



January 2009

Forms for DVD Format Verification of DVD-Download Drive (for SL & DL)

Form 1TT to 11TT Version 1.2

Notice:

- *These Forms will be revised on occasion for improvement or Version-up of the related Test Specification.*
- *The latest Forms shall be used to fill up the necessary information for application to Verification Lab, according to the related Test Specification.*
- *You can fill up the shaded space in every Form.*
- *"Adobe® Acrobat®" will be necessary for making your own files.*

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Exemption: None will be liable for any damages from use of this document.

Preliminary Information for DVD Format Verification

Application No. (Lab use)	:	
Application date (mm. dd, yyyy)	:	
Lab receipt date (mm. dd, yyyy)	:	
Lab name	:	

DVD-Download Drive described below is for DVD Format Verification of the First Production Model.

- ☐ 8x-6x-speed DVD-Download Drive for SL disc without pre-recorded Lead-in
- ☐ 8x-2x-speed DVD-Download Drive for SL disc with pre-recorded Lead-in
- ☐ 8x-6x-speed DVD-Download Drive for SL disc without pre-recorded Control data zone
- ☐ 8x-2x-speed DVD-Download Drive for SL disc with pre-recorded Control data zone
- ☐ 8x-6x-speed DVD-Download Drive for DL disc without pre-recorded Control data zone
- ☐ 8x-2x-speed DVD-Download Drive for DL disc with pre-recorded Control data zone

Product name	Model number	Notes
Remarks:		

DVD-Download Drive described above will be applied for DVD Format Verification by the following applicant.

Name of applicant	
Title of applicant	
Company & Factory name	
Factory address	
Phone number	
Fax number	
E-mail	

Applicant's Signature:

Test Information of DVD Format Verification

DVD Format Verification Lab record (Verification Lab use only)

- Name of Verification Lab : _____
- Name of inspector : _____
- Application date : _____
- Date of test completed : _____
- Verification number : _____

Information of applicant

- Applicant's name : _____
- Company name : _____
- Company address : _____
- Phone number : _____
- Fax number : _____

DVD-Download Drive details

- Brand/Trade name : _____
- Model number : _____
- Disc number : _____
- Supporting Disc (SL) : ☐ Without pre-recorded Lead-in based on Book Rev.1.0
☐ With pre-recorded Lead-in based on Book Rev.1.0
☐ Without pre-recorded Control data zone based on Book Ver.1.0
☐ With pre-recorded Control data zone based on Book Ver.1.0
- Supporting Disc (DL) : ☐ Without pre-recorded Control data zone
☐ With pre-recorded Control data zone
- Recordable speed at
R = 55 mm : ☐ 2x ☐ 4x ☐ 6x ☐ 8x ($R_{8x} =$ _____ mm)*
R = 25 mm : ☐ 2x ☐ 4x ☐ 6x
- Type of product : ☐ Drive Solely ☐ Drive with PC ☐ Others _____
- Supporting OS : ☐ Windows Vista ☐ Windows XP ☐ Windows 2000 ☐ Windows NT
☐ MAC ☐ Unix ☐ PC98
☐ Others _____
- Interface : ☐ SCSI-2 ☐ ATAPI ☐ SATA ☐ Others _____
- Power Supply : _____
- Other DVD-Download Discs that the applicant already had the approval of verification
Supporting Disc (SL) : ☐ Without pre-recorded Lead-in based on Book Rev.1.0
☐ With pre-recorded Lead-in based on Book Rev.1.0
☐ Without pre-recorded Control data zone based on Book Ver.1.0
☐ With pre-recorded Control data zone based on Book Ver.1.0
Supporting Disc (DL) : ☐ Without pre-recorded Control data zone
☐ With pre-recorded Control data zone

*: Applicant specifies the innermost radius where the Drive can record at 8x-speed.

