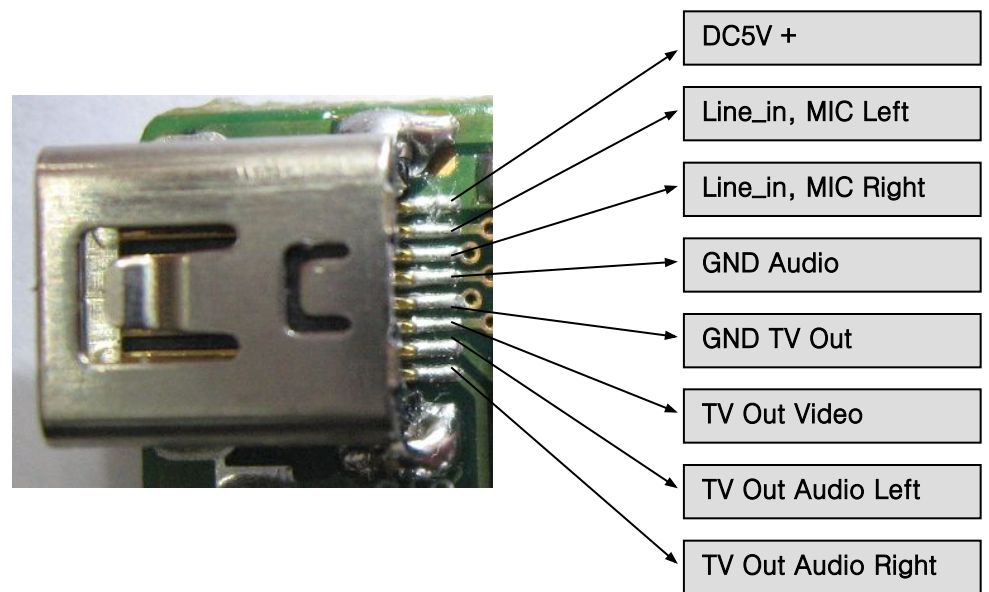
Phone-jack Port Polarity



I/O Configuration



EXT Port Polarity



Subject: How to Use D2 Recovery Program v0.27

Step 1. Install the provided driver on the PC.(※ You don't need to re-install the driver on a PC where it is already installed)

- How To: ① Press and hold the M button on the top of the player while connecting it to the PC.
② When the Find New Hardware Wizard is launched, select "install from a list of specific location".
③ Specify the provided driver installation folder using Browse.
④ You can check the installation when you find "Telechips Firmware Download Driver" in the Device Manager.

Step 2. Recovery Firmware V0.27 Configuration(※ specify the latest firmware when you specify the installation path)

How To: ① Run FWDN.exe. (In the early process of installation, an error can occur due to unspecified firmware (ROM) path. However, you can ignore it and proceed)

② Select Options->Preferences..Open->

- .
- .
- .
- .

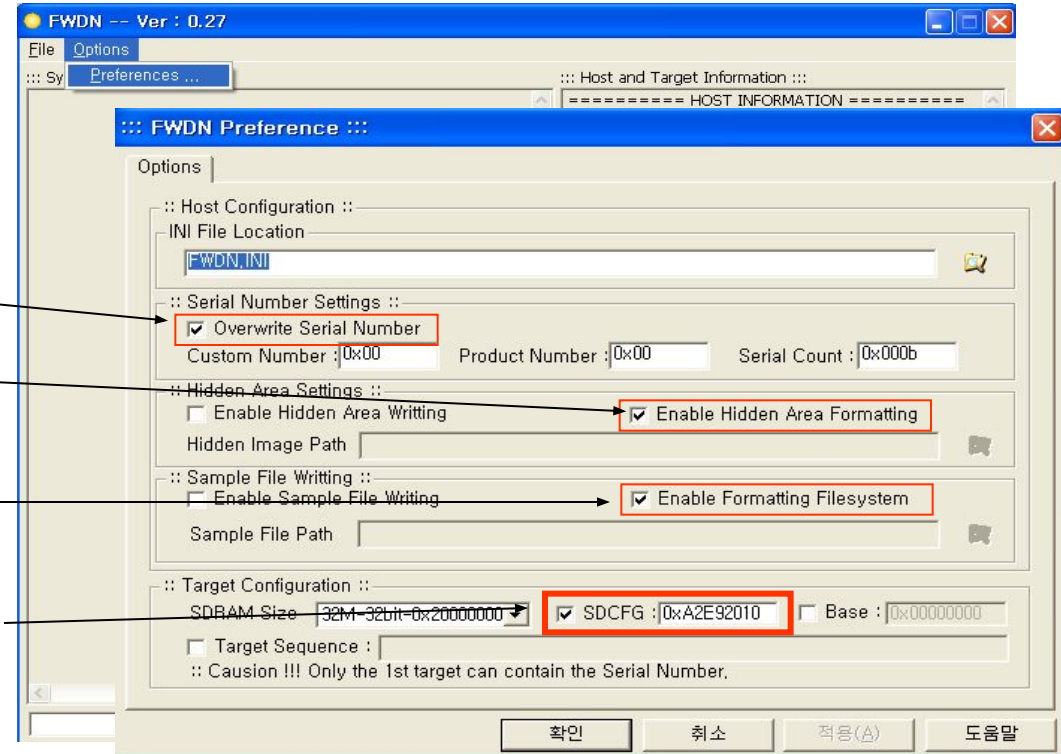
[Serial Number Settings] Check "Overwrite Serial Number"

[Hidden Area Settings] Check "Enable Hidden Area Formatting"

[Sample File Writing] Check "Enable Formatting Filesystem"

[Target Configuration] Check "SDCFG", Text Marking: 0xA2E92010

Apply>OK.



Subject: How to Use D2 Recovery Program v0.27

③ Click File > Open ROM File and select the firmware file, “d2.bin”. (Select the latest firmware)

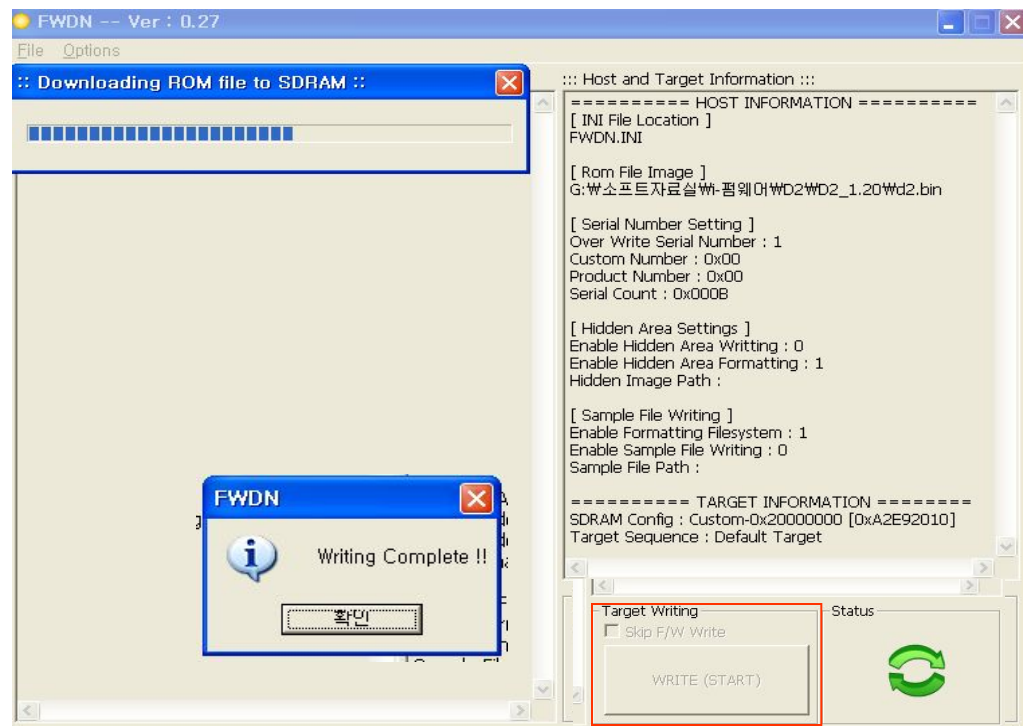
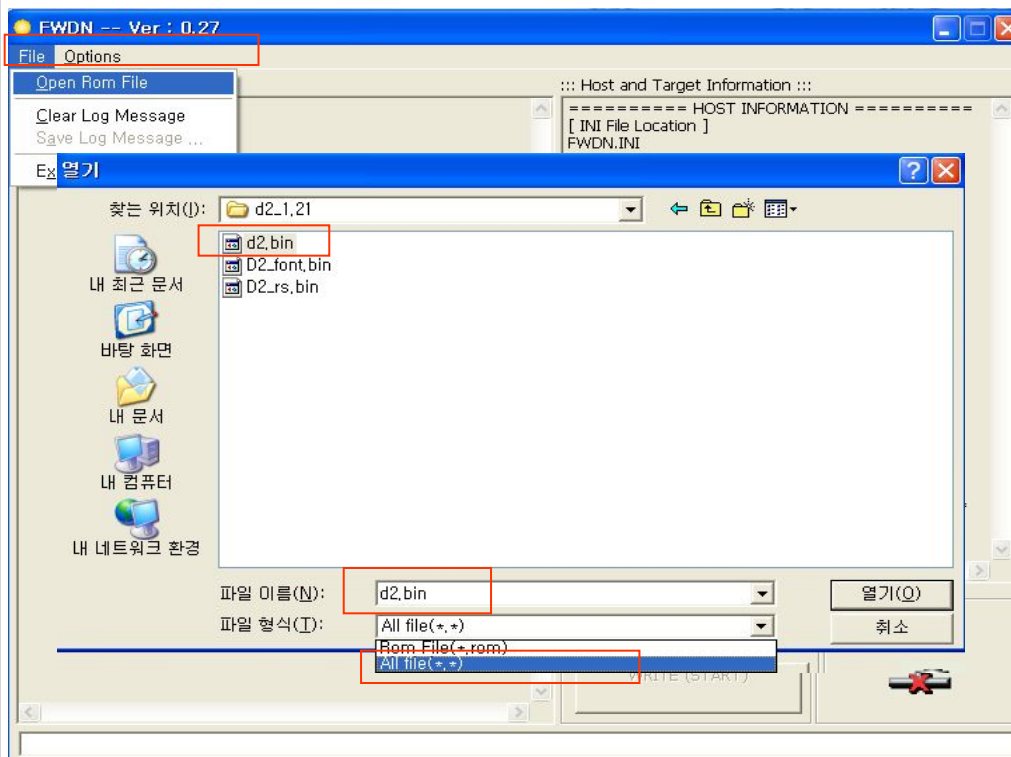
You can not find the file until you select “All file(*.*)” for the file format.

