# Product Specifications

## *Model: SN-208DB*

### *12.7mm Slim SATA DVD-WDrive*

***Rev. 00***

Performance Content – Joel Matala
Interface Content – YangKyu Lee
Mechanical Content – Rolly Laxamana
Customer Engineering – DoKyu Park

| APPROVAL AUTHORITIES | REVISION | CEG APPROVED | PM APPROVED |
|---|---|---|---|
| TSST R&D Manager<br>OEM Eng. Manager | Rev 00 | DoKyu Park | SangHun Kim |

**TOSHIBA SAMSUNG STORAGE TECHNOLOGY Co., Ltd.**

# Revision History

| Date | Revision No | Revision Description | Approvals |
|---|---|---|---|
| 2012.05.22 | 00 | - Preliminary Spec Release | Joel Matala |

# Table of Contents

## A. PRODUCT SPECIFICATIONS

# A1. Features and General Specifications

## A1.1 Features

SN-208DB Drive shall support DVD CSS (Contents Scramble Systems) Disc

SN-208DB Drive shall read and play the Digital Data of CD-ROM, DVD-ROM and CD-Audio Disc

SN-208DB Drive shall read and write a Digital Data to CD-R, CD-RW, DVD±R/RW Disc

SN-208DB Drive shall read and play Φ120/80mm, Single/Dual layer, S/D side Disc
DVD-R (Ver1.0 / for Authoring, Ver2.0 / for General Ver2.0),
DVD+R, DVD+RW (Ver1.0), DVD-RW, DVD±R Dual Layer.

SN-208DB Drive shall read DVD-ROM, DVD±R/RW with max CAV 8X speed. And DVD±R DL with max 8X (CAV 8X)

SN-208DB Drive shall read CD-ROM data with max CAV 24X speed

SN-208DB Drive shall record a data to CD-R with max 24X

SN-208DB Drive shall record data to CD-RW with max 24X

SN-208DB Drive shall record a data to DVD+R/RW with max 8X

SN-208DB Drive shall record a data to DVD-R/RW with max 8X / 6X

SN-208DB Drive shall record a data to DVD+/-R DL with Max 6X

SN-208DB Drive shall record a data to DVD-RAM with max 5X

SN-208DB Drive shall support Buffer under-run free technology (Super Link)

SN-208DB Drive shall support DVD SFF-8090 5 (Mt. Fuji 5) Command, CD-R/RW MMC-5 Command

SN-208DB Drive shall support Vertical position or Horizontal position running without performance degradation

SN-208DB Drive shall support RPC-II.

SN-208DB Drive shall support DVD-RW CPRM.

SN-208DB Drive shall support DVD+RW VCPS.

SN-208DB Drive supports Zero Power ODD function.

## A.1.2 General Specifications

| Category | | | Specification | Remarks |
|---|---|---|---|---|
| **Interface** | | | SATA | |
| **Disc Diameter** | | | 8 Cm / 12 Cm | |
| **Loading Type** | | | Drawer Type | |
| **Drive Mounting** | | | Horizontal / Vertical | |
| **READ / WRITE** | **READ Speed** | **CD-ROM** | Max. 24X (3,600 KB/sec) | CAV 24X |
| | | **CD-RW** | Max. 24X (3,600 KB/sec) | CAV 24X |
| | | **DVD-Single** | Max 8X (10,800 KB/sec) | CAV 8X |
| | | **DVD-Dual** | Max 8X (10,800 KB/sec) | CAV 8X |
| | **WRITE Speed** | **CD-R** | Max. 24X (3,600 KB/sec) | PCAV 24X/20X/16X CLV 10X |
| | | **CD-RW** | Max. 4X (600 KB/sec) | CLV 4X |
| | | **HS CD-RW** | Max. 10X (1,500 KB/sec) | CLV 10X |
| | | **US CD-RW** | Max. 24X (2,400 KB/sec) | ZCLV 24X |
| | | **DVD±R** | Max 8X (10,800 KB/sec) | PCAV 8X/6X/4X<br>/ CLV 3.3X(+R), CLV2X(-R) |
| | | **DVD±RW** | Max 8X (10,800 KB/sec) : +RW<br>Max 6X ( 8,100 KB/sec) : -RW | ZCLV 8X/6X/4X/ CLV3.3X(+),<br>ZCLV 6X/4X/ CLV2X(-) |
| | | **DVD±DUAL** | Max 6X (8,100KB/sec) | PCAV 6X/4X/ CLV 3X(+),<br>PCAV 6X/4X/ CLV2X(-) |
| | | **DVD-RAM** | Max 5X (6,750 KB/sec) | PCAV 5X/3X/2X |
| **Mounting Orientation** | | | Horizontal / Vertical | All angles |
| **Buffer Under Run** | | | Super Link | Super Link |
| **Buffer Size** | | | 1.0MB | |

| Category | Specification | Remarks |
|---|---|---|
| **Voltage Variation** | DC +5V(± 5% (Operating),± 8% (Start Up)) | |
| **Power Consumption** | DC +5V / 1.3A | |

