



June 2005

for Authoring

Forms for DVD Format Verification of DVD-R Disc (4.7 Gbytes) for Authoring

Form 1Q to 11Q Version 2.0₁

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-R Disc for Authoring described below is for DVD Format Verification of the First Production Model.

Product name	Disc number	Notes
Remarks:		

DVD-R Disc for Authoring 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-R Disc for Authoring details

- Brand / Trade name :
- Product name :
- Disc number :
- Disc type : ☐ 12cm disc ☐ 8cm disc ☐ Others ()
- Label : ☐ Yes ☐ No

Test results of the Unrecorded disc (1)

Class-B Lab.*	Items**		Specification	Measurement		Judgment (Lab use)
				Applicant	Lab	
2.2.4 Mechanical parameters						
O	2.2.4.2 Outer diameter (D ₁)***	12cm disc	120.00 ± 0.30 mm			
		8cm disc	80.00 ± 0.30 mm			
O	2.2.4.5 Center hole diameter (Both sides put together)		15.00 mm min.			
	2.2.4.6 Edge shape***					
O	2.2.4.7 Thickness of a disc (L ₁)	R = 25 mm	1.20 ^{+0.30} _{-0.06} mm			
		R = 40 mm				
		R = 55 mm				
O	2.2.4.11 Thickness of a disc in clamping area (L ₂)		1.20 ^{+0.20} _{-0.10} mm			
	2.2.4.12 Mass of a disc***	12cm disc	13 g to 20 g			
		8cm disc	6 g to 9 g			
	2.2.4.13 Moment of inertia***	12cm disc	0.040 g•m ² max.			
		8cm disc	0.010 g•m ² max.			
O	2.2.4.14 Dynamic imbalance	12cm disc	0.010 g•m max.			
		8cm disc	0.0045 g•m max.			

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

**: Refer to DVD Specifications for Recordable Disc for Authoring Part 1: Ver. 2.0.

***: Licensee submits the data and Class A Lab checks the data. In general these values can be checked indirectly or via a destructive process or are only available during the production process. A Class-A Lab will in general not measure these parameters.

Test results of the Unrecorded Disc (2)

Class-B Lab.*	Items**	Specification	Measurement		Judgment (Lab use)
			Applicant	Lab	
2.2.5 Optical parameters					
O	2.2.5.1 Thickness of a transparent substrate	Max.	0.600 ± 0.030 mm		
		Min.			
	2.2.5.3 Limits for the angular deviation of the reflected beam (alpha angle)				
O	Radial deviation	Max.	± 0.80 degree		
		Min.			
O	Tangential deviation	Max.	± 0.30 degree		
		Min.			
O	2.2.5.4 Birefringence of transparent substrate	Max	100 nm max.		
		Min			
	2.2.5.5 Polarity of modulation		High to Low	<input type="checkbox"/> OK <input type="checkbox"/> NG	<input type="checkbox"/> OK <input type="checkbox"/> NG
	2.2.5.6 Recording sensitivity fluctuation over the surface		Po ± 0.05Po	<input type="checkbox"/> OK <input type="checkbox"/> NG	<input type="checkbox"/> OK <input type="checkbox"/> NG

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

** : Refer to DVD Specifications for Recordable Disc for Authoring Part 1: Ver. 2.0.

Test results of the Unrecorded disc (3)

Class-B Lab.*	Items**	Specification	Measurement		Judgment (Lab use)	
			Applicant	Lab		
2.2.6 Recording parameters						
	2.2.6.3 Limits of the deviation from the recordable layer perpendicular to the Reference plane					
O	Deviation	R = 25 mm	± 0.3 mm (12 cm), ± 0.2 mm (8 cm)			
		R = 40 mm				
		R = 55 mm				
O	Allowed error (<10 kHz)	R = 25 mm	$\pm 0.23 \mu\text{m}$			
		R = 40 mm				
		R = 55 mm				
	2.2.6.4 Limits of the radial deviation from the track					
O	Radial run-out	R = 25 mm	$70 \mu\text{m}_{\text{p-p}}$			
		R = 40 mm				
		R = 55 mm				
O	Allowed error (<1.1 kHz)	R = 25 mm	$\pm 0.022 \mu\text{m}$			
		R = 40 mm				
		R = 55 mm				
O	Allowed error (1.1-10 kHz)	R = 25 mm	$\pm 0.016 \mu\text{m}$ max.			
		R = 40 mm				
		R = 55 mm				
	2.2.6.5 Recording conditions					
O	Optimum recording power range (Po)	R = 25 mm	$6.0 \leq P_o \leq 12.0 \text{ mW}$			
		R = 40 mm				
		R = 55 mm				
O	Bias Power (Pb)	R = 25 mm	$P_b \leq 0.7 \text{ mW}$			

