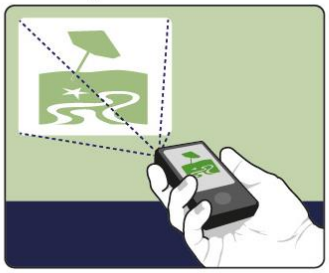
Features

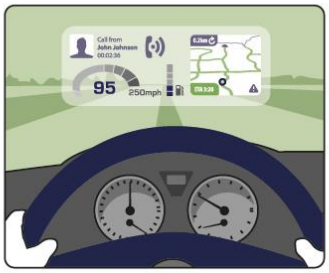
- Real time Video input (HDMI compatible)
- Real Time Laser-Mirror Sync Algorithm
- Powerful GUI for FOV control
- Pixels adaptive timing
- Laser Color and Intensity control
- Shortening OEM time to market

Application

Pico Projectors



Automotive HUD

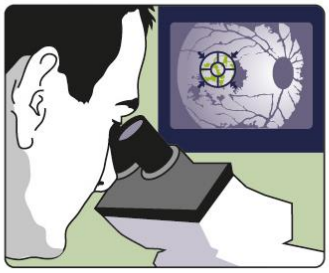


Gesture Sensing

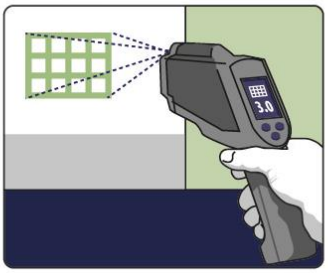
Eyewear Displays

Large Displays

Medical



Industrial



More to emerge...

General Description

Maradin DM2025 Evaluation Kit is an easy to use and a straight forward platform for developers and business development personal. The DM2025 enables the evaluation of Maradin's laser based projection core components, including: MAR1100 - 2D MEMS scanning mirror, MAR2100 - MEMS drive and control IC and the TAVOR platform to incorporate Maradin's proprietary laser timing algorithm. The DM2025 shortens the development time, enables flexibility and a fast demonstration of laser projection based on Maradin's technology.