## A2. Performance

| Item | Condition | | Specification | Remark |
|---|---|---|---|---|
| Burst Transfer Rate | SATA (GEN1) | | 1.5Gbps | |
| Sustained Transfer Rate | CD-ROM/R Read (Mode1) | | Max 3,600 KB/sec | CAV 24X/20X/16X/10X |
| | CD-RW Read (Mode1) | | Max 3,600 KB/sec | CAV 24X/20X/16X/10X |
| | DVD-Single Read | | Max 10,800 KB/sec | CAV 8X/6X/4X |
| | DVD-Dual Read | | Max 10,800 KB/sec | CAV 8X/6X/4X/2X |
| | DVD-RAM Read | | Max 6,750 KB/sec | PCAV 5X/3X/2X |
| Read Speed | CD-DA (Audio Play) | | Max 1,500 KB/sec | CAV 10X |
| | CD-DA (DAE) | | Max 3,600 KB/sec | CAV 24X |
| | Mixed CD | Audio | CAV 24X (DAE)<br>CAV 10X (Audio Play) | |
| | | Data | CAV 24X (Max) | |
| | Video-CD | | CAV 16X | |
| | DVD-Video Play | | CAV 4X (SINGLE, DUAL) | |
| | DVD±R/RW Read | | CAV 8X | |
| | DVD±R Dual Read | | CAV 8X | |
| | DVD-RAM Read | | PCAV 5X | |
| | TOC Read | | CLV 4X(CD), CAV 4X(DVD) | |
| | Idle (Pause) | | CAV 10X(CD), CAV 4X(DVD) | |
| | Unbalance | ~ 0.3gcm | CAV 24X(CD), CAV 8X(DVD) | |
| | | 0.3 ~ 0.75gcm | CAV 10X(CD), CAV 4X(DVD)<br>CAV 24X(CD), CAV 8X(DVD) | |

| Item | Condition | | Specification | Remark |
|---|---|---|---|---|
| | | Over 0.75gcm | CAV 10X(CD), CAV 4X(DVD) | |
| | Eccentricity (CD) | ~ 140um | CAV 24X(CD) | CAV 24X:seek |
| | | 140um~210um | CAV 20X(CD) | CAV 20X:seek |
| | | 210um~280um | CAV 16X(CD) | CAV 16X:seek |
| | | Over 280um | CAV 16X(CD) | CAV 16X:seek |
| | Eccentricity (DVD) | 150um ~ | CAV 6X(DVD) | |
| Write Speed | CD-Recordable | | Max. 3,600 KB/sec | PCAV 24X/20X/16X CLV 10X |
| | CD-Rewritable (Standard Speed) | | Max 4X (600 KB/sec) | CLV 4X |
| | CD-Rewritable (High Speed) | | Max 10x (1,500 KB/sec)<br>Max 4x ( 600 KB/sec) | CLV 10X, CLV 4X |
| | CD-Rewritable (Ultra Speed) | | Max. 24X (3,600 KB/sec) | ZCLV 24X/20X/16X/10X |
| | DVD±R | | Max 8X (10,800 KB/sec) | PCAV8/6X/4X/3.3X(+),2X(-) |
| | DVD±RW | | Max 8X (10,800 KB/sec)<br>Max 6X ( 8,100 KB/sec) | ZCLV8X/6X/4X/3.3X(+),2X(-) |
| | DVD±DUAL | | Max 6X ( 8,100 KB/sec) | PCAV6X/4X/3X(+),2X(-) |
| | DVD-RAM | | Max 5X ( 6,750 KB/sec) | PCAV 5X/3X/2X |
| Spin Up Time /Lead-in Time | From Spindle Stop to CAV 24X | | 8 sec (Typ) | |
| | Lead IN (1 session) | | 10 sec (Typ) | |
| | CD STAMP, CD-DA | | 18 sec (Typ) | STD-200 |
| | CD-RW/R | | 18 sec (Typ) | STD-200(WRITTEN) |
| | DVD-ROM | | 18 sec (Typ) | TDV-520 / DVD-NH |
| | DVD-ROM DUAL | | 18 sec (Typ) | STD-1100 OTP |
| | DVD±R/RW | | 25 sec (Typ) | TDV-520 / DVD-NH(WRITTEN) |