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

** : Refer to DVD Specifications for Recordable Disc for Authoring Part 1: Ver. 2.0.

Test results of the Unrecorded disc (4)

Class-B Lab.*	Items**		Specification	Measurement		Judgment (Lab use)
				Applicant	Lab	
2.2.7 Operational signals						
	2.2.7.1 Servo signal					
	Radial push-pull tracking error signal					
O	PPb signal amplitude	R = 25 mm	0.22 < PPb < 0.44			
		R = 40 mm				
		R = 55 mm				
O	Push-Pull ratio	R = 25 mm	0.5 < PPr < 1.0			
		R = 40 mm				
		R = 55 mm				
O	Variation in PPb signal		Δ PPb < 15 %			
O	Radial Contrast	R = 25 mm	RC > 0.05			
		R = 40 mm				
		R = 55 mm				
	2.2.7.3 Addressing signals					
	Land Pre-Pit signal					
O	Signal amplitude before recording (LPPb)	R = 25 mm	0.18 < LPPb < 0.26			
		R = 40 mm				
		R = 55 mm				
O	Aperture ratio after recording	R = 25 mm	AR > 10%			
		R = 40 mm				
		R = 55 mm				
O	Block error ratio before recording	R = 25 mm	BLERb < 3%			
		R = 40 mm				
		R = 55 mm				
O	Block error ratio after recording	R = 25 mm	BLERa < 5%			
		R = 40 mm				
		R = 55 mm				

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

** : Refer to DVD Specifications for Recordable Disc for Authoring Part 1: Ver. 2.0.

Class-B Lab.*	Items**		Specification	Measurement		Judgment (Lab use)
				Applicant	Lab	
	Groove wobble signal					
	Locking frequency	R = 40 mm	Sync frame frequency×8			
O	CNR of WOb (RBW = 1 kHz)	R = 25 mm	> 35 dB			
		R = 40 mm				
		R = 55 mm				
O	CNR of WOa (RBW = 1 kHz)	R = 25 mm	> 31 dB			
		R = 40 mm				
		R = 55 mm				
O	Normalized Wobble signal (NWO)	R = 25 mm	0.06 < NWO < 0.10			
		R = 40 mm				
		R = 55 mm				
O	Relation in phase between wobble and Land Pre-Pit	R = 25 mm	− 90 ± 10 deg.			
		R = 40 mm				
		R = 55 mm				

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

** : Refer to DVD Specifications for Recordable Disc for Authoring Part 1: Ver. 2.0.

Test results of the Recorded disc (1)

Class-B Lab.*	Items**		Specification	Measurement		Judgment (Lab use)
				Applicant	Lab	
2.1.5 Optical Parameters						
	2.1.5.5 Reflectivity					
O	PUH with PBS	R = 25 mm	45 to 85 %			
		R = 40 mm				
		R = 55 mm				
	PUH without PBS***	R = 25 mm	60 to 85 %			
		R = 40 mm				
		R = 55 mm				
2.1.6 Recorded parameters						
	2.1.6.12 Limits of the deviation from the recorded layer perpendicular to the Reference plane					
O	Deviation	R = 25 mm	± 0.3 mm (12 cm) ± 0.2 mm (8 cm)			
		R = 40 mm				
		R = 55 mm				
O	Allowed error (<10 kHz)	R = 25 mm	± 0.23 μm			
		R = 40 mm				
		R = 55 mm				
	2.1.6.13 Limits of the radial deviation from the track					
O	Radial run-out	R = 25 mm	70 $\mu\text{mp-p}$			
		R = 40 mm				
		R = 55 mm				
O	Allowed error (<1.1 kHz)	R = 25 mm	± 0.022 μm			
		R = 40 mm				
		R = 55 mm				
O	Allowed error (1.1-10 kHz)	R = 25 mm	± 0.016 μm max.			
		R = 40 mm				
		R = 55 mm				
	2.1.6.14 Read conditions					
O	Read stability (0.7 mW at 25 °C)	R = 40 mm	$> 10^6$ times			

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

**: Refer to DVD Specifications for Recordable Disc for Authoring Part 1: Ver. 2.0.

***: Class-A Lab will check this item when required.

Test results of the Recorded disc (2)

