SeeYA Optics Module Preliminary Specification

Model name:

Revision

Version	Date	Description
V0.0	2021.07.13	Initial release

Contents

1 General Description

This module consists of two displays, optical lens, mechanical parts. Display source is the 1.03 inch MicroOLED with the Highest Luminance 1800 nits and rendered resolution of 2560*2560.

- Display resolution: 2560 x 2560
- Field of View: 90° at 0D
- Diopter adjustable from 0D to -5D

2 Technical Specification

Parameter	Specification
Optical Data:	
Diopter Range	0 D ~ 5 D
FOV (inscribed circle)	90 degree
Eyebox	8 mm
Eye Relief	12 mm
TV Distortion	12 %
Lateral Chromatic Aberration	6.2 um
Longitudinal Chromatic Aberration	40.2 um
MTF	MTF > 0.1 @70lp/mm (whole field)
Light Efficiency	8 %
Physical Data:	
Lens Structure	5G
Lens Weight	< 25 g
Module Weight (include lens)	< 64 g
Module Length (total track length)	17 mm
Diameter (lens only max.)	30 mm

* The parameters above are under 0D conditions in multi-diopter module.

Note1: FOV

FOV of optical module is the circular field of view for the visional image as the schematic shown.

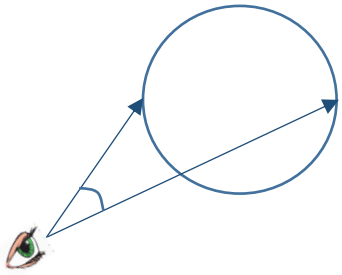

Fig. 1

Note2: Eyebox and Eye Relief

Eyebox is the pupil range where the full virtual image could be caught. Eye relief is the distance between the optical lens to the pupil.

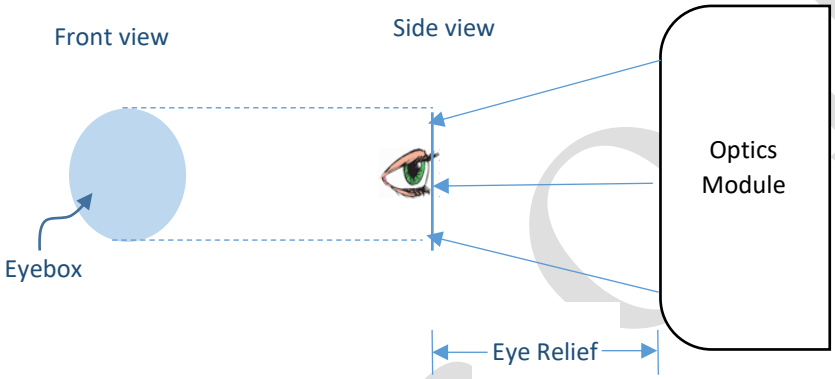

Fig. 2

Note3: TV Distortion

$$TV\ Distortion = Max\left(\frac{\Delta H_{horizontal}}{H_{horizontal}}, \frac{\Delta H_{vertical}}{H_{vertical}}\right) \times 100\%$$

The test aera is inside the circle with 45 degrees FOV, and aspect ratio is 16:9.

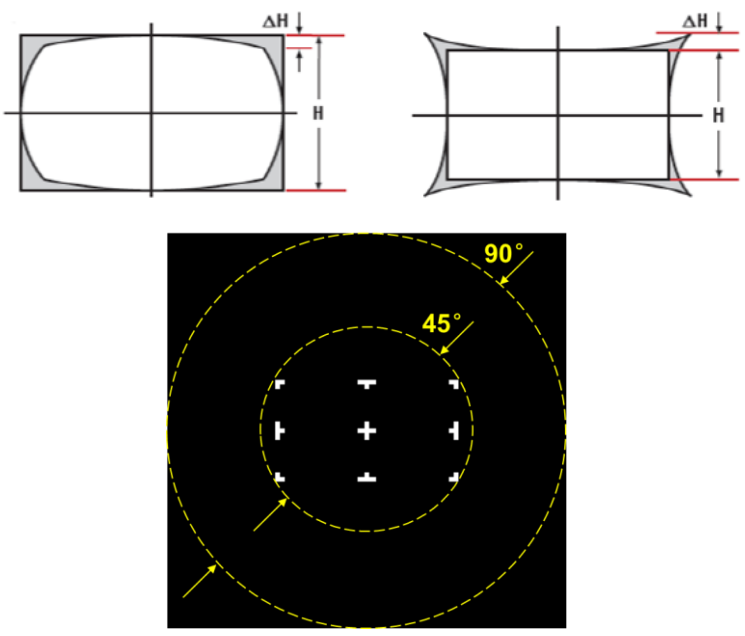

Fig. 3

Note4: MTF

MTF formula: $M = \frac{(\mathrm{Lmax}-\mathrm{Lmin})}{(\mathrm{Lmax}+\mathrm{Lmin})}$, Lmax and Lmin is the brightness of the jointed black and white line.

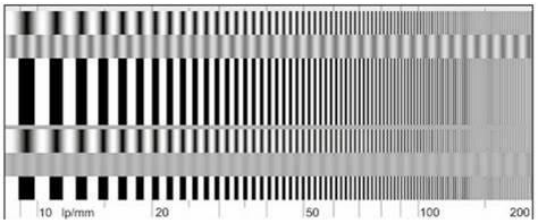

Fig. 4

3 Module Diagram