MARADIN 2D MEMS PROJECTION EVALUATION KIT

PN DM003102

Maradin Evaluation Kit

An easy-to-use and straightforward platform for developers and business development personnel.

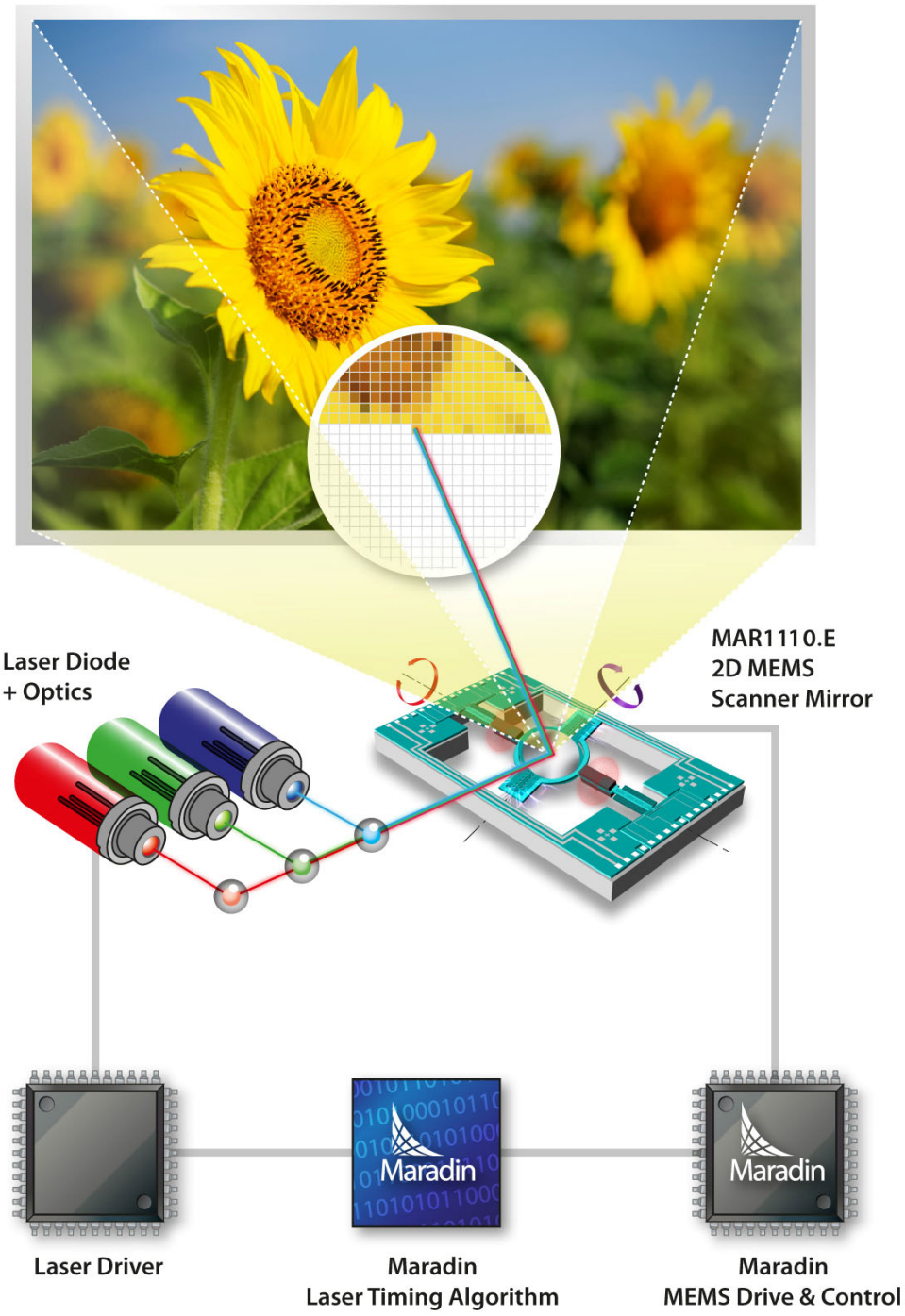
The DM003102 enables the evaluation of Maradin's laser-based projection core components, including MAR1110.E - 2D MEMS scanning mirror, MAR2100 - MEMS drive and control IC, and the MAR3102 - GILBOA reference design to incorporate Maradin's proprietary laser timing algorithm. The DM003102 shortens the development time and enables flexibility and a fast demonstration of laser projection based on Maradin's technology.

FEATURES

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

APPLICATIONS

SYSTEM BLOCK DIAGRAM



Maradin
PROJECTING THE FUTURE

SYSTEM CHARACTERISTICS

	Parameter	Min	Typical Value	Max	Unit	Remarks
Image	Resolution (H)	1	1280	1280	Pixel	Horizontal
	Resolution (V)	240	480	600	Pixel	Vertical
	Optical Angle (H)		45	45	Deg.	HFOV
	Optical Angle (V)		17	22	Deg.	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)	10,250	10,500	10,750	Hz	
	Resonant frequency (V)	1500	1700	1900	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
Optical	Mirror reflectance		90	98	%	The coating material is according to the Laser wavelength
	Wavelength range for reflection	405		1550	nm	The optical window is suitable for 440-700nm
	Laser max power			R - 160 G - 115 B - 130 UV - 460	mW	
	Laser wavelength			R - 638 G - 520 B – 450 UV - 405	nm	

ELECTRICAL INTERFACE

#	Interface	Description
1	System Power Supply	12V/2A (Main Supply); 5.5x2.1mm Power jack
2	Video	mini HDMI Interface (HDMI type C)
3	Wi-Fi	Supports two modes: Miracast and DLNA/Airplay Via external WiFi dongle
4	Projection System Parameters Control (Through GUI interface)	Computer to EVK connection through USB to miniUSB cable
5	General Propose connector	Synchronization and Projection control signals output for external use
6	Optical Module	Drive Up to 6 different laser diodes. The lower number of lasers can be driven with a high current.

IMPORTANT NOTE

CONTACT DETAILS

2 HaCarmel St. P.O. Box 56, Yokneam 2609201, Israel
Tel. +972 (4) 627 3653 Fax. +972 (4) 959 0327
info@maradin.co.il www.maradin.co.il