



DMP Electronics Inc.

8F, No 12, Wu-Guan 7 Rd., Wu Gu Industrial Park  
Wu Gu Xiang, Taipei 248, Taiwan R.O.C.  
TEL: 886 2 2298 0770 FAX: 886 2 2290 2335

# RoBoard Module RM-G144

## Manual V1.01

### The Heart of Robotics

Jun 2010

DMP Electronics Inc

ROBOARD

## ◆ Copyright

The information in this manual is subject to change without notice for continuous improvement in the product. All rights are reserved. The manufacturer assumes no responsibility for any inaccuracies that may be contained in this document. And makes no commitment to update or to keep current the information contained in this manual.

No part of this manual may be reproduced, copied, translated or transmitted, in whole or in part, in any form or by any means without the prior written permission of the DMP Electronics Inc.

©Copyright 2010 DMP Electronics Inc.  
Manual No. RM-G144-01 Ver.1.01 ◆ Jun, 2010

## ◆ Trademarks Acknowledgment

Other brand names or product names appearing in this document are the properties and registered trademarks of their respective owners. All names mentioned herewith are served for identification purpose only.



# TableOfContents

Chapter 1.....	4
Introduction.....	4
1.1 Packing List.....	4
1.2 Product Description.....	5
1.3 Specifications.....	6
1.4 I <sup>2</sup> C Address.....	7
1.5 Board Dimension.....	8
.....	8
Chapter 2.....	9
Installation.....	9
2.1 Board Outline.....	9
2.2 Connectors & Pin 1 Location.....	10
2.3 Connectors & Jumpers Summary.....	11
2.4 Pin Assignments.....	12
<b>J1: I<sup>2</sup>C connector (Top)</b> .....	12
<b>J2: Option (for G-Sensor)</b> .....	12
<b>J3: I<sup>2</sup>C connector (Bottom)</b> .....	12
Chapter 3.....	13
Development Note.....	13
Sample and development code.....	13

# Chapter 1

## Introduction

### 1.1 Packing List

Product Name	Package
RM-G144	RoBoard Module G144
	
Cable-RM-1	6 pin Cable x 1
	

## 1.2 Product Description

The RoBoard Module RM-G144 is fully integrated and combines 3-axis magneto-resistive sensor with the HMC5843 and 3-axis accelerometer with the ADXL345, simply and all done through I2C interface, the dimension of it is wee as 20 x 20 mm.

The HMC5843 is a surface mount multi-chip module designed for low field magnetic sensing with a digital interface for applications such as low cost compassing and magnetometry.

The ADXL345 is a 3-axis accelerometer with high resolution (13-bit) measurement at up to  $\pm 16$  g. Digital output data is formatted as 16-bit two's complement and is accessible through I2C digital interface.

## 1.3 Specifications

	RM-G144 Compass + G-Sensor Module
Compass	3-Axis Digital Compass HMC5843
G-Sensor	3-Axis Accelerometer ADXL345
Interface	I <sup>2</sup> C
Connectors	1.25mm 6-pin wafer for I <sup>2</sup> C x 2
Power Input	DC-in 5V
Dimension	20mm X 20mm
Weight	2.5g

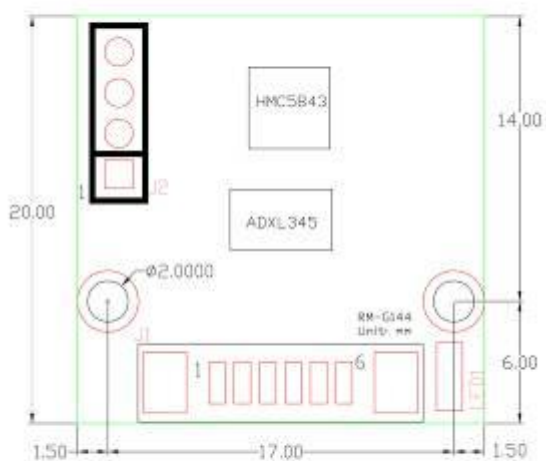
## 1.4 I<sup>2</sup>C Address

- Digital Compass HMC5843 I<sup>2</sup>C address (7 bit address) : 0x1e
- Accelerometer ADXL345 I<sup>2</sup>C address (7 bit address) : 0x53