Step 3. WRITE

How To: ① Download the firmware file and you can check the status as in the figure and find the WRITE button in the right bottom is activated.

② Press the WRITE button to start writing.

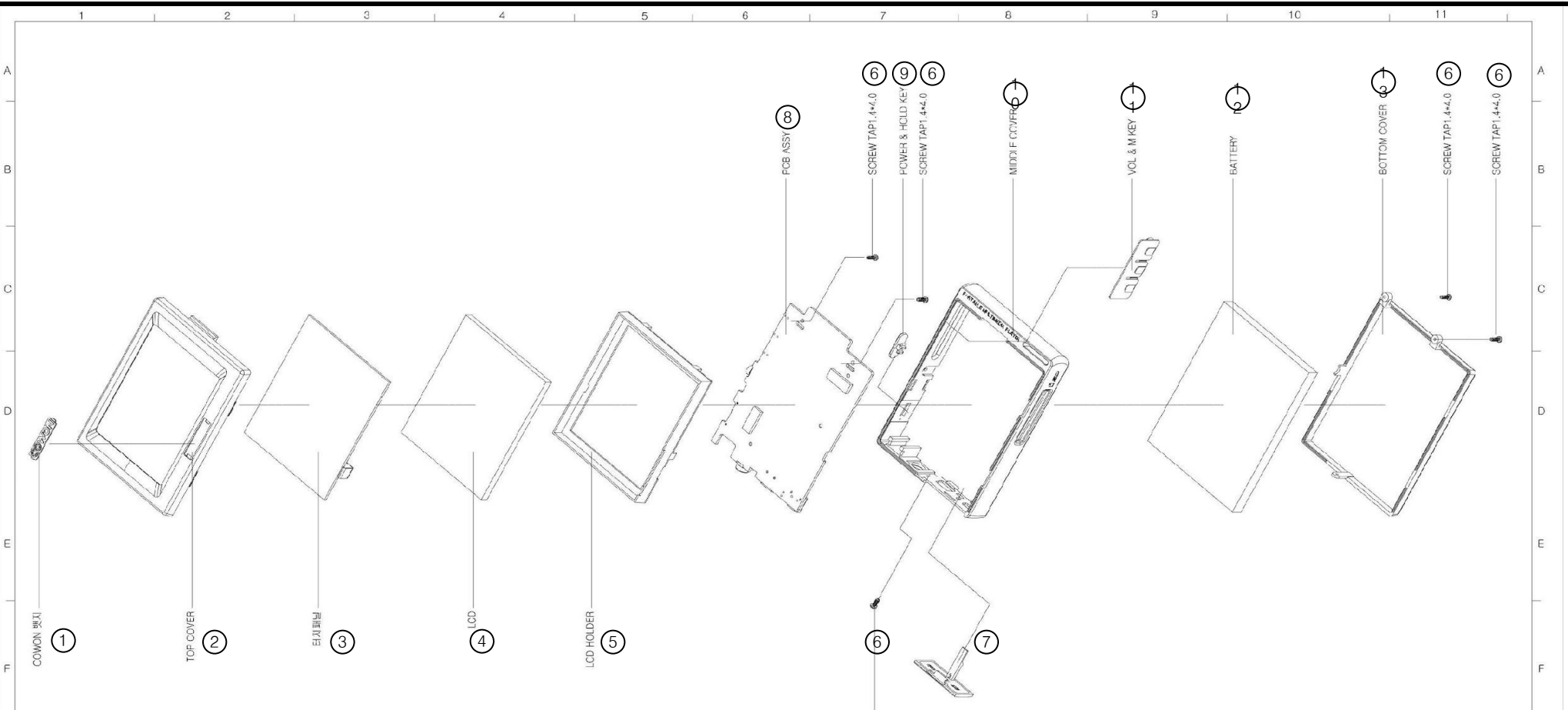
③ When done, the Writing Complete message pops up. Click OK to finish.



※ ※ When it failed, close the window and restart the player before repeating steps 2 .

4Step 4. If you encounter noise on the display after the recovery, copy D2_font and bin and D2_rs.bin files to the loot folder and proceed with the upgrade

6. Case Perspective View

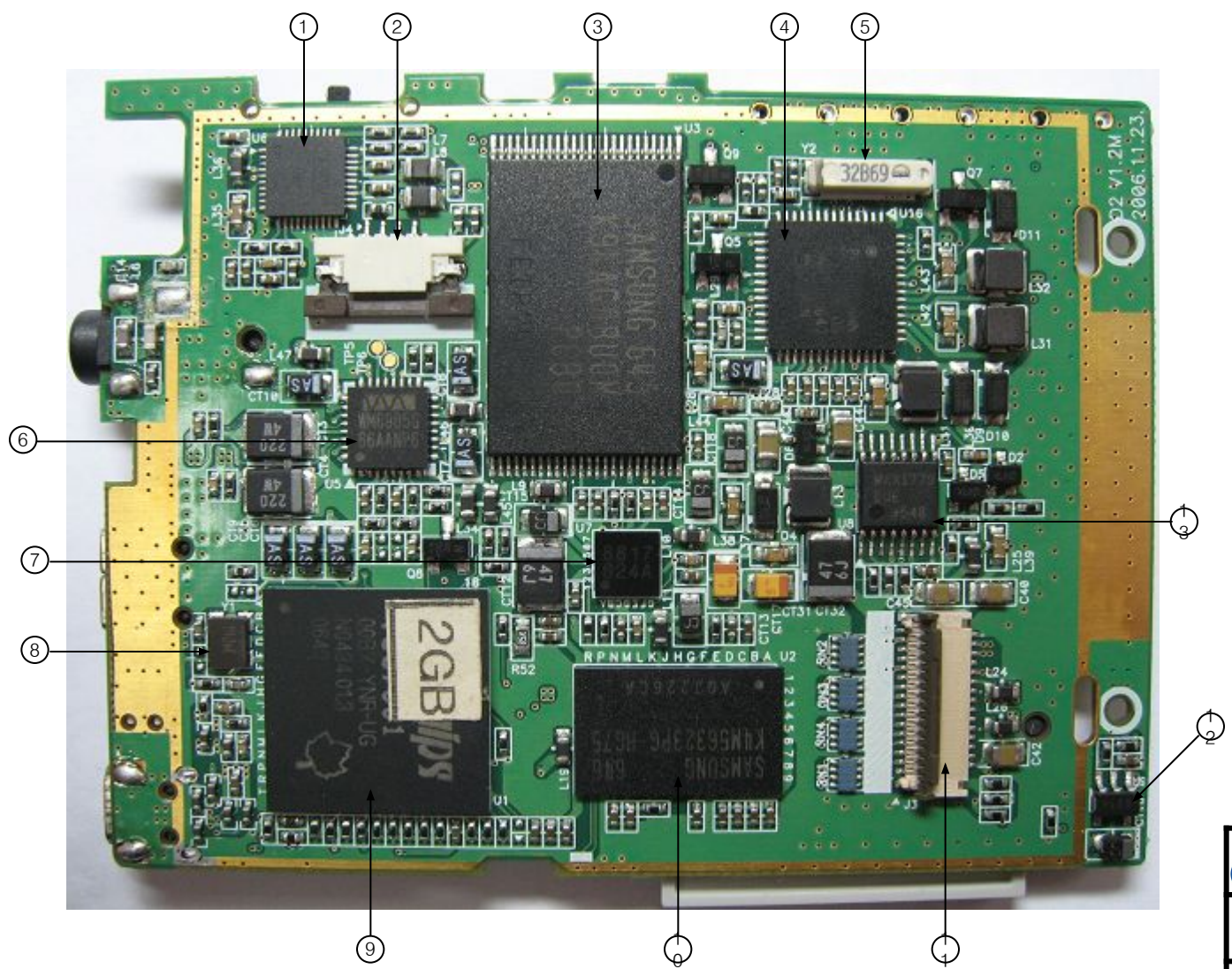


| No | PART CODE | PART NAME | Q`TY | No | PART CODE | PART NAME | Q`TY |
|----|--------------|--|------|----|------------|---------------------------------|------|
| 1 | D2-KNOB005 | COWON 배지 | 1 | 8 | D2-PCB0001 | MAIN BOARD ASS`Y | 1 |
| 2 | D2-CASE001~5 | CASE UPPER WH, LM, RD, PK, BK | 1 | 9 | I6-KNOB001 | Power/HOLD KEY knob (common:i6) | 1 |
| 3 | D2-LCD0001 | D2 TOUCH LCD ASS`Y | 1 | 10 | D2-CASE006 | SILVER MIDDLE CASE | 1 |
| 4 | D2-LCD0001 | DE TOUCH LCD ASS`Y | | 11 | D2-KNOB002 | VOL KEY Knob | 1 |
| 5 | D2-LCD0002 | LCD HOLDER | 1 | 12 | D2-BAT0001 | BATTERY PACK (1600mAh) | 1 |
| 6 | U2-TAP0009 | SCREW1.4*4 Common:U2,M3,X5,M5,A2,F1 | 5 | 13 | D2-CASE007 | CASE BOTTOM WH | 1 |
| 7 | D2-KNOB001 | IO COVER | 1 | | | | |

D2 분해도
* 일부 참고용

7. Circuit Parts List (1/3)

(1) Main Board Front



| No. | PART CODE | PART NAME |
|-----|------------|----------------------------------|
| 1 | D2-CHIP004 | FM IC |
| 2 | D2-CO00004 | TOUCH PADCONN |
| 3 | | MEMORY(MLC TYPE) |
| 4 | A2-CHIP003 | POWER IC (common:A2,U3,i6) |
| 5 | F2-CHIP003 | X_TAL 32.768KHz(common:U3,F2) |
| 6 | D2-CH00004 | CODEC IC |
| 7 | D2-CH00005 | TV Out IC |
| 8 | T2-CHIP002 | X_TAL 12MHz(common:U3,T2,F2) |
| 9 | | TELECHIPS 7801 |
| 10 | | SDRAM |
| 11 | D2-CO00003 | LCD CONN |
| 12 | D2-CH00006 | LED DRIVER IC |
| 13 | D2-CH00003 | CONVERTER IC |