| Item | Condition | | Specification | | Remark |
|---|---|---|---|---|---|
| | DVD±R DL | | 36 sec (Typ) | | |
| | DVD-RAM | | 46 sec (Typ) | | |
| Spin Down Time | From CAV 24X to Spindle Stop | | 7 sec (Typ) | | |
| | Spin Down & Eject | | 5.5 sec (Typ) | | |
| Access time | Random | CD-ROM/RW | 170 ms (Typ) | 190 ms (Max) | 150~314850,1000 Times |
| | | DVD-Single | 170 ms (Typ) | 190 ms (Max) | TDV-520,150~2200000,1000 Times |
| | | DVD-Dual | 200 ms (Typ) | 230 ms (Max) | STD-1100,150~3900000(OTP),1000 Times |
| | | DVD±R/RW | 190 ms (Typ) | 220 ms (Max) | 150~2200000,1000 Times |
| | | DVD±R Dual | 200 ms (Typ) | 230 ms (Max) | 150~3900000, 1000 Times |
| | | DVD-RAM | 250 ms (Typ) | 350 ms (Max) | 150~2200000,1000 Times |
| | 1/3 Stroke | CD-ROM/RW | 200 ms (Typ) | 220 ms (Max) | 68500~157485,1000 Times |
| | | DVD-Single | 200 ms (Typ) | 220 ms (Max) | 540000~1200000, 1000 Times |
| | | DVD-Dual | 220 ms (Typ) | 250 ms (Max) | 540000~1200000, 1000 Times |
| | | DVD±R/RW | 220 ms (Typ) | 250 ms (Max) | 540000~1200000, 1000 Times |
| | | DVD±R Dual | 220 ms (Typ) | 250 ms (Max) | 540000~1200000, 1000 Times |
| | | DVD-RAM | 350 ms (Typ) | 400 ms (Max) | 540000~1200000, 1000 Times |
| | Full Stroke | CD-ROM/RW | 320 ms (Typ) | 350 ms (Max) | 150~314850,1000 Times |
| | | DVD-Single | 320 ms (Typ) | 350 ms (Max) | 150~2200000, 1000 Times |
| | | DVD-Dual | 350 ms (Typ) | 400 ms (Max) | 150~2024500(OTP),1000 Times |
| | | DVD±R/RW | 350 ms (Typ) | 400 ms (Max) | 150~2200000, 1000 Times |
| | | DVD±R Dual | 350 ms (Typ) | 400 ms (Max) | 150~2024500, 1000 Times |
| | | DVD-RAM | 500 ms (Typ) | 550 ms (Max) | 150~2200000,1000 Times |

## A3. Readability & Playability

| Item | Condition | | Specification | Remark |
|---|---|---|---|---|
| | | | Typ | |
| **Audio Playability (Analog/DAE)** | Interruption | TCD-725A | 1.0mm | TCD-726 |
| | Black Dot | TCD-725A | 1.0mm | TCD-726 |
| | Finger Print | TCD-725A | 75μm | TCD-726 |
| | Scratch (Analog) | TCD-721R | 3.0mm | 3.0mm |
| | Scratch (DAE) | TCD-721R | 2.6mm | 2.6mm |
| | Eccentricity | TCD-712 / 713 | 210μm | TCD-713R |
| | Deviation | TCD-731R | 1.0mm | TCD-732R |
| **CD-ROM Readability** | Black Dot | SCD-2382 | 1.0mm | |
| | Finger Print | SCD-2382 | 75μm | |
| | Scratch | SCD-2944 | 2.0mm | |
| | Eccentricity | SCD-2943 | 210μm | |
| | Deviation | SCD-2940 | 1.0mm | |
| **CD MPEG1 Playability** | Black Dot | | 0.8mm | |
| | Scratch | | 0.8mm | |
| **DVD Readability** | Black Dot | TDV-525 | 1.0mm | TDV-545 |
| | Scratch | TDV-521 | 3.0mm | TDV-541 |
| | Finger Print | TDV-525 | 75μm | TDV-545 |
| | Eccentricity | TDV-512 | 150μm | |
| | Deviation | TDV-532 | 1.0mm | |

| Item | Condition | | Specification | Remark |
|---|---|---|---|---|
| | | | Typ | |
| **Marginal Media MMCD Series Readability** | MMCD-102 | Ref: 45±3%<br>Birf: 0±50nm<br>Dev: 0.5±0.2deg | Support | MMCD #2 Media |
| | MMCD-103 | Ref: 45±3%<br>Birf: 150±30nm<br>Dev: 0.0±0.2deg | Support | MMCD #3 Media |
| | MMCD-104 | Ref: 45±3%<br>Birf: 150±30nm<br>Dev: 0.5±0.2deg | Support | MMCD #4 Media |
| | MMCD-106 | Ref: 52±3%<br>Birf: 0±50nm<br>Dev: 0.5±0.2deg | Support | MMCD #6 Media |
| | MMCD-107 | Ref: 52±3%<br>Birf: 150±30nm<br>Dev: 0.0±0.2deg | Support | MMCD #7 Media |
| | MMCD-108 | Ref: 52±3%<br>Birf: 150±30nm<br>Dev: 0.5±0.2deg | Support | MMCD #8 Media |
| | MMCD-110 | Ref: 60±3%<br>Birf: 0±50nm<br>Dev: 0.5±0.2deg | Support | MMCD #10 Media |
| | MMCD-111 | Ref: 60±3%<br>Birf: 150±30nm<br>Dev: 0.0±0.2deg | Support | MMCD #11 Media |

## A4. Compatibility

| Item | Condition | Specification | Remark |
|---|---|---|---|
| **Media Compatibility** | **CD** | 650 MB CD-ROM (Read Only)<br>80mm CD (Horizontal Mount Only)<br>800/700/650/ CD-Recordable (Read & Write)<br>700/650MB CD-Rewritable (Read & Write)<br>700/650MB High Speed CD-Rewritable (Read & Write)<br>700/650MB Ultra & Ultra+ Speed CD-Rewritable (Read & Write) | |
| | **DVD** | 5/9/10/18 G DVD-Single / Dual (PTP, OTP) (Read Only)<br>4.7G DVD±R/RW (Read & Write)<br>DVD±R Dual (Read & Write)<br>DVD-RAM (Read & Write)<br>80mm DVD | |
| **Format Compatibility** | **CD** | CD-DA (Red Book) - Standard Audio CD & CD-TEXT<br>CD-ROM (Yellow Book Mode1 & 2) - Standard Data<br>CD-ROM XA (Mode2 Form1 & 2) - Photo CD, Multi-Session<br>CD-I (Green Book, Mode2 Form1 & 2, Ready, Bridge)<br>CD-Extra/ CD-Plus (Blue Book) - Audio & Text/Video<br>Video-CD (White Book) - MPEG1 Video<br>CD-R (Orange Book Part Ⅱ)<br>CD-RW & HSRW (Orange Book PartⅢ Volume1 & Volume2)<br>Super Audio CD (SACD) Hybrid type<br>US & US+ RW (US 32X CD-RW Disc recording disable) | |
| | **DVD** | DVD-ROM (Book 1.02), DVD-Dual<br>DVD-Video (Book 1.1)<br>DVD-R (Book 1.0, 3.9G) | Play DVD-AUDIO except the case that required CPPM |