Check list of Forms for Submission

Forms	Title of Forms	Applicant	Lab
1TT	Preliminary Information	<input type="checkbox"/>	<input type="checkbox"/>
2TT	Test Information	<input type="checkbox"/>	<input type="checkbox"/>
SL (without/with pre-recorded area)			
3TT	Recording Characteristics	<input type="checkbox"/>	<input type="checkbox"/>
4TT	Linking Characteristics	<input type="checkbox"/>	<input type="checkbox"/>
SL (without pre-recorded area)			
5TT	Physical format information	<input type="checkbox"/>	<input type="checkbox"/>
SL (with pre-recorded area)			
6TT	Physical format information	<input type="checkbox"/>	<input type="checkbox"/>
DL (without/with pre-recorded Control data zone)			
7TT	Recording Characteristics	<input type="checkbox"/>	<input type="checkbox"/>
8TT	Linking Characteristics	<input type="checkbox"/>	<input type="checkbox"/>
DL (without pre-recorded Control data zone)			
9TT	Physical format information	<input type="checkbox"/>	<input type="checkbox"/>
DL (with pre-recorded Control data zone)			
10TT	Physical format information	<input type="checkbox"/>	<input type="checkbox"/>

- Applicant checks the columns that the data Forms are required according to the nomination of "Supporting Disc (SL and/or DL)" and "Recordable speed".
- Lab confirms the chart based on the nomination whether the applicant correctly selects the Forms.

Test results of Recording characteristics for SL

(Test Tools: CSS-M47JG0 or CSS-E47JG0, CSS-M47JA0 or CSS-E47JA0,
and DVD-Download measuring system (Playback PUH except for PPa)*5)

Recording speed at R = 55 mm: ☐ 2x ☐ 4x ☐ 6x ☐ 8x ($R_{8x} =$ mm)*4

Class-B Lab. *1	Items *2		Specification	Measurement		Judgment (Lab use)
				Applicant	Lab	
2.1.7 Operational signals						
	2.1.7.1 High Frequency (HF) signal					
○	Jitter	R = 25 mm	< 8.0 %			
		R = 40 mm				
		R = 55 mm				
	Modulated amplitude					
○	I ₁₄ /I _{14H}	R = 25 mm	0.60 min.			
		R = 40 mm				
		R = 55 mm				
○	I ₃ /I ₁₄	R = 25 mm	0.15 min.			
		R = 40 mm				
		R = 55 mm				
	(I _{14Hmax.} – I _{14Hmin.})/I _{14Hmax.}					
○	Within one revolution (PUH with PBS)	R = 25 mm	0.15 max.			
		R = 40 mm				
		R = 55 mm				
○	Within one read-out side of a disc (PUH with PBS)		0.33 max.			
	Within one revolution (PUH without PBS)*3	R = 25 mm	0.10 max.			
		R = 40 mm				
		R = 55 mm				
	Within one read-out side of a disc (PUH without PBS) *3		0.20 max.			
○	Signal asymmetry	R = 25 mm	– 0.05 to 0.15			
		R = 40 mm				
		R = 55 mm				
○	Track crossing signal	R = 25 mm	0.10 min.			
		R = 40 mm				
		R = 55 mm				

*1, *2, *3, *4, *5: See the next page.

Class-B Lab. *1	Items *2		Specification	Measurement		Judgment (Lab use)
				Applicant	Lab	
	2.1.7.2 Servo signal					
	Differential phase tracking error signal					
O	Amplitude ($\overline{\Delta t}/T$ at 0.1μm radial offset)	R = 25 mm	0.5 to 1.1			
		R = 40 mm				
		R = 55 mm				
O	Asymmetry	R = 25 mm	0.2 max.			
		R = 40 mm				
		R = 55 mm				
O	Tangential push-pull signal	R = 25 mm	0.9 max.			
		R = 40 mm				
		R = 55 mm				
	2.1.7.1 Servo signal					
O	PPa signal amplitude*5	R = 25 mm	PPa < 0.40			
		R = 40 mm				
		R = 55 mm				
	2.1.7.3 Defects					
O	PI errors in any consecutive 8 ECC blocks	R = 25 mm	≤ 280			
		R = 40 mm				
		R = 55 mm				

*1: The measurement items at Class-B Lab are marked with O.