DIGITAL PRIDE

COWON COWON D2
MAIN BOARD PHOTOGRAPH FRONT

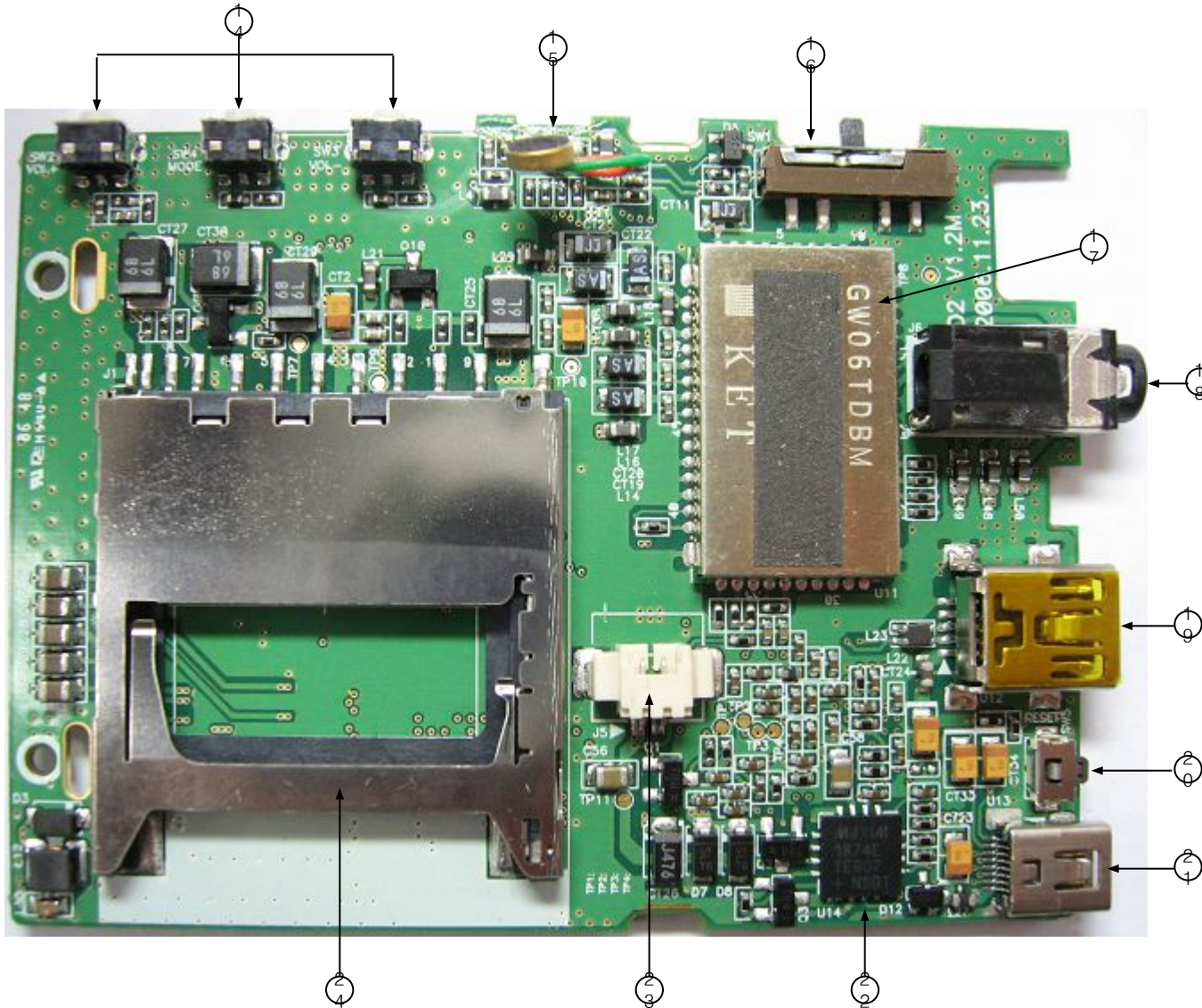
Customer Service Center,
Strategic Planning Dept, COWON SYSTEMS, Inc.

Date: Thursday, December 21, 2006
Rev:1.0

Sheet 1 of 3

PART NAME : COWON D2 MAIN BOARD Front

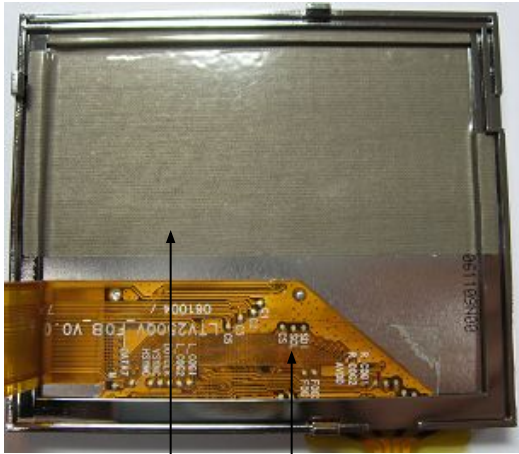
(2) Main Board Rear



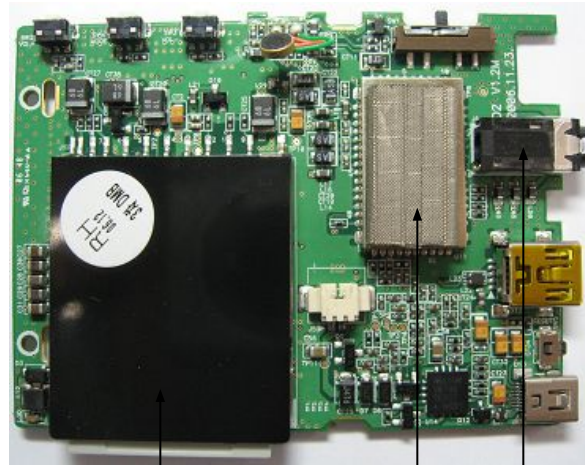
| No. | PART CODE | PART NAME |
|-----|------------|---------------------------|
| 14 | A2-CON0011 | TACK SW(common:A2) |
| 15 | D2-AS00001 | MICROPHONE |
| 16 | X5-CON0003 | POWER/HOLD SW |
| 17 | D2-CH00001 | DMB TUNER |
| 18 | D2-CO00001 | PHONE JACK |
| 19 | A2-CON0003 | USB CONN |
| 20 | CW200-CO05 | TACK SW |
| 21 | T2-CON0001 | MINI USB CON (common: T2) |
| 22 | D2-CH00002 | CHAGE IC |
| 23 | D2-CO00005 | BATT CONN |
| 24 | D2-CO00002 | SDIO CARD |

| | |
|--|----------------------------|
| DIGITAL PRIDE™ | COWON D2 |
| COWON | MAIN BOARD PHOTOGRAPH Rear |
| Customer Service Center, Strategic Planning Dept, COWON SYSTEMS, Inc. | |
| Date: Thursday, December 21, 2006 | Sheet 2 of 3 |
| Rev:1.0 | |

(3) EMI CUSHION / SHEET



1
2



7
8
9
10



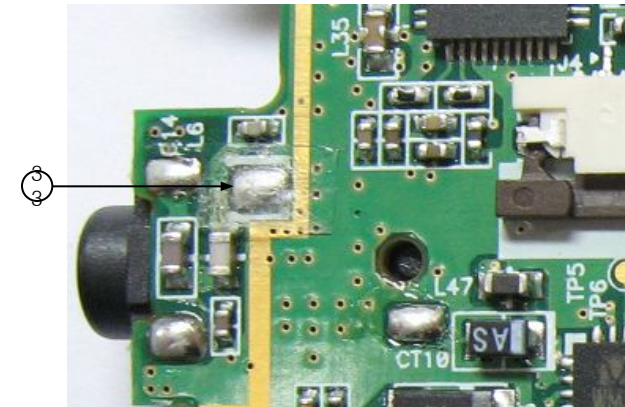
11

12



13

| No. | PART CODE | PART NAME |
|-----|------------|---|
| 25 | D2-TA00005 | LCD BRKT TAPE |
| 26 | D2-TA00003 | FPCB TAPE |
| 27 | D2-TA00009 | SD CARDPLATE |
| 28 | D2-TA00004 | DMB GASKET |
| 29 | D2-TA00002 | PHONE TAPE |
| 30 | D2-TA00008 | PCB EMI TAPE B |
| 31 | D2-TA00007 | PCB EMI TAPE A |
| 32 | D2-TA00010 | BATT TAPE |
| 33 | D2-TA00006 | INSULATION A (attached to the phone-jack soldering point) |