ROBoard

## 1.5 Board Dimension

---

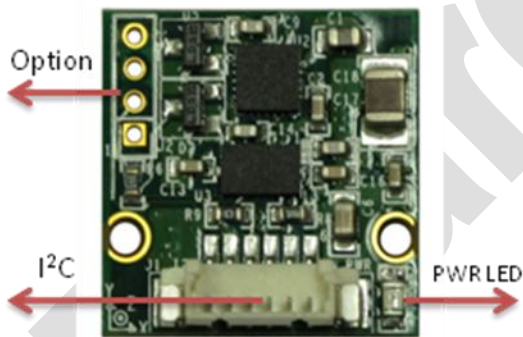




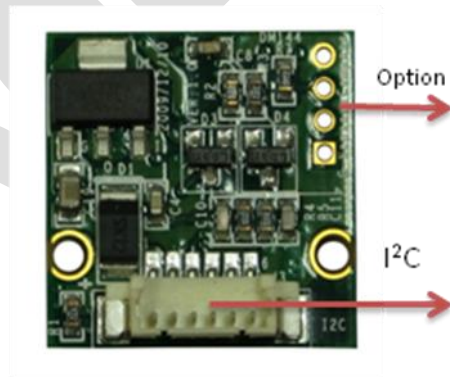
# Chapter 2

## Installation

### 2.1 Board Outline



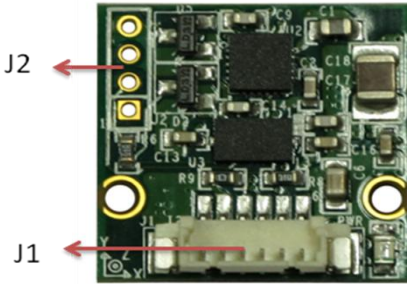
Top Side



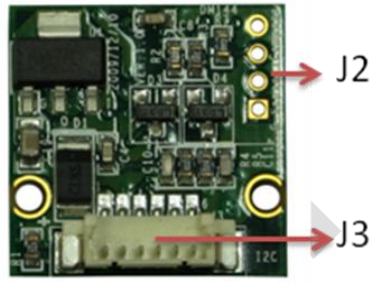
Bottom Side

## 2.2 Connectors & Pin 1 Location

### Connectors

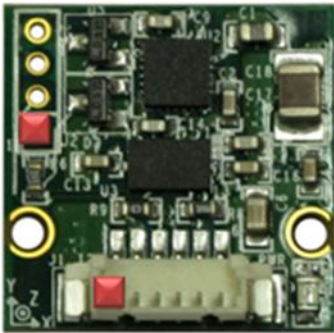


Top Side

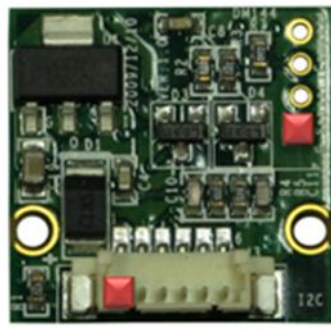


Bottom Side

### Pin 1 Location



Top Side



Bottom Side

## 2.3 Connectors & Jumpers Summary

Summary Table

	Description	Type of Connections	Pin
J1	I <sup>2</sup> C connector (Top)	Wafer, 2.54mm,6x1	6-pin
J2	Interrupt	Hole 4x1	
J3	I <sup>2</sup> C connector (Bottom)	Wafer, 2.54mm,6x1	6-pin

## 2.4 Pin Assignments

### J1: I<sup>2</sup>C connector (Top)

Pin #	Signal Name
1	Vcc (Red)
2	GND (Black)
3	SCL (Blue)
4	SDA (Green)
5	X (White)
6	X (Orange)

### J2: Option (for G-Sensor)

Pin #	Signal Name
1	+3.3V out
2	INT1
3	INT2
4	GND

### J3: I<sup>2</sup>C connector (Bottom)

Pin #	Signal Name
1	Vcc (Red)
2	GND (Black)
3	SCL (Blue)
4	SDA (Green)
5	X (White)
6	X (Orange)

# Chapter 3

## Development Note

### Sample and development code

The RM-G144 provides sample and development code.  
Please download from official website: <http://www.roboard.com>

## Warranty

This product is warranted to be in good working order for a period of one year from the date of purchase. Should this product fail to be in good working order at any time during this period, we will, at our option, replace or repair it at no additional charge except as set forth in the following terms. This warranty does not apply to products damaged by misuse, modifications, accident or disaster. Vendor assumes no liability for any damages, lost profits, lost savings or any other incidental or consequential damage resulting from the use, misuse of, originality to use this product. Vendor will not be liable for any claim made by any other related party. Return authorization must be obtained from the vendor before returned merchandise will be accepted. Authorization can be obtained by calling or faxing the vendor and requesting a Return Merchandise Authorization (RMA) number. Returned goods should always be accompanied by a clear problem description.