Class-B Lab.*	Items**		Specification	Measurement		Judgment (Lab use)
				Applicant	Lab	
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				
	Modulation 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	0.15 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 disc (PUH with PBS)		0.33 max.			
	Within one revolution (PUH without PBS)***	R = 25 mm	0.10 max.			
		R = 40 mm				
		R = 55 mm				
	Within one disc (PUH without PBS)***		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				

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

**: Refer to DVD Specifications for Recordable Disc for Authoring Part 1: Ver. 2.0.

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

Class-B Lab.*	Items**		Specification	Measurement		Judgment (Lab use)
				Applicant	Lab	
	2.1.7.2 Servo signals					
	Differential phase tracking error signal					
O	Amplitude ($\Delta t/T$ at 0.1 μ m 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				
	2.1.7.3 Wobble signal					
O	CNR of the wobble signal (RBW = 1 kHz)	R = 25 mm	> 31dB			
		R = 40 mm				
		R = 55 mm				
	2.1.7.4 Defects					
O	PI errors in any consecutive 8 ECC blocks	R = 25 mm	≤ 280			
		R = 40 mm				
		R = 55 mm				

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

** : Refer to DVD Specifications for Recordable Disc for Authoring Part 1: Ver. 2.0.

Test results of the contents of the pre-pit data block configuration

4.2.3.4 Field ID0

Item*	Applicant		Lab		Judgment
Address (Increase)	<input type="checkbox"/> OK	<input type="checkbox"/> NG	<input type="checkbox"/> OK	<input type="checkbox"/> NG	

4.2.3.5 Field ID1

Item*	Applicant	Lab		Judgment
Application code		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Disc physical code		<input type="checkbox"/> OK	<input type="checkbox"/> NG	

4.2.3.6 Field ID2 and ID5

Item*	Applicant	Lab		Judgment
OPC suggested code		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Wavelength code		<input type="checkbox"/> OK	<input type="checkbox"/> NG	
Write Strategy code (Hex)		<input type="checkbox"/> OK	<input type="checkbox"/> NG	

4.2.3.7 Field ID3 and ID4

Item*	Applicant	Lab		Judgment
Manufacturer ID (ASCII)		<input type="checkbox"/> OK	<input type="checkbox"/> NG	

*: Refer to DVD Specifications for Recordable Disc for Authoring Part 1: Ver. 2.0.

List of the Test results

Section	Judgement	
	Applicant	Lab
Form 3Q: Test results of the Unrecorded disc (1) Mechanical parameters	<input type="checkbox"/> OK <input type="checkbox"/> NG	<input type="checkbox"/> OK <input type="checkbox"/> NG
Form 4Q: Test results of the Unrecorded disc (2) Optical parameters	<input type="checkbox"/> OK <input type="checkbox"/> NG	<input type="checkbox"/> OK <input type="checkbox"/> NG
Form 5Q: Test results of the Unrecorded disc (3) Recording parameters	<input type="checkbox"/> OK <input type="checkbox"/> NG	<input type="checkbox"/> OK <input type="checkbox"/> NG
Form 6Q: Test results of the Unrecorded disc (4) Operational signals	<input type="checkbox"/> OK <input type="checkbox"/> NG	<input type="checkbox"/> OK <input type="checkbox"/> NG
Form 7Q: Test results of the Recorded disc (1) Optical parameters, Recorded parameters	<input type="checkbox"/> OK <input type="checkbox"/> NG	<input type="checkbox"/> OK <input type="checkbox"/> NG
Form 8Q: Test results of the Recorded disc (2) Operational signals	<input type="checkbox"/> OK <input type="checkbox"/> NG	<input type="checkbox"/> OK <input type="checkbox"/> NG
Form 9Q: Test result of the contents of the pre-pit data block configuration	<input type="checkbox"/> OK <input type="checkbox"/> NG	<input type="checkbox"/> OK <input type="checkbox"/> NG



The Mark (for Authoring) shall be displayed with the Logo according to DVD Logo Manual.

Confirmation of DVD Format Verification

The following product is confirmed that it is on the strength of DVD Specifications for Recordable Disc for Authoring Part 1 (Version 2.0) by DVD Format Verification Laboratory of the Company:

1. Product name (DVD-R Disc for Authoring) :		
2. Disc number :		
3. Application number :		
4. Date of application (mm. dd, yyyy) :		
5. 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 2Q to 10Q	
	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) .