33

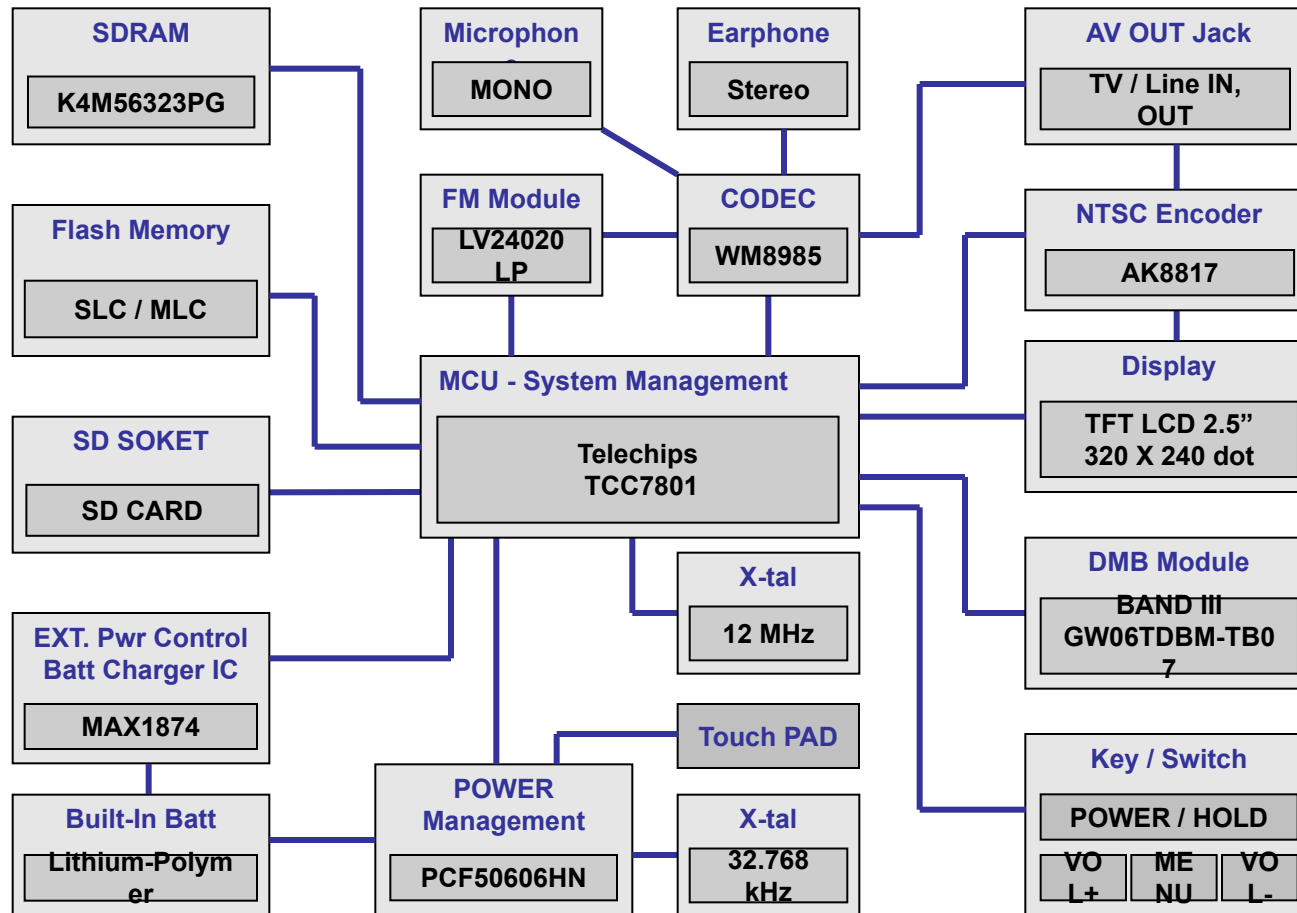
DIGITAL PRIDE COWON D2

COWON MAIN BOARD PHOTOGRAPH Sheet

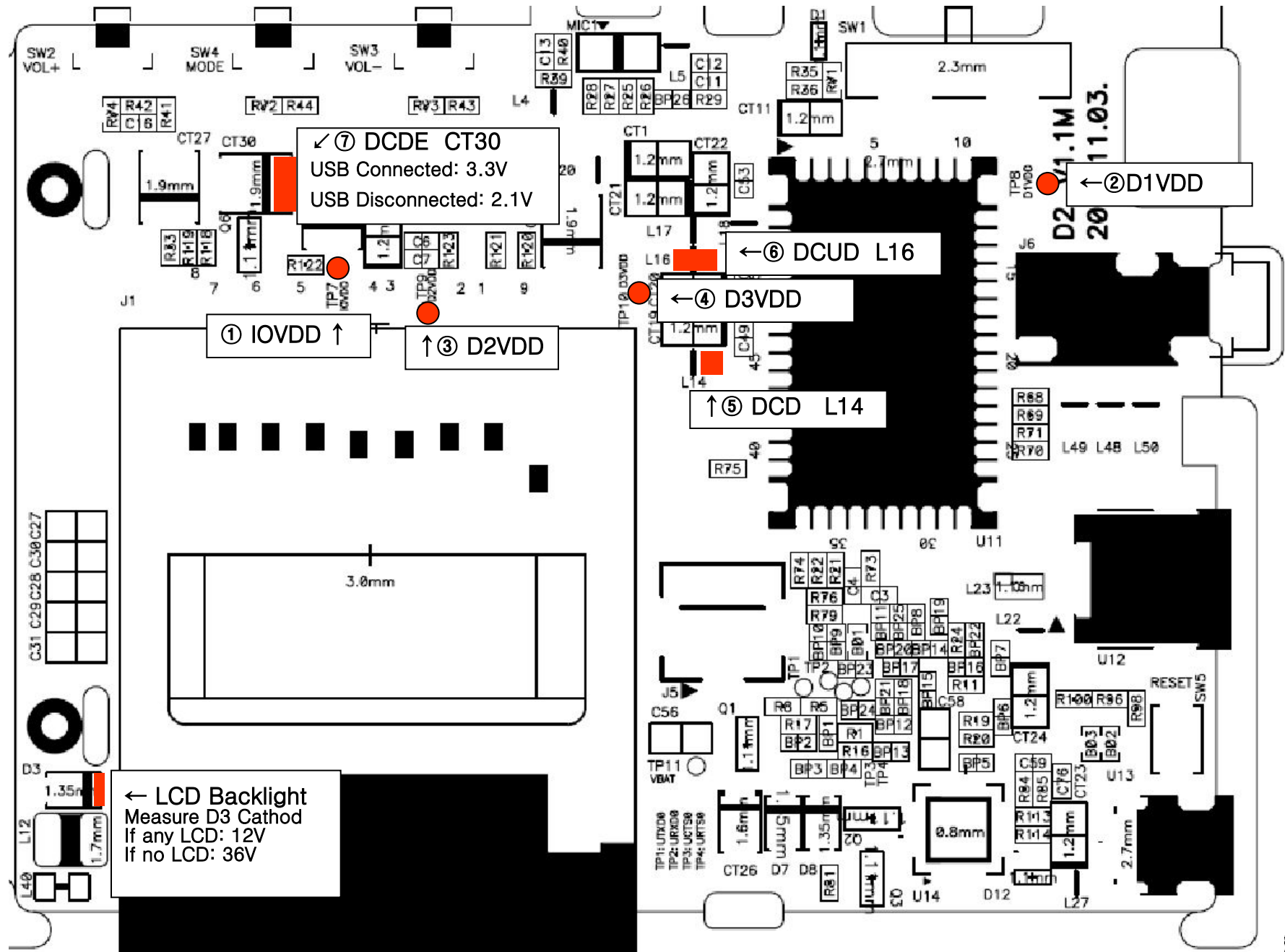
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Strategic Planning Dept, COWON SYSTEMS, Inc.

| | |
|-----------------------------------|--------------|
| Date: Tuesday, September 12, 2006 | Sheet 3 of 3 |
| Rev:1.0 | |

8. COWON D2 Block Diagram



9. Power Checkpoints(1/2)



| | D2 PMU Power Terminal | Reset | Set |
|---|-----------------------|---------------------------------|--|
| ① | IOVDD | 3.3V | 3.0V |
| ② | D1VDD | 1.1V | 3.0V |
| ③ | D2VDD | 1.8V | 1.8V |
| ④ | D3VDD | 1.3V | 3.3V |
| ⑤ | DCD | 1.3V | 1.2~1.1V |
| ⑥ | DCUD | 3.3V | 3.0V |
| ⑦ | DCDE | 3.3V | 3.3V (USB Connected: 3.3V, Normal: 2.1V) |
| | LCD Backlight | If any LCD: 12V, If no LCD: 36V | |

① IOVDD (Regulator / LDO)

– Used in I/O transaction between PMU and external device (s) : Use 7801 IO, PMU IO, 7801_ADC(Analog Digital Converter)

② D1VDD (Regulator / LDO)

– Supplies power for FM reception. (Check this out if FM reception is not working)

③ D2VDD (Regulator / LDO)

– Used for SDRAM, DMB(RF terminal), Codec Core and 7801_MEM.

④ D3VDD (Regulator / LDO)

– Supplies power solely for Codec AVDD. (Check this out if no sound is output)