*2: Refer to Optional Specifications DVD Download Disc for CSS Managed Recording (DVD-Download) Revision 1.0 or DVD Specifications for Download Disc (DVD-Download) Part 1: Physical Specifications Version 1.0.

*3: Class-A Lab will check these values when required.

*4: Applicant specifies the innermost radius where the Drive can record at 8x-speed.

*5: PPa signal amplitude shall be measured with Recording PUH.

Test result of Linking characteristic for SL

(Test Tools: CSS-M47JG0 or CSS-E47JG0, CSS-M47JA0 or CSS-E47JA0,
and DVD-Download measuring system (Playback))

Items	OK	NG	Comment
Test result of Applicant	<input type="checkbox"/>	<input type="checkbox"/>	
Test result of Verification Lab	<input type="checkbox"/>	<input type="checkbox"/>	

Note: Refer to [Figure 4.2.1-2] of Optional Specifications DVD Download Disc for CSS Managed Recording (DVD-Download) Revision 1.0 or DVD Specifications for Download Disc (DVD-Download) Part 1: Physical Specifications Version 1.0.

Test results of Physical format information for SL (without pre-recorded)

(Test Tools: CSS-M47JG0 or CSS-M47JA0, and
DVD-Download measuring system (Playback) or equivalent system)

3.4.1.3.1 Physical format information

Item*1	Applicant	Lab		Judgment
Book type and Compatible Part version		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Disc size and Maximum transfer rate of the disc		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Disc structure		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Recorded density		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
NBCA descriptor		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Disc identifier		<input type="checkbox"/> OK	<input type="checkbox"/> NG	

3.2.4.1 CPR_MAI of each reserved sector in the Control data block

Item*1	Applicant	Lab		Judgment
CPS_TY		<input type="checkbox"/> OK	<input type="checkbox"/> NG	

*1: Refer to Optional Specifications DVD Download Disc for CSS Managed Recording (DVD-Download) Revision 1.0 or DVD Specifications for Download Disc (DVD-Download) Part 1: Physical Specifications Version 1.0.

Test results of Physical format information for SL (with pre-recorded)

(Test Tools: CSS-E47JG0 or CSS-E47JA0, and DVD-Download Drive to be tested)

K.2 Pre-recorded Physical format information

Item*1	Applicant	Lab		Judgment
Book type and Compatible Part version		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Disc size and Maximum transfer rate of the disc		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Disc structure		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Recorded density		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
NBCA descriptor		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Disc identifier		<input type="checkbox"/> OK	<input type="checkbox"/> NG	

3.2.4.1 CPR_MAI of each reserved sector in the Control data block

Item*1	Applicant	Lab		Judgment
CPS_TY		<input type="checkbox"/> OK	<input type="checkbox"/> NG	

K.2.1.4 PFI Field ID6 to ID21

Item*1		Applicant	Lab		Judgment
2x-speed Write Strategy code	PFI Field ID6 to ID9		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
4x-speed Write Strategy code	PFI Field ID10 to ID13		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
6x-speed Write Strategy code	PFI Field ID14 to ID17		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
8x-speed Write Strategy code	PFI Field ID18 to ID21		<input type="checkbox"/> OK	<input type="checkbox"/> NG	

*1: Refer to Optional Specifications DVD Download Disc for CSS Managed Recording (DVD-Download) Revision 1.0 or DVD Specifications for Download Disc (DVD-Download) Part 1: Physical Specifications Version 1.0.