| | | | |
|---|---|---|---|
| | | DVD-R (Book 2.0, 4.7G) - General & Authoring<br>DVD+R (Version 1.0)<br>DVD+RW<br>DVD-RW (Non CPRM & CPRM)<br>DVD±R Dual<br>DVD-RAM | (Content protection for prerecorded Media) |
| **Write Method** | | DAO (Disc-At-Once), TAO (Track-At-Once)<br>SAO (Session-At-Once), Variable & Fixed Packet Write | |
| **OS Compatibility** | | Windows98 SE, Windows NT, Windows ME<br>Windows2000, Windows XP, Windows Vista, Windows 7 | |

## A5. Power Consumption

| Item | Condition | 5VDC (Average) |
|---|---|---|
| **Power Consumption** | Sleep | 13mA |
| | Standby (laser & motor off) | 30mA |
| | Idle (laser on & motor turning) | 330mA |
| | Sequential read at max speed | 660mA |
| | Sequential write at max speed | 720mA |
| | Continuous random read access at max speed | 750mA |
| | **Peak** | Peak in executing Access (Excluding Spike Current)<br>* Spike:1ms or less duration: 1,600mA (DVD/CD) |

※ Note : SN-208DB supports the Zero Power Consumption.

# A6. Mechanical

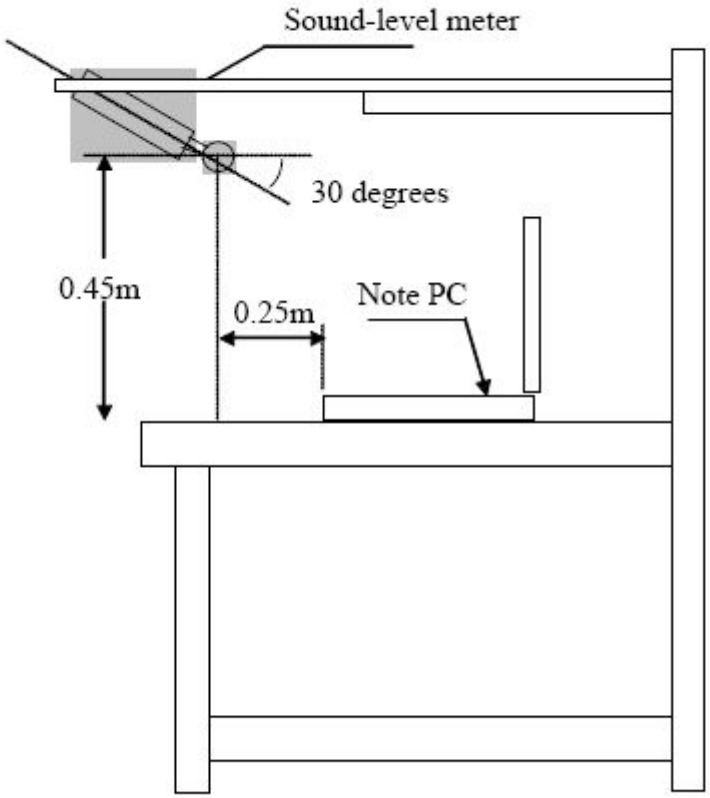
## A6.1 General Specifications

| Item | Condition | Specification | Remark |
|---|---|---|---|
| **Acoustic Noise** | **Sequential Read, Random/Full Access** | 45 dB | Equipped in note-pc |
| **Dimensions** | **Drive** | 128mm (W) x 127mm (D) x 12.7mm (H) | Without bezel, from front of drive chassis to rear of drive |
| **Weight** | **Unit Drive** | 150g under (Net) | |
| **Mounting Orientation** | | Horizontal & Vertical | |
| **Front Area** | **Loading Type** | Tray Type | |
| | **Key** | Tact SW (Open) | |
| | **Emergency Release Hole** | Drawer Open Hole | |
| | **LED** | Green | |
| | **H/P Volume Knob** | NA | |
| | **H/P Jack** | NA | |
| **Rear Area** | | 13Pin SATA Connector | Data 7 Pin, Power 6 Pin |