⑤ DCD

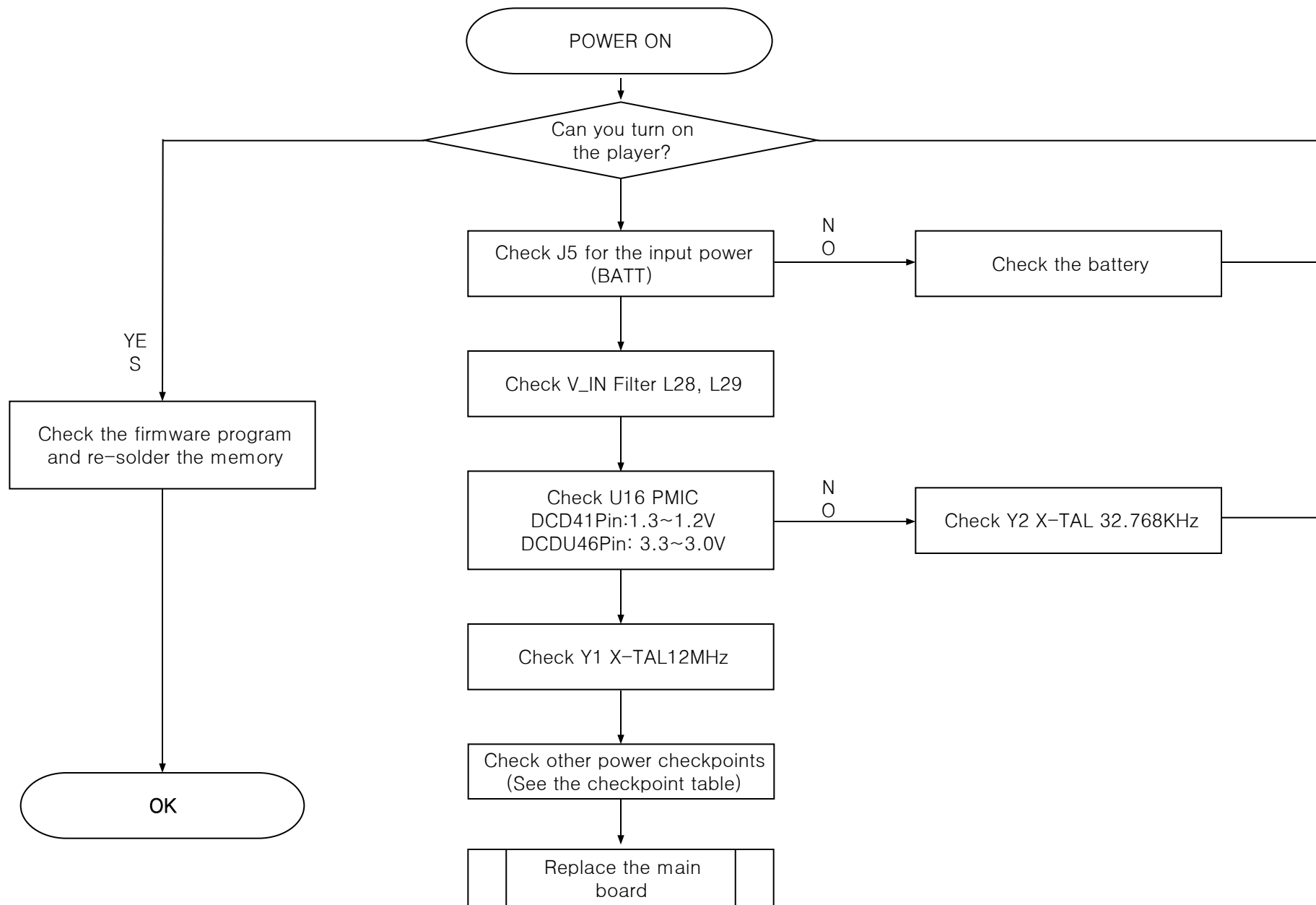
– 7801 Core, DMB core

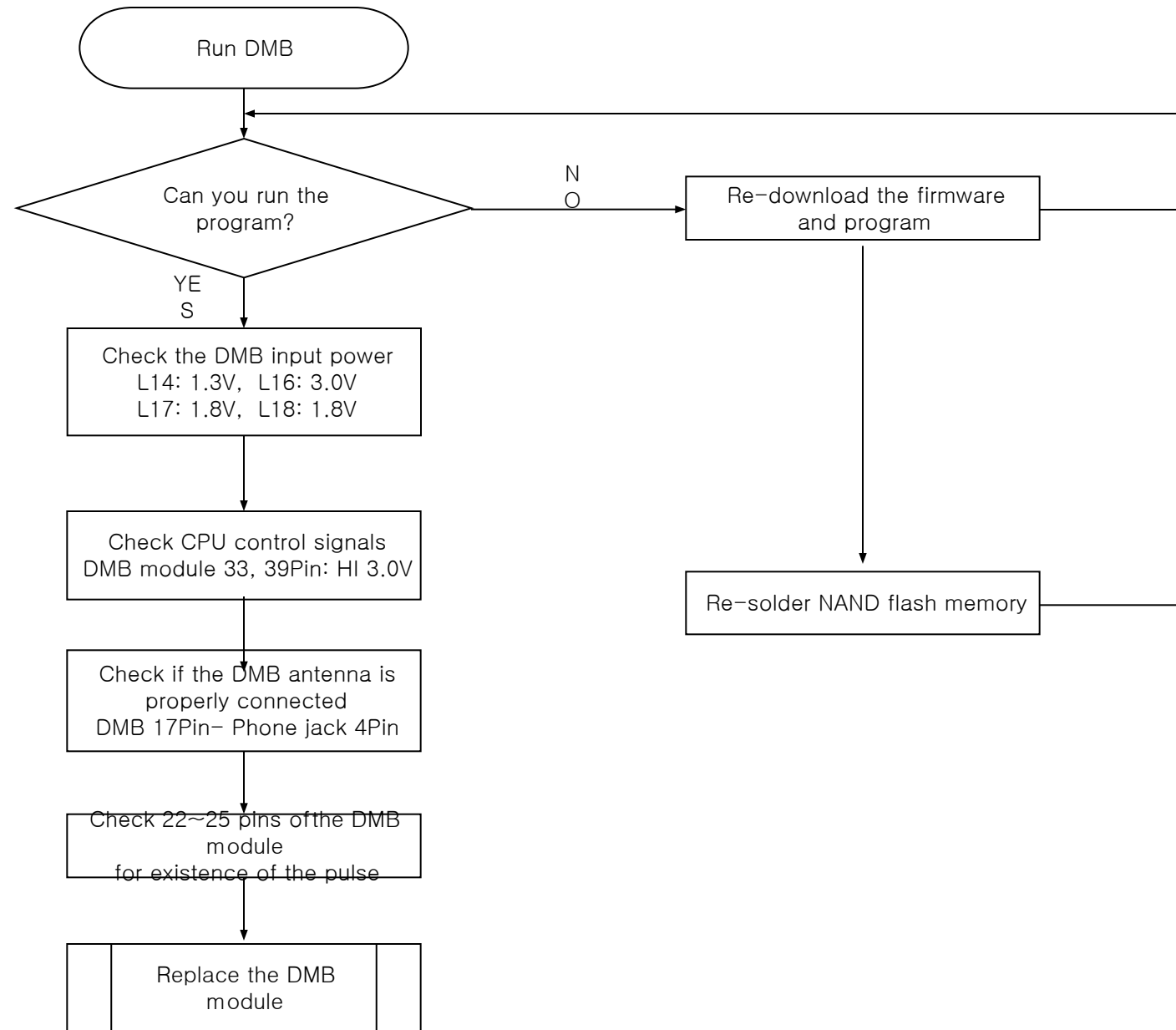
⑥ DCUD

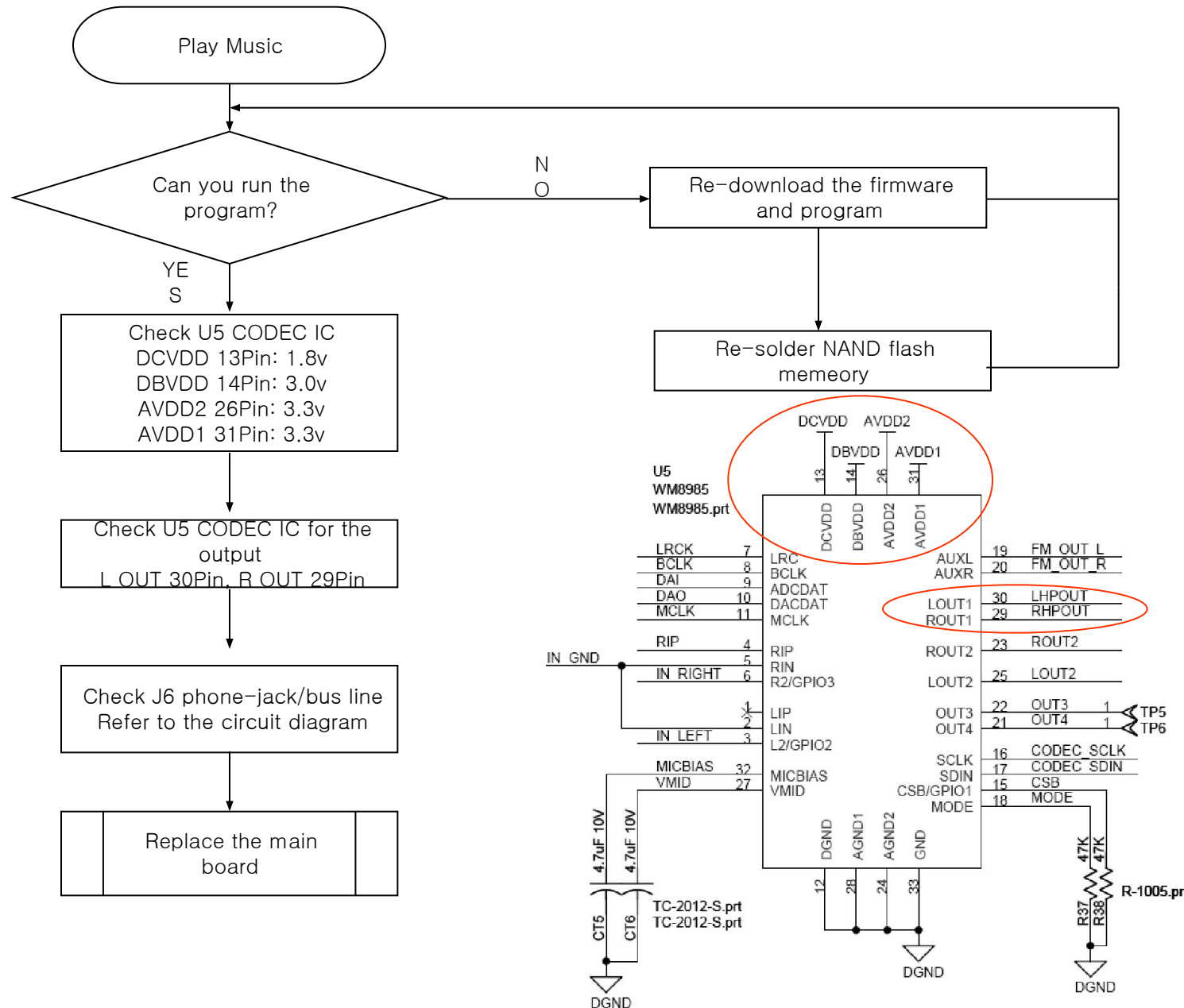
– 7801 Various IO, NAND, LCD, TVOUT, DMB IO

⑦ DCDE

– 7801_UTC단(Check if it measures 3.3V only under USB connection .)