System Block Diagram

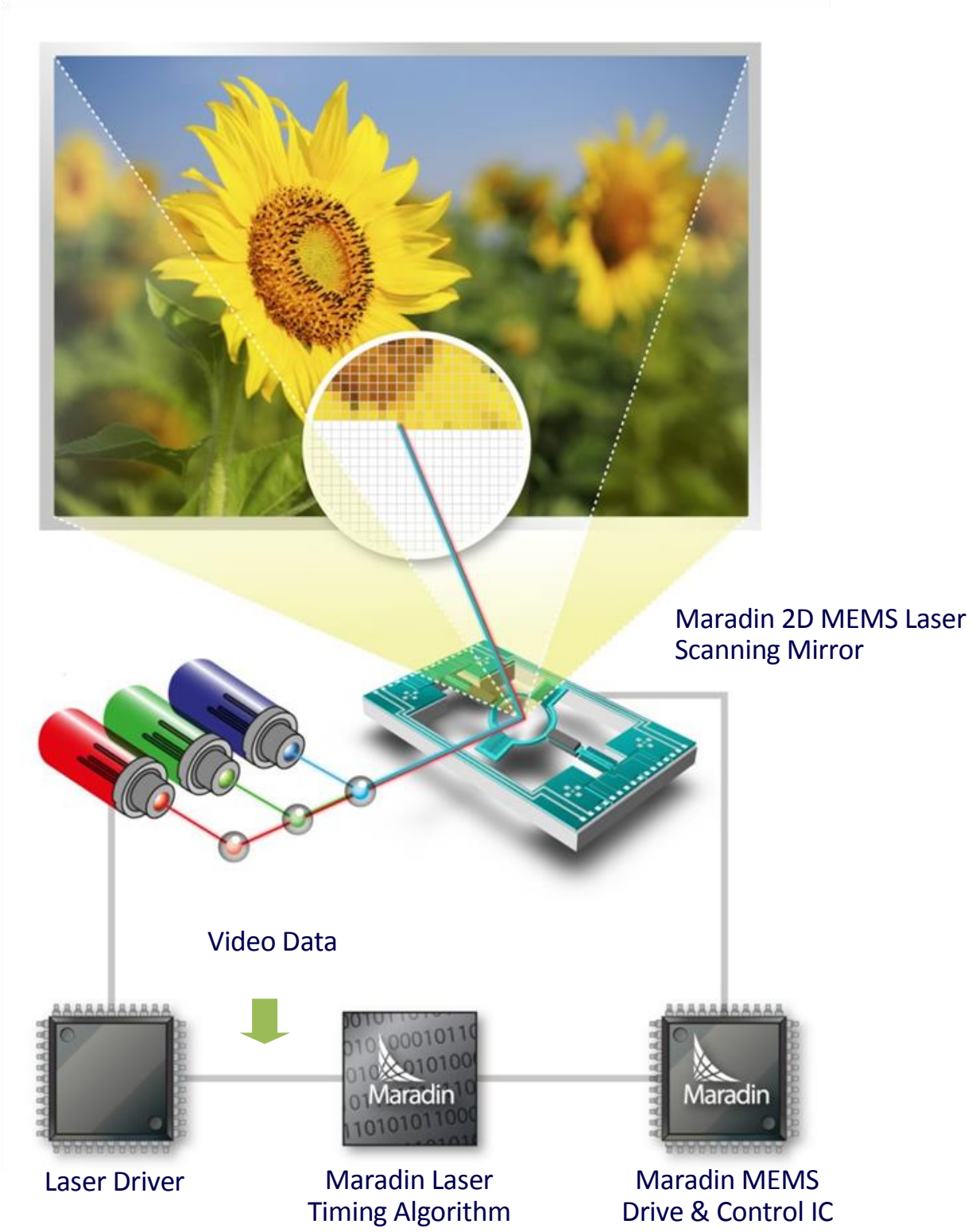


Figure 1: System Block Diagram

DM2020 Characteristics

	Parameter	Min	Typical Value	Max	Unit	Remarks
Image	Resolution (HxV)	1x240	854x600	1280x600	Pixel	
	Optical angle (H x V)		36x27	45x30	Deg.	HFOV x VHOV
	Throw Ratio		1.2	1		Distance/Diagonal FOV
	Pixel position error		±1/5		Pixel	Both vertical and Horizontal
MEMS Scanning module	Resonant frequency (H)	10,000	10,250	11,000	Hz	
	Resonant frequency (V)	1500	1800	2000	Hz	
	MEMS Scanning Module dimensions (L x W x H)		12x6.5x5.9		mm	Length x Width x Height
	Effective mirror size (H)		1		mm	X Horizontal direction X for torsion bar
	Effective mirror size (V)		1.1		mm	Y Vertical direction Y for torsion bar
	MEMS Scanning module power consumption	TBD	70	TBD	mW	rms
Optical	Mirror reflectance	90		93	%	Aluminum coating
	Wave length range for reflection	440		700	nm	Optical window coating
	Laser max spot size			0.7	mm	
	Laser max power			R - 120 G - 50 B - 80	mW	
	Laser wave length			R - 638 G - 520 B - 450	nm	

Opto-Mechanical Interface

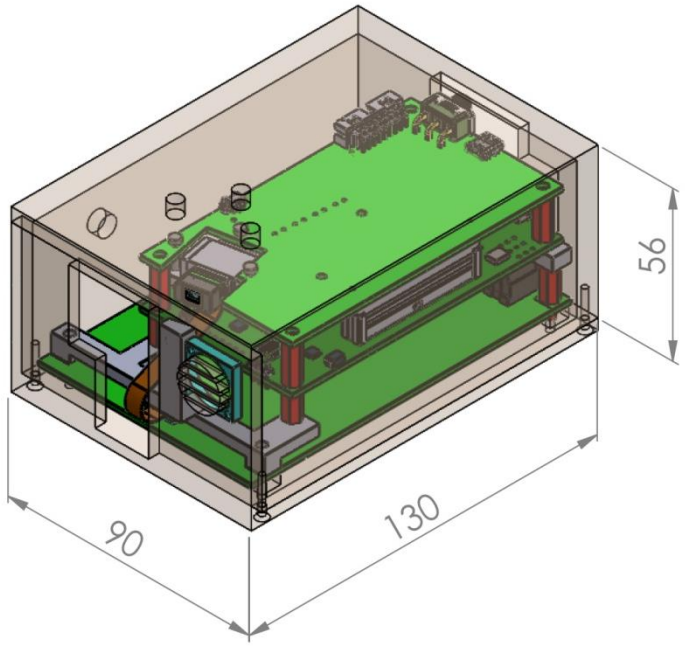


Figure 2: DM2025 Illustration

#	Part Number	Description	Interface	Power Supply
1	EL001006	MicroZed SBC Single Board Computer	Ethernet	3.3V/0.5A (Supplied by EL001013)
2	EL001013	Tavor – RGB Laser driver board (LDR)REV2	MicroHDMI Micro SD	12V/3A (Main Supply)
3	MAR1100	MEMS Mirror Module		3.3v/0.15A (Supplied by EL001013)
4	TI000402	RGB Light Engine		9v/0.2A (Supplied by EL001013)
5	MAR2100	Maradin MEMS Drive & Control	SPI + Sync signals	3.3v/0.12A (Supplied by EL001013)

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