* **Acoustic Noise Test Condition.**

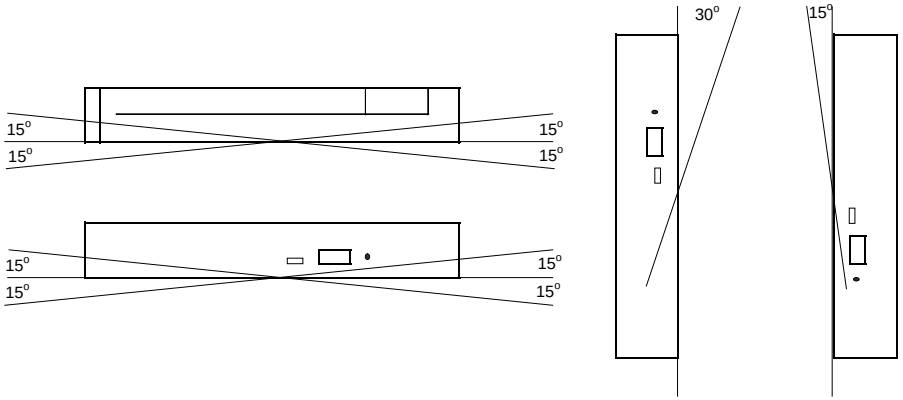
- In semi anechoic chamber.
- Measurement position will be 0.25m (Front) and 0.45m (Above) according to ISO9296 as shown below picture.
- Sound pressure shall measure while the drive (in Note PC) is seeking at its max speed, with 0.3gcm unbalance disc.
- Random, Full and Sequential access should be tested.

Microphone orientation



## A6.2 Installation Conditions

This drive can be installed horizontally within the angle of ±15 degrees, and vertically within the angle of 30/15 degrees. Refer to Figure 1 for details.




Horizontal Position Vertical Position

Figure 1 Mounting Angle

## A7. Environmental

| Item | Condition | | Specification | Remark |
|---|---|---|---|---|
| **Operating Environment** | Temperature | | 5 to 50 (°C) | |
| | Humidity | | 10 to 90 (%RH) | No Condensing |
| **Storage Environment** | Temperature | | -40 to 65 (°C ) | |
| | Humidity | | 5 to 95 (%RH) | No Condensing |
| **Vibration** | Operating | Random | 1.0 Grms | Direction: Bt,L ,R<br>Frequency :5-500Hz<br>Appearance: No damage Loose Part nor crack |
| | | Writing | 0.7 Grms | |
| | Non-operating | Random | 3.94 Grms 15min | |
| **Shock** | Operating | Read | 11msec 6G(CD/DVD) | Direction: Bt L,R,F,Bk |
| | | Write | 11msec 4G(Data Audio) | |
| | Non-operating | | 0.5 msecs 600G,<br>2msec 400G<br>10msec 150G<br>11msec 60G | Direction: Bt L,R,F,Bk |
| **ESD** | Contact Discharge | | 10 KV | +/- 2, 4, 6 KV : A<br>+/- 8 KV, 10 KV : C |
| | Air Discharge | | 17KV | +/- 2, 4, 6, 8, 10 KV : A<br>+/- 12, 15 KV : B<br>+/- 17 KV : C |

# A8. ATAPI Interface and Commands

## A8.1 ATA Command for ATAPI Device

| Code | Command | Support |
|---|---|---|
| 00h | NOP | OK |
| 08h | DEVICE RESET | OK |
| 20h | READ SECTOR - (Abort & return ATAPI signature) | OK |
| 90h | EXECUTE DEVICE DIAGNOSTIC | OK |
| A0h | PACKET | OK |
| A1h | IDENTIFY PACKET DEVICE | OK |
| E0h | STANDBY IMMEDIATE | OK |
| E1h | IDLE IMMEDIATE | OK |
| E5h | CHECK POWER MODE | OK |
| E6h | SLEEP | OK |
| E7h | FLUSH CACHE - (Drives does nothing, and returns normal command completion) | OK |
| ECh | IDENTIFY DEVICE - (Abort & return ATAPI signature) | OK |
| EFh | SET FEATURES | OK |

## A8.2.ATAPI Packet Command

| | | |
|---|---|---|
| A1h | BLANK (types 000b, 001b, and 100b) | OK |
| 5Bh | CLOSE TRACK/SESSION | OK |
| 04h | FORMAT UNIT (all format types valid for device type) | OK |
| 46h | GET CONFIGURATION | OK |
| 4Ah | GET EVENT STATUS NOTIFICATION | OK |
| ACh | GET PERFORMANCE (all format types valid for device type) | OK |
| 12h | INQUIRY | OK |
| BDh | MECHANISM STATUS | OK |
| 55h | MODE SELECT (10) | OK |
| 5Ah | MODE SENSE (10) | OK |
| 4Bh | PAUSE/RESUME | OK |
| 45h | PLAY AUDIO (10) | OK |
| A5h | PLAY AUDIO (12) – Optional | OK |
| 47h | PLAY AUDIO MSF | OK |
| 1Eh | PREVENT/ALLOW MEDIUM REMOVAL | OK |
| 28h | READ (10) | OK |
| A8h | READ (12) | OK |
| 3Ch | READ BUFFER - Optional | OK |
| 5Ch | READ BUFFER CAPACITY | OK |
| 25h | READ CAPACITY | OK |
| BEh | READ CD with DAP bit support | OK |
| B9h | READ CD MSF with DAP bit support | OK |
| 51h | READ DISC INFORMATION | OK |
| ADh | READ DISC STRUCTURE (all format types valid for device type) | OK |