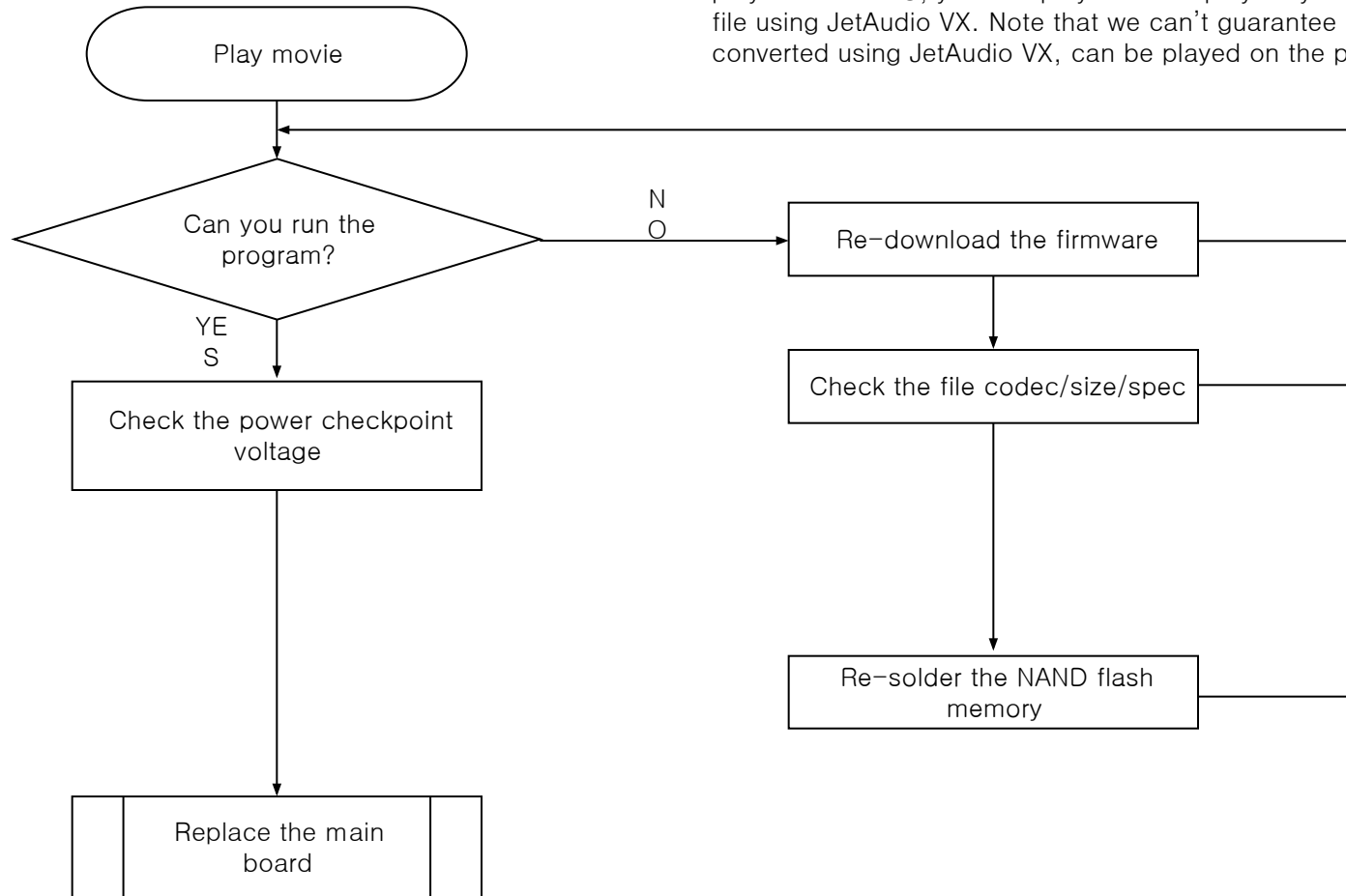


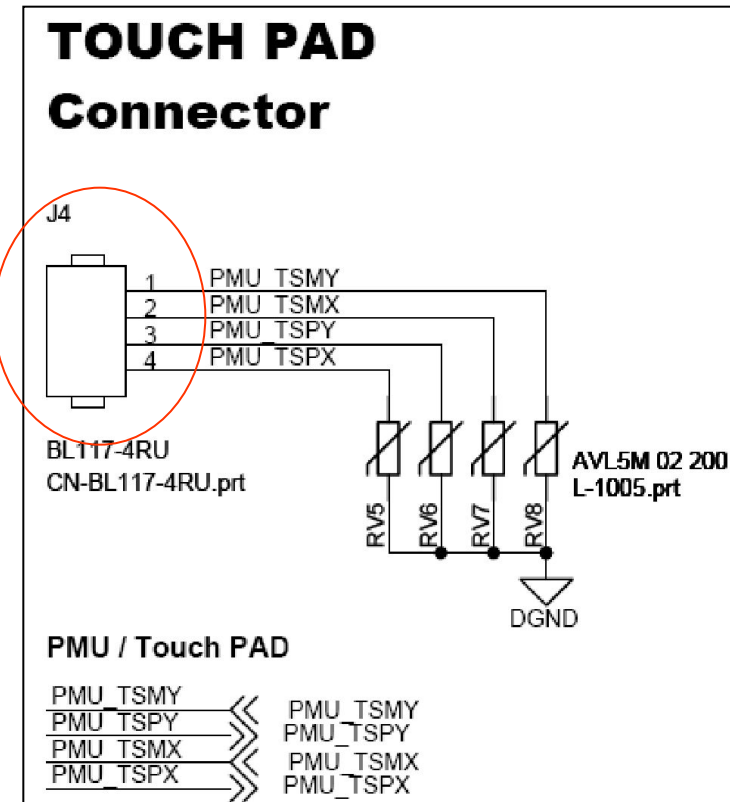
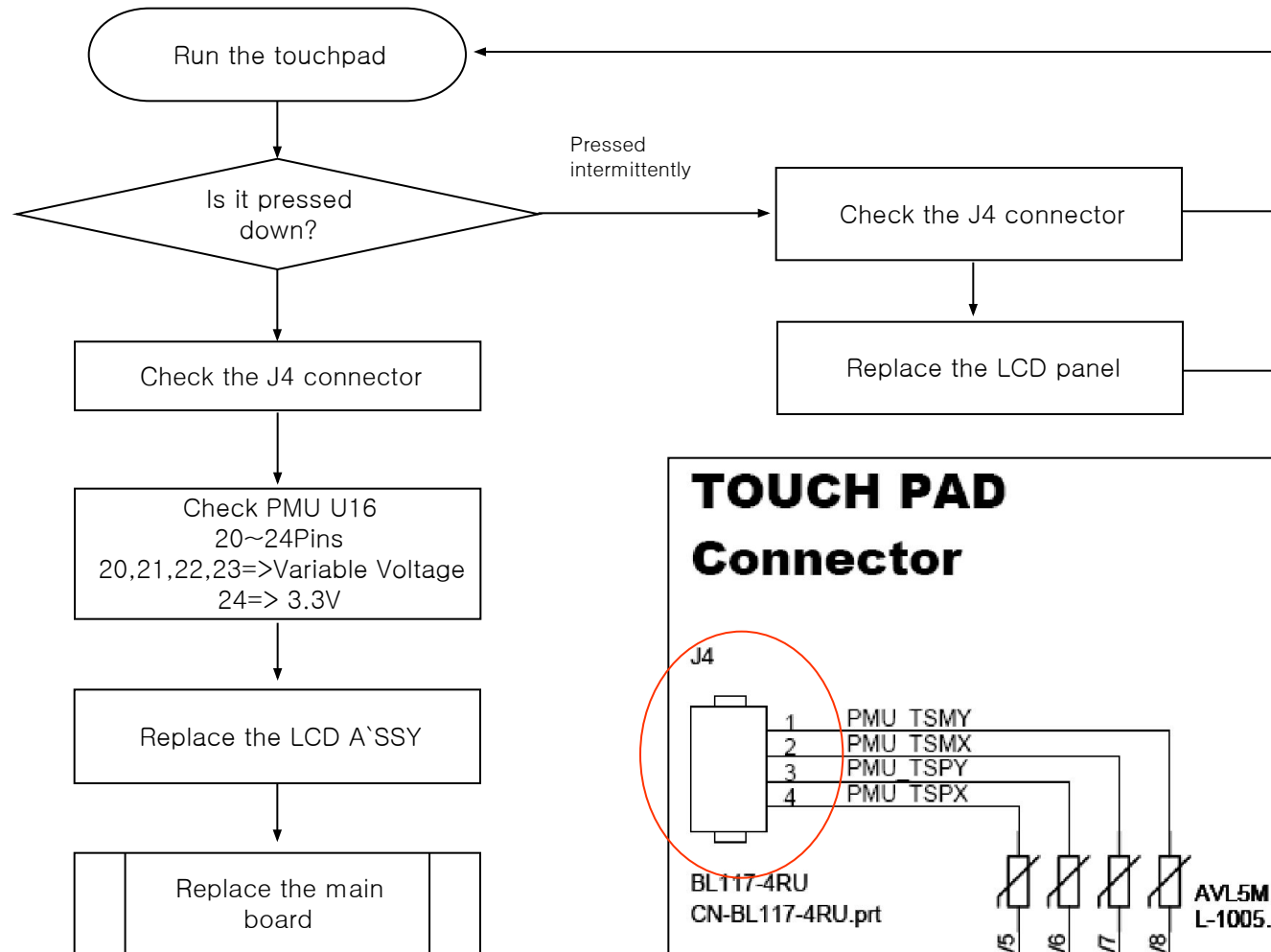




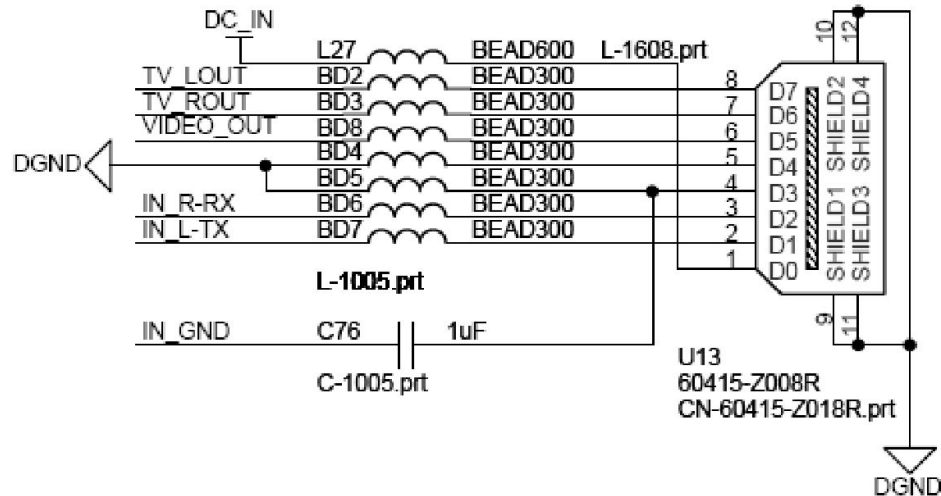
※ Movie is not played.

□ Copy the movie to the PC before playing it. If the movie is properly played on the PC, you can play it on the player by converting the movie file using JetAudio VX. Note that we can't guarantee all movie files, once converted using JetAudio VX, can be played on the player.

