



DOCUMENT TITLE: Image defect criteria for SXGA-OLED based displays	PIN: 104921	
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REVISIONS

Date	Rev	CR/ECO	Brief Description	Created By
17 SEP 2013	A	-	New Issue	MB

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1. Notes

- 1) This specification supersedes any other NVIS specification of this nature that is different compared to the information contained in this document's current revision unless otherwise agreed to by NVIS in writing specifically referencing this document.
- 2) The criteria defined herein are subject to change without notice.

2. Description and applicability

This criteria is applicable to NVIS's following SXGA OLED based display products. Note that if certain product is not explicitly listed here, but uses same/similar microdisplay and optic module, this criteria may apply at NVIS's discretion, unless a separate official applicable document is available explicitly listing that product.

- nVisor ST50
- nVisor ST50 Display Module
- Ranger 47 and Ranger 35

3. Definitions

Active area: 1280 pixel x 1024 pixel region (refer to **Error! Reference source not found.**).


Zone 1: Central circular region of 900 pixel diameter = approximately 50% of the total active area (= approximately 30° round FOV for ST50).

Zone 2: Region outside zone 1 but inside the active area.

Blemish: Refers to visible opaque or semi-opaque spots.

Blemish size: (max length in pixels + max breadth in pixels)

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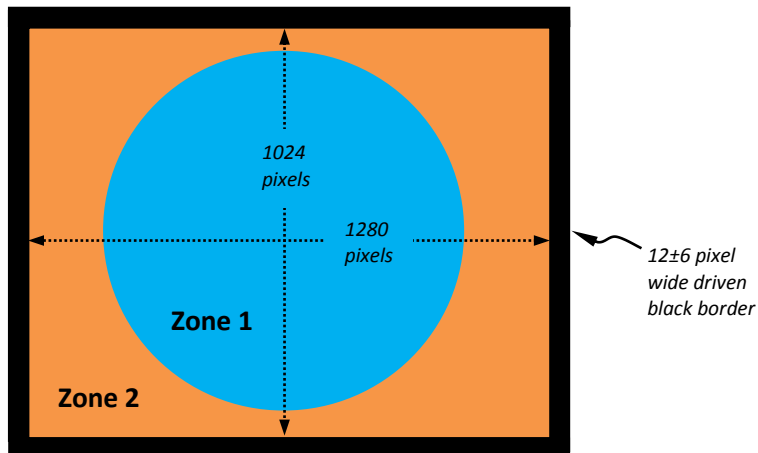



Figure 1: Quality Zones for Image Defect Criteria (not to scale)

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4. Image Defect Criteria

Table 1 describes image defect criteria with respect to microdisplay related and non-microdisplay related defects.

Table 1: Image defect criteria per optical channel

	Parameter	Specification / Quantity Allowed (per optical channel)		
		Maximum Allowed Quantity of Stuck-on, non-adjacent, Sub-Pixel(s)	Of Color	Visible Against Grey Screen of Brightness
Microdisplay related defects	Stuck On Pixels ^[1]	≈0.05% of area	Red + Green + Blue	< 0.03 fL
		6	Red + Green + Blue	≥ 0.03 fL < 0.85 fL
		0 ; 6	Blue ; Red + Green	≥ 0.85 fL < 5.7 fL
		0	Red + Green + Blue	≥ 5.7 fL
	Stuck Off (or dark) Pixels	<370, no more than 2 adjacent sub-pixel out		
Non-microdisplay related defects^[2]	Sharp focus Blemish Size ≤ 2; zone 1 / zone 2	4 / 8		
	Sharp focus Blemish Size > 2 ≤ 4; zone 1 / zone 2	0 / 3		
	Sharp focus Blemish Size >4; zone 1 / zone 2	0 / 0		
	Blurry focus Blemish Size ≤ 16; zone 1 / zone 2	1 / 1		

[1] If the brightness of the background is higher than the brightness of the stuck-on sub-pixel, the stuck-on sub-pixel may have the appearance of a dark (stuck-off) pixel.

[2] Superior criteria with respect to non-microdisplay related defects may be available for meeting specific requirements, and must be agreed to in writing by NVIS at the time of order specifically referencing this document. Please contact NVIS to discuss.