| | | |
|---|---|---|
| 23h | READ FORMAT CAPACITIES | OK |
| ABh | READ MEDIA SERIAL NUMBER | N/A |
| 42h | READ SUB-CHANNEL | OK |
| 43h | READ TOC/PMA/ATIP (all format values valid for device type) | OK |
| 52h | READ TRACK INFORMATION | OK |
| 58h | REPAIR TRACK - Optional | N/A |
| A4h | REPORT KEY | OK |
| 03h | REQUEST SENSE | OK |
| 53h | RESERVE TRACK | OK |
| 2Bh | SEEK | OK |
| 5Dh | SEND CUE SHEET | OK |
| BFh | SEND DISC STRUCTURE (formats 04h, 05h, C0h) | OK |
| A3h | SEND KEY | OK |
| 54h | SEND OPC INFORMATION | OK |
| BBh | SET CD SPEED | OK |
| A7h | SET READ AHEAD | OK |
| B6h | SET STREAMING | OK |
| 1Bh | START/STOP UNIT | OK |
| 4Eh | STOP PLAY/SCAN | OK |
| 35h | SYNCHRONIZE CACHE (support Immediate bit) | OK |
| 00h | TEST UNIT READY | OK |
| 2Fh | VERIFY (10) | OK |
| 2Ah | WRITE (10) | OK |
| AAh | WRITE (12) | OK |
| 2Eh | WRITE AND VERIFY (10) | OK |
| 3Bh | WRITE BUFFER -Optional | OK |

## A8.3.DAP Bit Implementation

| Code | Command | Support |
|---|---|---|
| - | Drive supports implementation of DAP | OK |

## A8.4.Time to Assertion of Busy

| Code | Command | Support |
|---|---|---|
| - | Drives conforms to the Power-on and Hardware Reset protocol of the ATA/ATAPI specification by setting the ATA Status Register BSY bit to one within 400 ns of the negation of RESET-. | OK |

## A8.5 ATA, SFF-8090 & MMC-4 Revision Level

| Items | Last Version | Level |
|---|---|---|
| **SFF-8090** | Version 7 | Supported |
| **MMC-5** | Version 6 | Supported |
| **SATA** | Version 3.0 | Supported |