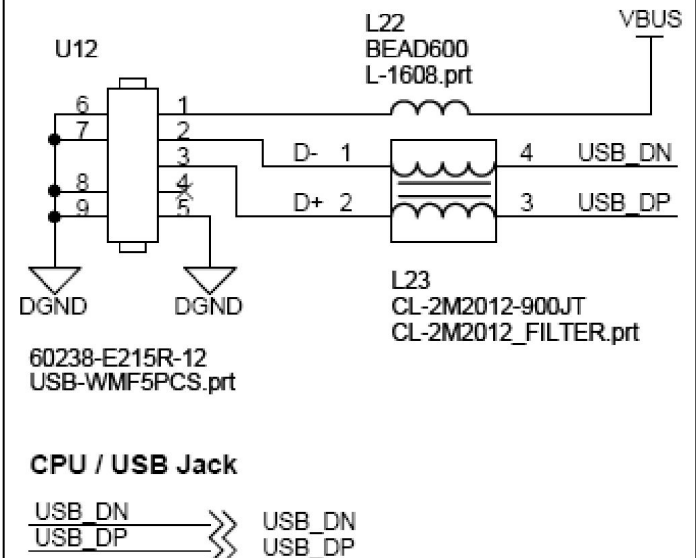




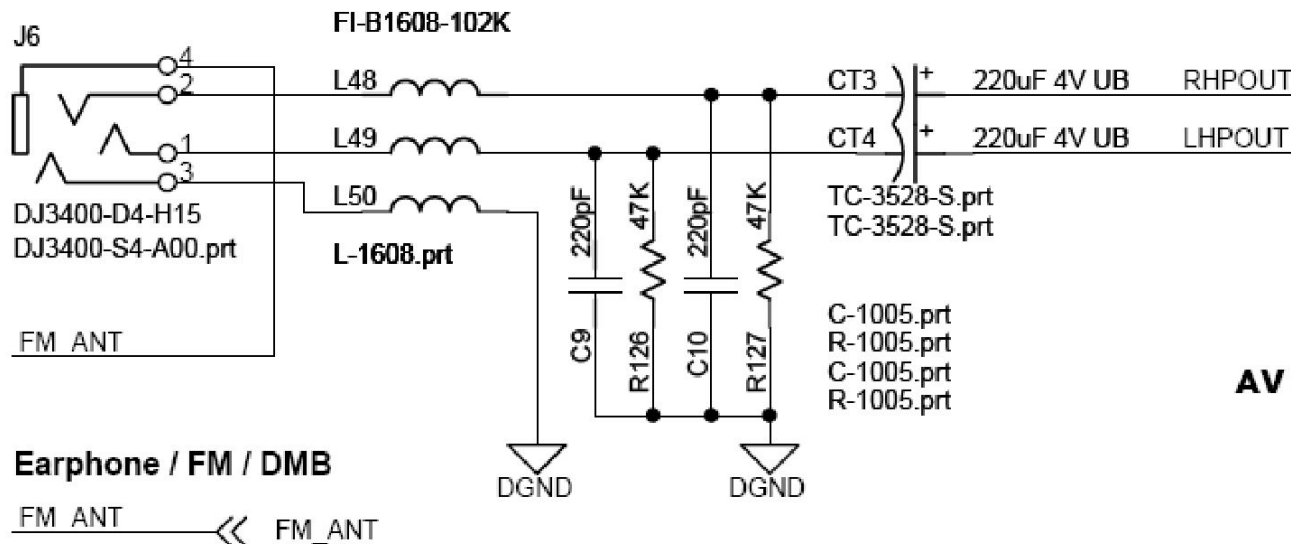
AVOUT Jack (AVout / Remocon / Line in)