Test results of Recording characteristics for DL

(Test Tools: CSS-M85LA0 or CSS-E85LA0,
and DVD-Download measuring system (Playback PUH except for PPa)*6)

Recording speed at R = 55 mm: ☐ 2x ☐ 4x ☐ 6x ☐ 8x ($R_{8x} =$ mm)*4

Class-B Lab. *1	Items *2		Specification	Measurement		Judgment (Lab use)
				Applicant	Lab	
Layer 0						
2.1.7 Operational signals						
	2.1.7.1 High Frequency (HF) signal					
O	Jitter	R = 25 mm	< 8.0 %			
		R = 40 mm				
		R = 55 mm				
	Modulated amplitude					
O	I ₁₄ /I _{14H}	R = 25 mm	0.60 min.			
		R = 40 mm				
		R = 55 mm				
O	I ₃ /I ₁₄	R = 25 mm	0.20 min.			
		R = 40 mm				
		R = 55 mm				
	(I _{14Hmax.} − I _{14Hmin.})/I _{14Hmax.} *5					
O	Within one revolution (PUH with PBS)	R = 25 mm	0.15 max.			
		R = 40 mm				
		R = 55 mm				
	Within one revolution (PUH without PBS)*3	R = 25 mm	0.10 max.			
		R = 40 mm				
		R = 55 mm				
O	Signal asymmetry	R = 25 mm	−0.05 to 0.15			
		R = 40 mm				
		R = 55 mm				
O	Track crossing signal	R = 25 mm	0.10 min.			
		R = 40 mm				
		R = 55 mm				

*1, *2, *3, *4, *5, *6: See the next page.

Class-B Lab. *1	Items *2		Specification	Measurement		Judgment (Lab use)
				Applicant	Lab	
Layer 0						
	2.1.7.2 Servo signal					
	Differential phase tracking error signal					
O	Amplitude ($\overline{\Delta t}/T$ at 0.1μm radial offset)	R = 25 mm	0.5 to 1.1			
		R = 40 mm				
		R = 55 mm				
O	Asymmetry	R = 25 mm	0.2 max.			
		R = 40 mm				
		R = 55 mm				
O	Tangential push-pull signal	R = 25 mm	0.9 max.			
		R = 40 mm				
		R = 55 mm				
	2.1.7.1 Servo signal					
O	PPa signal amplitude*6	R = 25 mm	PPa < 0.40			
		R = 40 mm				
		R = 55 mm				
	2.1.7.3 Defects					
O	PI errors in any consecutive 8 ECC blocks	R = 25 mm	≤ 280			
		R = 40 mm				
		R = 55 mm				

*1: The measurement items at Class-B Lab are marked with O.

*2: Refer to DVD Specifications for Download Disc for Dual Layer (DVD-Download for DL) Part 1: Physical Specifications Version 2.0.

*3: Class-A Lab will check these values when required.

*4: Applicant specifies the innermost radius where the Drive can record at 8x-speed.

*5: The result of within one read-out side of a disc is described in the Form for Layer 1.

*6: PPa signal amplitude shall be measured with Recording PUH.

Class-B Lab. *1	Items *2		Specification	Measurement		Judgment (Lab use)
				Applicant	Lab	
Layer 1						
2.1.7 Operational signals						
	2.1.7.1 High Frequency (HF) signal					
O	Jitter	R = 25 mm	< 8.0 %			
		R = 40 mm				
		R = 55 mm				
	Modulated amplitude					
O	I ₁₄ /I _{14H}	R = 25 mm	0.60 min.			
		R = 40 mm				
		R = 55 mm				
O	I ₃ /I ₁₄	R = 25 mm	0.20 min.			
		R = 40 mm				
		R = 55 mm				
	(I _{14H} max. – I _{14H} min.)/I _{14H} max.					
O	Within one revolution (PUH with PBS)	R = 25 mm	0.15 max.			
		R = 40 mm				
		R = 55 mm				
O	Within one read-out side of a disc (PUH with PBS), including L0 & L1		0.33 max.			
	Within one revolution (PUH without PBS)*3	R = 25 mm	0.10 max.			
		R = 40 mm				
		R = 55 mm				
	Within one read-out side of a disc (PUH without PBS), including L0 & L1 *3		0.20 max.			
O	Signal asymmetry	R = 25 mm	–0.05 to 0.15			
		R = 40 mm				
		R = 55 mm				
O	Track crossing signal	R = 25 mm	0.10 min.			
		R = 40 mm				
		R = 55 mm				