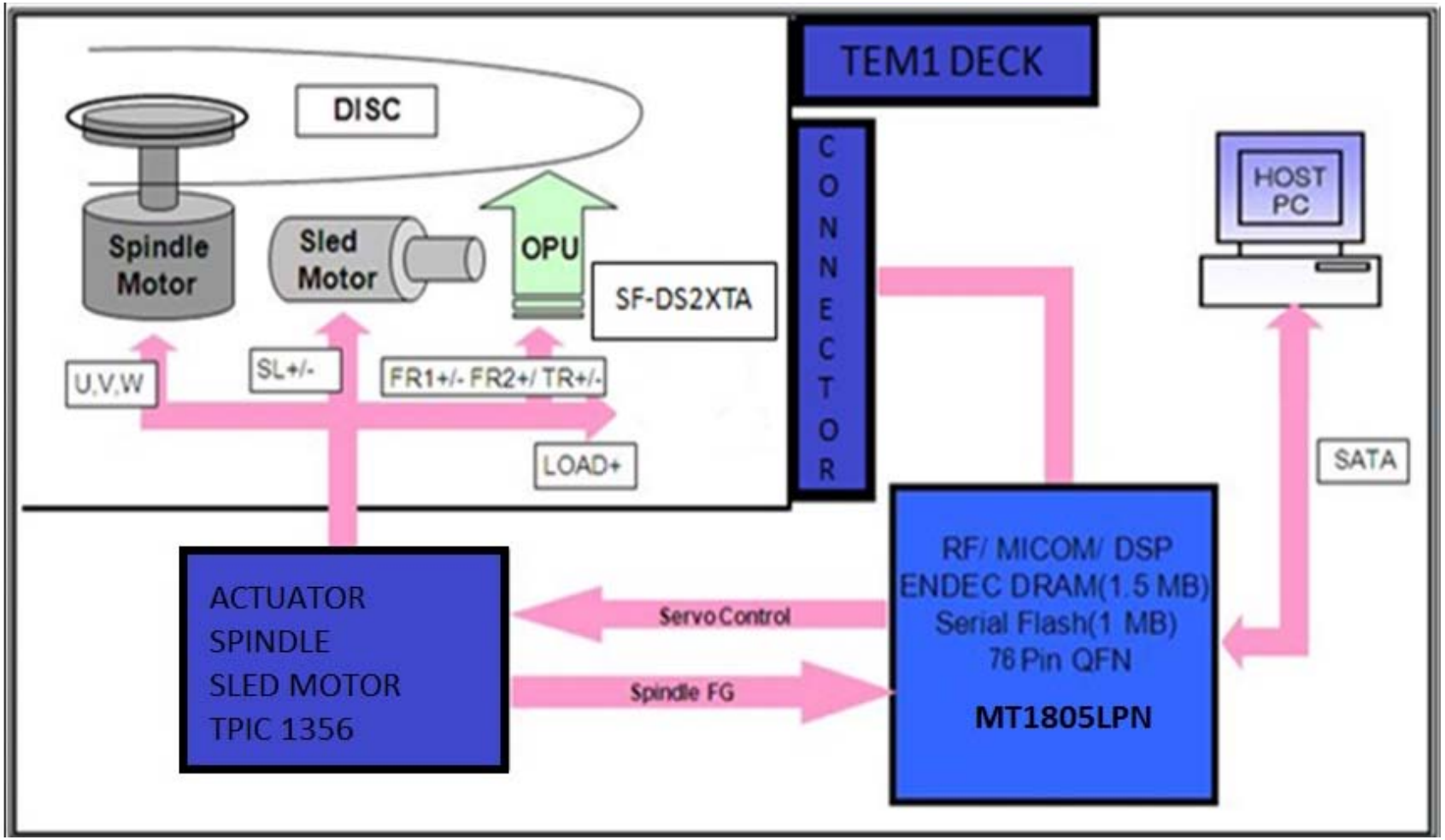
## A9. SATA Feature Support

| Code | Feature | Support |
|---|---|---|
| | SSP (Software Setting Preservation) | be enabled by default : OK |
| | ASR (Asynchronous signal recovery) | Not Support |
| | ASN (Asynchronous Notification) | Support (Default as On) |
| | HIPM (Host Initiating Interface Power Management) | be reported as “supported” : OK |
| | DIPM (Device Initiating Interface Power Management) | be reported as “supported” : OK ( Partial : 10ms / Slumber : 500ms ) |
| | SSC(Spread Spectrum Clocking) | Support (Default as On, But follow Host PC SSC Spec) |
| | GEN 1(1.5 Gbps) | Support |
| | Audio Play | Although SN-208DB does not have provision for analog audio outputs,<br>for compatibility<br>Reasons, support the following features and commands:<br>CD Audio External Play (0103h) feature<br>Pause/Resume (4Bh) command<br>Play Audio (10) (45h) command<br>Play Audio MSF (47h) command<br>Stop Play/Scan (4Eh) command |