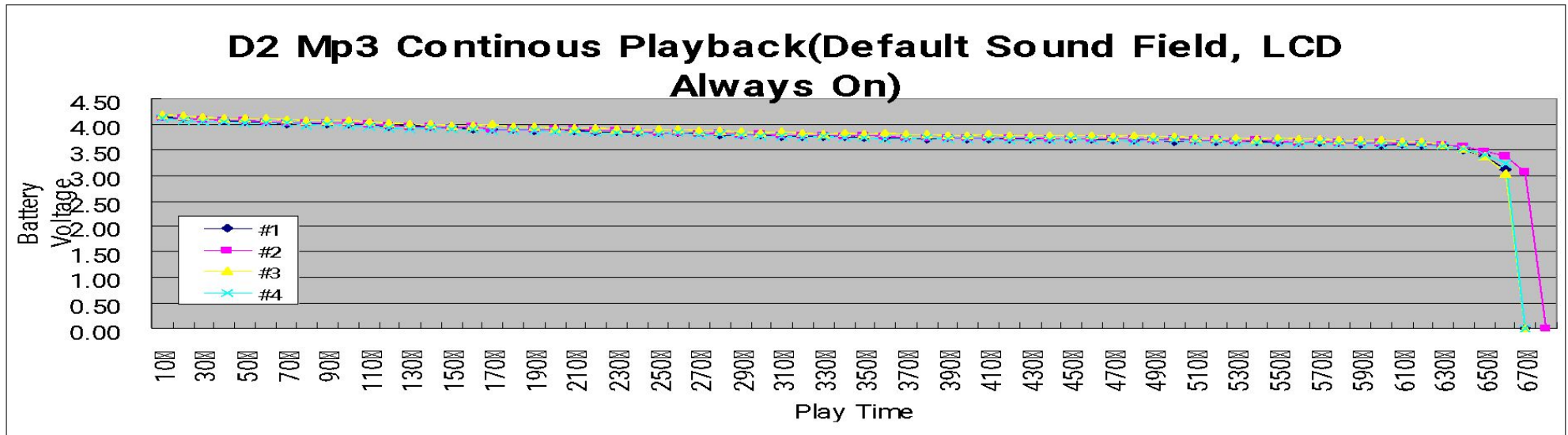


USB JACK

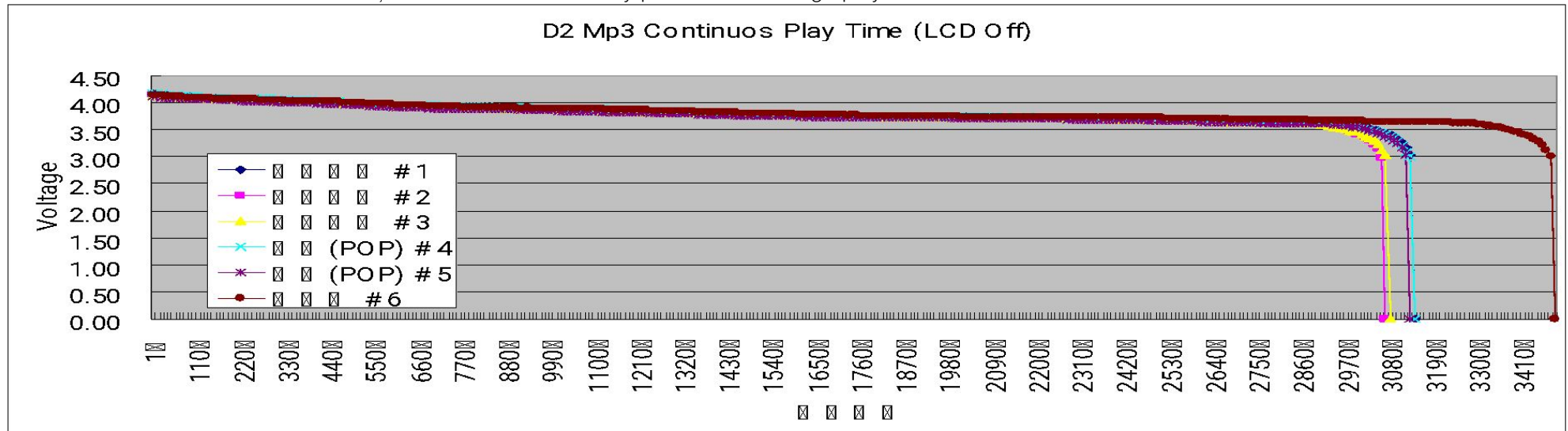


AUDIO OUT





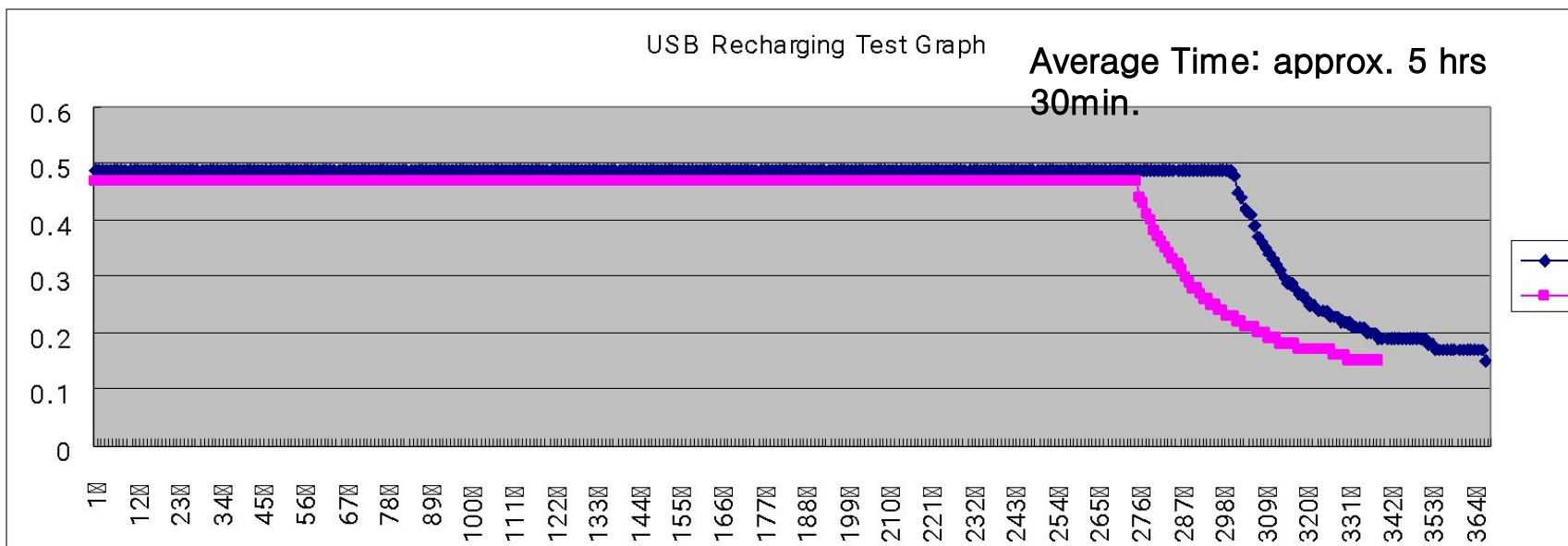
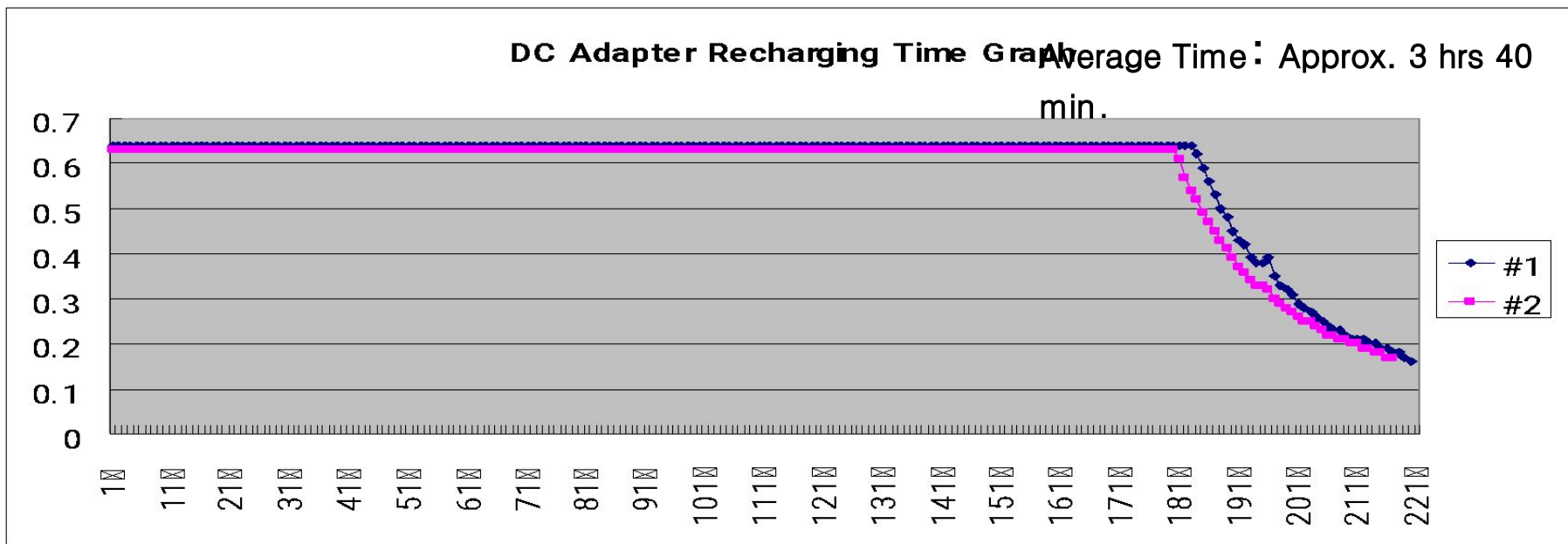
* The first data is recorded one minute after the sample boot / since then, recorded every 10 minutes That's why we deduct 10 min from the final end time. And the measurement time is decided, based on 3.5V in battery power. The average play time is **50 hrs and 37.5 min**.



*The first data is recorded one minute after the sample boot / since then, recorded every 10 minutes / The end time is based on 3.5V in battery power

* The average play time in the default sound fields (#1, #2, #3) is 49 hrs and 50 min.

*Play time in no sound field (#6) is 56 hrs and 10 min . / Played for additional 1 hr and 50 min , up to 3.0V.



| ■ iAUDIO Power Consumption Analysis | | | (061030) D2 V1.0 Core 1.10V/DCDE 2.10V | | |
|-------------------------------------|---|--------|---|-------------------------|-------------------|
| Item | Standard (Unit: mA) | | Volume = 15 (Default) | | |
| | | | Default | No Sound Filed | |
| Peak current at boot mode | | | In the Main Menu | | |
| Quiescent Current in power-off | | | Power Consumption to the Backlight value | | |
| Quiescent Current in power-on | | | | | |
| MP3 | 128Kbps (iAUDIO Friends & Lovers.mp3) | BL on | Screen Brightness | Total Power Consumption | Backlight Current |
| | | BL off | 10 | 161 mA | 103 mA |
| WMA | wma _9.1_VBR_128 | | 9 | 155 mA | 97 mA |
| OGG | OGG_VBR_450 | | 8 | 148 mA | 90 mA |
| FLAC | 44100Khz - 16bit - Stereo - Compression Ratio 0 | | 7 | 141 mA | 83 mA |
| MPEG4 | 128Kbps 16 bit, MPEG Layer-3 / 12 frame, 72kbps | | 6 | 134 mA | 76 mA |
| Listen to FM Radio | | | 5 | 129 mA | 71 mA |
| Record FM radio program | | | 4 | 124 mA | 66 mA |
| Voice Record | | | 3 | 118 mA | 60 mA |
| Play Voice Record | | | 2 | 112 mA | 54 mA |
| Line-in Record | | | 1 | 108 mA | 50 mA |
| Line-in Play | | | 0 | 58 mA | |

13. COWON D2 Bill of Material

| | Part No. | Item | Description (Spec) | Applied |
|---------------------------------|------------|----------------|--------------------|-----------------|
| D e v i c e | D2-CA00001 | CASE UPPER | TOP WHITE | D2 |
| | D2-CA00002 | CASE UPPER | TOP LIME | D2 |
| | D2-CA00003 | CASE UPPER | TOP RED | D2 |
| | D2-CA00004 | CASE UPPER | TOP PINK | D2 |
| | D2-CA00005 | CASE UPPER | TOP BLACK | D2 |
| | D2-CA00006 | CASE MIDDLE | MIDDLE SILVER | D2 |
| | D2-CA00007 | CASE BOTTOM | DMB WHITE 2G | D2 |
| | D2-CA00008 | CASE BOTTOM | DMB LIME 2G | D2 |
| | D2-CA00009 | CASE BOTTOM | DMB RED 2G | D2 |
| | D2-CA00010 | CASE BOTTOM | DMB PINK 2G | D2 |
| | D2-CA00011 | CASE BOTTOM | DMB BLACK 2G | D2 |
| | D2-CA00012 | CASE BOTTOM | REAR WHITE 2G | D2 |
| | D2-CA00013 | CASE BOTTOM | REAR BLACK 2G | D2 |
| | D2-KN00001 | USB COVER | IO COVER | D2 |
| | D2-KN00002 | KNOB VOL KEY | VOL KEY ASSY | D2 |
| | D2-KN00003 | KNOB BADGE | COWON LOGO | D2 |
| | | I6-KNOB001 | KNOB POWER | Power Hold Knob |
| C i r c u i t | D2-CO00001 | PHONE JACK | DJ3400-S4-H15 | D2 |
| | D2-CO00002 | SDIO CARD | FPS009_2405 | D2 |
| | D2-CO00003 | LCD CONN | 54809-3198 | D2 |
| | D2-CO00004 | TOUCH PAD CONN | BL117-4RU | D2 |
| | D2-CO00005 | BATT CONN | 53261-02-H3.4-0271 | D2 |
| | D2-CH00001 | DMB TUNER | GW06TDBM-TB07 | D2 |
| | D2-CH00002 | CHAGE IC | MAX1874_QFN | D2 |
| | D2-CH00003 | CONVERTER IC | MAX1779 | D2 |
| | D2-CH00004 | CODEC IC | WM8985 | D2 |
| | D2-CH00005 | TV OUT IC | AK8817 | D2 |
| | D2-CH00006 | LED DRIVER IC | SM8121A | D2 |

| | Part No. | Item | Description (Spec) | Applied | |
|------------|--|-----------------|------------------------------------|----------------------|----|
| | A2-CON0003 | USB CONN | 60238-R215-12 | I4,U2,G3,F2,A2,D2 | |
| | A2-CON0011 | TACT SW | SKRTLAE010 | A2,D2 | |
| | T2-CON0001 | USB CONN | 60415-Z008R | T2,D2 | |
| | X5-CON0003 | POWER HOLD SW | SSSS7A0101 | X5,M5,i6,F2,D2 | |
| | T2-CHIP002 | X-TAL_12MHz | DSX321G_12MHz | U3,T2,F2,D2 | |
| | T2-CHIP004 | FM IC | LV24020LP | T2,D2 | |
| | F2-CHIP003 | X-TAL_32.768KHz | SSP-T6_32.768KHz | U3,F2,D2 | |
| | A2-CHIP003 | POWER IC | PCF50606HN | A2,U3,i6,D2 | |
| | M a n u a l I n s e r t | D2-LC00001 | LCD | 2.5 " TOUCH LCD ASSY | D2 |
| | | D2-LC00002 | LCD HOLDER | LCD Holder | D2 |
| | | D2-AS00001 | MIC | MICROPHONE | D2 |
| D2-AS00002 | | SD CARD COVER | SD CARD Dummy | D2 | |
| D2-BA00001 | | BATT PACK | 455066_1600MAH | D2 | |
| | D2-TA00001 | BADGE TAPE | 3M | D2 | |
| | D2-TA00002 | PHONE TAPE | INSU TAPE 12 * 10 0.05T | D2 | |
| | D2-TA00003 | F PCB TAPE | INSU TAPE 40 * 10 0.1T | D2 | |
| | D2-TA00004 | DMB GASKET | FORM GASKET 2T | D2 | |
| | D2-TA00005 | LCD BRKT TAPE | 0.05T Conductivity+0.04T INSU TAPE | D2 | |
| | D2-TA00006 | INSULATION A | 5 * 3 | D2 | |
| | D2-TA00007 | PCB EMI TAPE A | Conductive One-sided TAPE 0.1T | D2 | |
| | D2-TA00008 | PCB EMI TAPE B | Conductive One-sided TAPE 0.1T | D2 | |
| | D2-TA00009 | SD CARD PLATE | PET FILM 0.3T | D2 | |
| | D2-TA00010 | BATT TAPE | 3M | D2 | |
| | D2-TA00011 | PEACE TAPE | Piece Tape | D2 | |
| | U2-TAPE000 | SCREW | 1.4 * 4 | U2,M2,Y5,M5,A2,E1 | |