*1: The measurement items at Class-B Lab are marked with O.

*2: Refer to DVD Specifications for Download Disc for Dual Layer (DVD-Download for DL) Part 1: Physical Specifications Version 2.0.

*3: Class-A Lab will check these values when required.

Class-B Lab. *1	Items *2		Specification	Measurement		Judgment (Lab use)
				Applicant	Lab	
Layer 1						
	2.1.7.2 Servo signal					
	Differential phase tracking error signal					
O	Amplitude ($\overline{\Delta t}/T$ at 0.1μm radial offset)	R = 25 mm	0.5 to 1.1			
		R = 40 mm				
		R = 55 mm				
O	Asymmetry	R = 25 mm	0.2 max.			
		R = 40 mm				
		R = 55 mm				
O	Tangential push-pull signal	R = 25 mm	0.9 max.			
		R = 40 mm				
		R = 55 mm				
	2.1.7.1 Servo signal					
O	PPa signal amplitude*5	R = 25 mm	PPa < 0.40			
		R = 40 mm				
		R = 55 mm				
	2.1.7.3 Defects					
O	PI errors in any consecutive 8 ECC blocks	R = 25 mm	≤ 280			
		R = 40 mm				
		R = 55 mm				

*1: The measurement items at Class-B Lab are marked with O.

*2: Refer to DVD Specifications for Download Disc for Dual Layer (DVD-Download for DL) Part 1: Physical Specifications Version 2.0.

*5: PPa signal amplitude shall be measured with Recording PUH.

Test result of Linking characteristic for DL

(Test Tools: CSS-M85LA0 or CSS-E85LA0, and DVD-Download measuring system (Playback))

Items	OK	NG	Comment
Test result of Applicant	<input type="checkbox"/>	<input type="checkbox"/>	
Test result of Verification Lab	<input type="checkbox"/>	<input type="checkbox"/>	

Note: Refer to [Figure 4.2.1-2] of DVD Specifications for Download Disc for Dual Layer (DVD-Download for DL) Part 1: Physical Specifications Version 2.0.

Test results of Physical format information for DL (without pre-recorded)

(Test Tools: CSS-M85LA0 and DVD-Download measuring system (Playback) or equivalent system)

3.4.1.3.1 Physical format information

Item*1	Applicant	Lab		Judgment
Book type and Compatible Part version		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Disc size and Maximum transfer rate of the disc		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Disc structure		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Recorded density		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
NBCA descriptor		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Disc identifier		<input type="checkbox"/> OK	<input type="checkbox"/> NG	

3.2.4.1 CPR_MAI of each reserved sector in the Control data block

Item*1	Applicant	Lab		Judgment
CPS_TY		<input type="checkbox"/> OK	<input type="checkbox"/> NG	

*1: Refer to DVD Specifications for Download Disc for Dual Layer (DVD-Download for DL) Part 1: Physical Specifications Version 2.0.

