



**Moserbaer India Limited**  
**Engineering Department**  
**Product: 120 mm BDR**  
**Process: BDR , (1X-4X)**

**Document: MBI/BDR/01**  
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**Version 00**  
**Page no.: 1 of 6**

## **PRODUCT SPECIFICATION**

**BLU-RAY Disc Recordable**  
**Single Layer, 25 GB**  
**(BDR)**  
**(1x-4x)**

Approved by: CTO (BOM) & V.P. Corporate R&D

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## **1.0 PURPOSE**

- 1.1 To define and document the mechanical, physical and optical characteristics of MBI 1x~4x BDR, 120 mm rewritable optical disc with capacity of 25 GB in its final form as shipped to the customer. This is a PRELIMINARY specification and are subject to change.

## **2.0 SCOPE**

- 2.1 This document is in conformance with BDR specifications for rewritable disc for general. This is in compliance with BDR 25 GB Basic Format Specifications Version 1.29. Discs manufactured with this process are designed to work at 1X~4X recording speed.

## **3.0 REVISION RECORD**

Effect Date	Item Nos.	Page No.	Changes made to document	Name of Requester

## **4.0 APPLICABLE PRODUCT**

- 4.1 Product description  
1X-4X Speeds, 25 GB, BDR

## **5.0 ENVIRONMENTAL CONDITIONS**

### **5.1 For Product Testing**

1	Temperature	23 ± 2 deg C
2	Relative Humidity	45% ~ 55 % RH
3	Atmospheric pressure	86kPa~106 kPa

### **5.2 For Product Use**

1	Temperature	5 to 55 deg C
2	Relative Humidity	3 - 90 % RH
3	Absolute Humidity	0.5 – 30 g/m <sup>3</sup>
4	Atmospheric pressure	60-106 kpa

### **5.3 For Reliability Test (Dry Heat Test Conditions)**

1	Temperature	55 deg C
2	Humidity	50 % RH
3	Duration Time	96 hrs

After Climate test, the disc should maintain the book specifications.

## 6.0 RAW MATERIAL DETAIL

1	Substrate	Polycarbonate
2	Recording Layer	Phase-change target
3	Reflective Layer	Silver Alloy
4	Bonding Layer	Cover layer

## 7.0 PRODUCT CHARACTERISTICS AND SPECIFICATIONS

### 7.1 DISC GEOMETRY

1	Outer diameter of disc	120 ± 0.3 mm
2	Center Hole Diameter	15 - 15.10 mm
3	Track Pitch	0.32 ± 0.01 um
4	Scanning Velocity	9.834 m/s
5	Substrate thickness	1.1± 0.02 mm

### 7.2 MECHANICAL CHARACTERISTICS

1	Axial Runout	± 0.3mm
2	Radial Runout	75 um pp
3	In-plane Birefringence of transmission stack	<=1.5x10 <sup>-4</sup>
4	Perpendicular Birefringence of transmission stack	<=1.2x10 <sup>-3</sup>

### 7.3 ELECTRICAL UNRECORDED SIGNALS

1	Push Pull Signal before recording	0.21 - 0.45
2	Rg-v	12 - 24
3	Jitter-HFM -Leading	<4.5 %
4	Jitter-HFM - Trailing	<4.5%
5	Push pull- HFM	0.26 – 0.52
6	Wobble CNR	> 26 dB

#### 7.4 ELECTRICAL RECORDED SIGNALS

1	Push Pull after recording	0.21 –0.45
2	Push Pull ratio after recording	0.75 – 1.25
3	I8/I8H	$\geq 0.40$
4	I2/I8	$\geq 0.04$
5	RSER	$< 2 \times 10^{-4}$
6	Jitter	$< 7.0 \%$
7	Asymmetry	-0.10 to +0.15
8	R8H	11 – 24 %

#### 7.5 LOCAL DEFECTS

1	Air Bubbles	$\leq 100 \text{ um}$
2	Black Spot causing birefringence	$\leq 150 \text{ um}$
3	Black spot causing no birefringence	$\leq 150 \text{ um}$

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