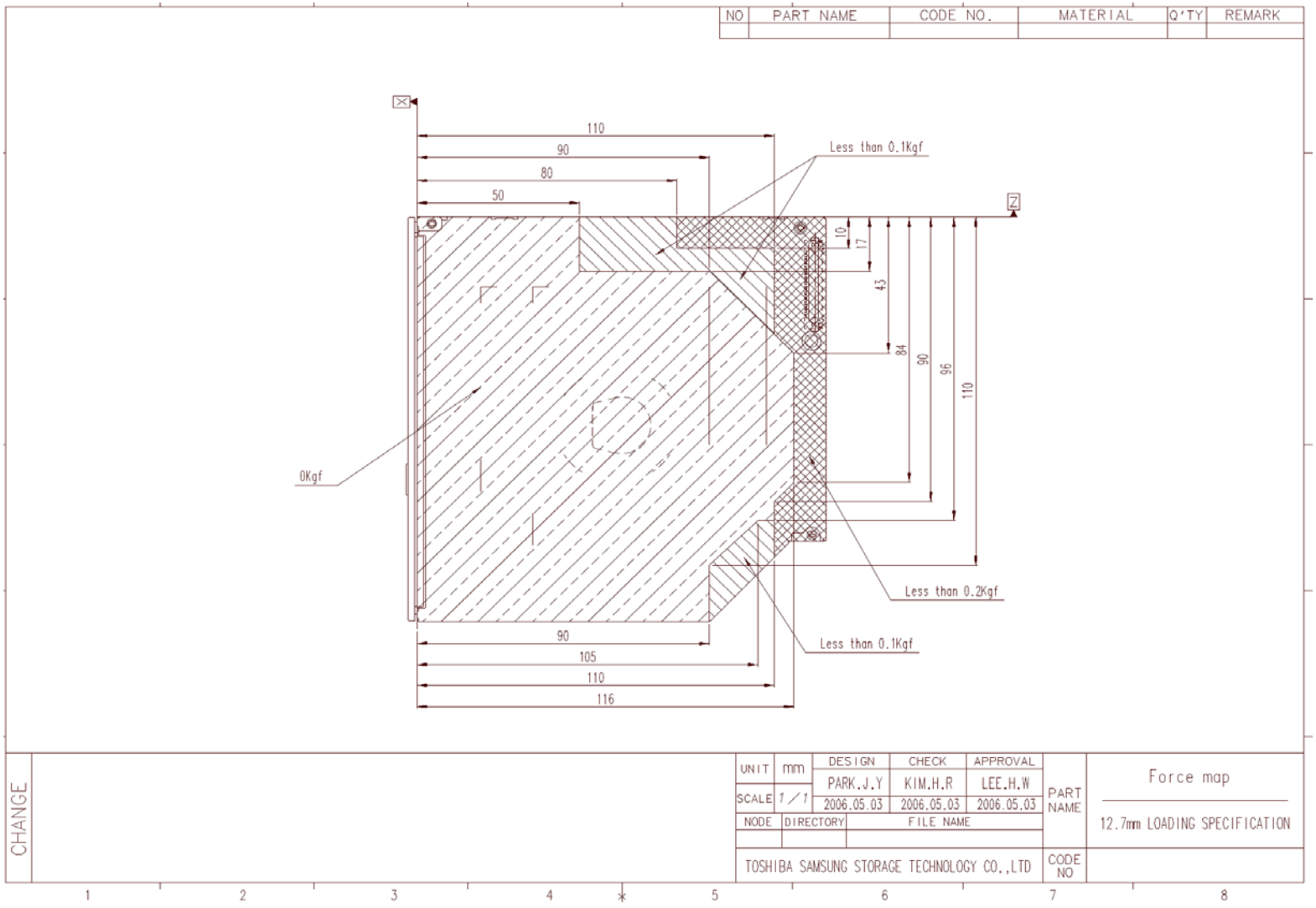
## A10. Critical component

| Item | Component | Description | Supplier | Remarks |
|---|---|---|---|---|
| Mechanical Part | Pick-Up | SF-DS2X1T | SANYO | |
| | | PL-S08C | OPTIS | |
| | Spindle Motor | 24C184G230(HF) | NIDEC | |
| | | DMBSFC37PH | SEMCO | |
| | Stepping Motor | SPS-08RG-126H | MOATECH | |
| | | MSAW016G31S | SANKYO | |
| Electrical Part | ENDEC | MT1805LN | MEDIATEK | |
| | SERVO /DSP | | | |
| | MICOM | | | |
| | RF | | | |
| | FLASH MEMORY | | | |
| | DRAM | | | |
| | Motor Driver (1Chip) | TPIC1356W | TI | |

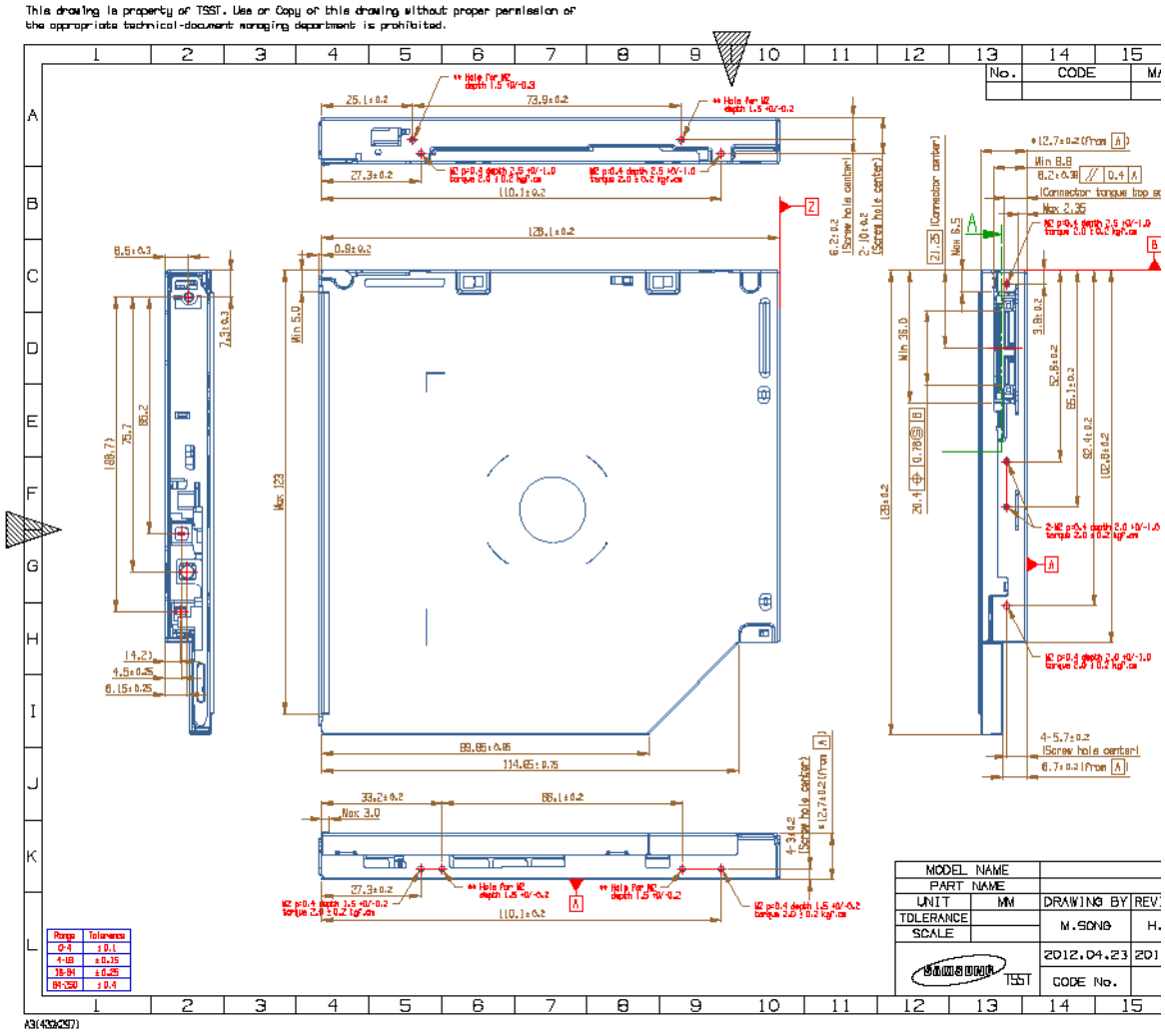
## A11. Block diagram



## A12. Force Map



# A13. External Dimension



## A13. MTBF

**1] MTBF target: 125,000 POH**

**2] Total Usage Time: ODD 400 Hours/Year (20% Duty of 2,000 Hour)**

**(Computer: 2,000 POH/Year)**