Test results of Physical format information for DL (with pre-recorded)

(Test Tools: CSS-E85LA0 and DVD-Download Drive for DL to be tested)

P.2 Pre-recorded Physical format information

Item*1	Applicant	Lab		Judgment
Book type and Compatible Part version		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Disc size and Maximum transfer rate of the disc		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Disc structure		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Recorded density		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
NBCA descriptor		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Disc identifier		<input type="checkbox"/> OK	<input type="checkbox"/> NG	

3.2.4.1 CPR_MAI of each reserved sector in the Control data block

Item*1	Applicant	Lab		Judgment
CPS_TY		<input type="checkbox"/> OK	<input type="checkbox"/> NG	

P.2.1.4 PFI Field ID6 to ID37

Item*1	Applicant	Lab		Judgment
2x-speed Write Strategy code for Layer 0	PFI Field ID6 to ID9	<input type="checkbox"/> OK	<input type="checkbox"/> NG	
2x-speed Write Strategy code for Layer 1	PFI Field ID10 to ID13	<input type="checkbox"/> OK	<input type="checkbox"/> NG	
4x-speed Write Strategy code for Layer 0	PFI Field ID14 to ID17	<input type="checkbox"/> OK	<input type="checkbox"/> NG	
4x-speed Write Strategy code for Layer 1	PFI Field ID18 to ID21	<input type="checkbox"/> OK	<input type="checkbox"/> NG	
6x-speed Write Strategy code for Layer 0	PFI Field ID22 to ID25	<input type="checkbox"/> OK	<input type="checkbox"/> NG	
6x-speed Write Strategy code for Layer 1	PFI Field ID26 to ID29	<input type="checkbox"/> OK	<input type="checkbox"/> NG	
8x-speed Write Strategy code for Layer 0	PFI Field ID30 to ID33	<input type="checkbox"/> OK	<input type="checkbox"/> NG	
8x-speed Write Strategy code for Layer 1	PFI Field ID34 to ID37	<input type="checkbox"/> OK	<input type="checkbox"/> NG	

*1: Refer to DVD Specifications for Download Disc for Dual Layer (DVD-Download for DL) Part 1: Physical Specifications Version 2.0.



*The Logo for the verified
Product type is applied
according to DVD Logo Manual*

Confirmation of DVD Format Verification

The following product is confirmed that it is on the strength of ☐ DVD-R for General Part 1/Optional Specifications DVD Download Disc for CSS Managed Recording Revision 1.0 or ☐ DVD Specifications for Download Disc Part 1: Physical Specifications Version 1.0 and/or ☐ DVD Specifications for Download Disc for Dual Layer Part 1: Physical Specifications Version 2.0, by DVD Format Verification Laboratory of the Company:

Product type : ☐ 8x-6x-speed DVD-Download Drive for SL disc without pre-recorded Lead-in
☐ 8x-2x-speed DVD-Download Drive for SL disc with pre-recorded Lead-in
☐ 8x-6x-speed DVD-Download Drive for SL disc without pre-recorded Control data zone
☐ 8x-2x-speed DVD-Download Drive for SL disc with pre-recorded Control data zone
☐ 8x-6x-speed DVD-Download Drive for DL disc without pre-recorded Control data zone
☐ 8x-2x-speed DVD-Download Drive for DL disc with pre-recorded Control data zone

Product name : _____
 Model number : _____
 Application number : _____
 Date of application (mm. dd, yyyy) : _____
 Applicant: Name : _____
 Company name : _____
 Address : _____
 Tel : _____ Fax: _____
 Date of issue (mm. dd, yyyy) : _____
 Confirmed by: Signature : _____
 Name : _____
 Lab name : _____
 Address : _____
 Tel : _____ Fax: _____

Attachment : 1) Test results: **Form 2TT**, and **necessary Forms** described in **Annex C**

2) Others: _____

Note: (1) The purpose of DVD Format Verification is to promote and enhance compatibility of DVD Product for DVD Industry based upon the minimum common specification requirements.

(2) The "Confirmation of DVD Format Verification", however, shall not be considered to guarantee the quality of product and the compatibility with a specific DVD disc or player/recorder.

(3) Information in this report shall be treated as confidential under the Non Disclosure Agreement executed between the applicant and DVD Format Verification Laboratory dated (mm. dd, yyyy) _____