

# FTDI Chip

## VI800A-ETH Datasheet

### Plug in accessory for VM800P Embedded Video Engine Plus module



## 1 Introduction

The VI800A-ETH is a plug in accessory for the VM800P Plus module, which is used to develop and demonstrate the functionality of the FT800 Embedded Video Engine, EVE.

This module behaves as an SPI to Ethernet bridge on the VM800P Plus module.

### 1.1 Features

- Connects to the VM800P Plus module using an SPI slave interface
- SPI slave interface is converted to an Ethernet interface compliant with IEEE 802.3 10BASE-T and 802.3u 100BASE-TX
- 6 LEDs to indicate Ethernet status. (2 integrated in the RJ45 connector)
- RJ45 connector
- Powered from the VM800P module

Neither the whole nor any part of the information contained in, or the product described in this manual, may be adapted or reproduced in any material or electronic form without the prior written consent of the copyright holder. This product and its documentation are supplied on an as-is basis and no warranty as to their suitability for any particular purpose is either made or implied. Future Technology Devices International Ltd will not accept any claim for damages howsoever arising as a result of use or failure of this product. Your statutory rights are not affected. This product or any variant of it is not intended for use in any medical appliance, device or system in which the failure of the product might reasonably be expected to result in personal injury. This document provides preliminary information that may be subject to change without notice. No freedom to use patents or other intellectual property rights is implied by the publication of this document. Future Technology Devices International Ltd, Unit 1, 2 Seaward Place, Centurion Business Park, Glasgow G41 1HH United Kingdom. Scotland Registered Company Number: SC136640

## 2 Ordering Information

Part No.	Description
VI800A-ETH	VI800A Ethernet module, plug in accessory for the VM800P Plus module

**Table 2-1 – Ordering information**

---

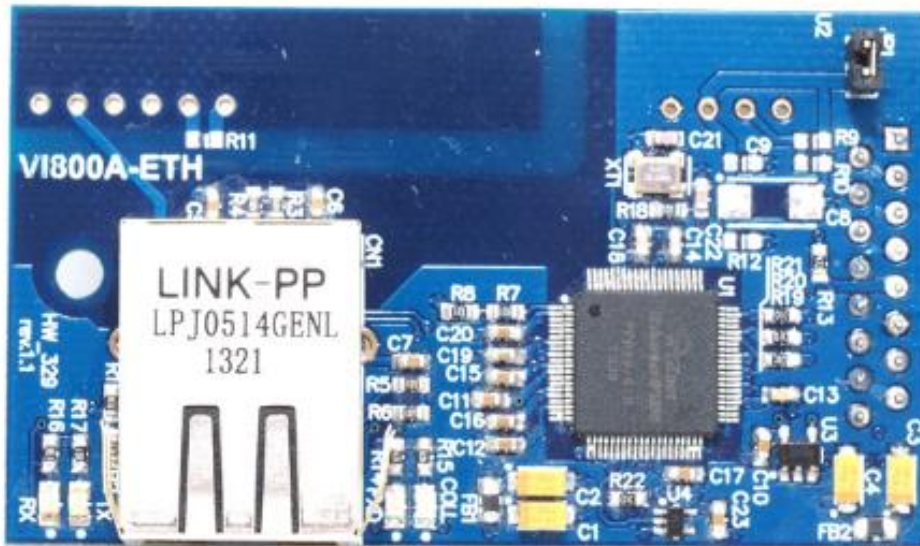
## **Table of Contents**

<b>1</b>	<b>Introduction .....</b>	<b>1</b>
1.1	Features.....	1
<b>2</b>	<b>Ordering Information .....</b>	<b>2</b>
<b>3</b>	<b>Hardware Description .....</b>	<b>4</b>
3.1	VI800A-ETH module.....	4
<b>4</b>	<b>Physical Descriptions .....</b>	<b>5</b>
4.1	Dimensions .....	5
4.2	VI800A-ETH Connectors.....	6
4.3	VI800A Ethernet Components.....	7
<b>5</b>	<b>Board Schematics.....</b>	<b>8</b>
<b>6</b>	<b>Hardware Setup Guide .....</b>	<b>9</b>
6.1	Power Configuration .....	9
<b>7</b>	<b>Contact Information.....</b>	<b>10</b>
	<b>Appendix A – References .....</b>	<b>11</b>
	Document References .....	11
	<b>Appendix B - List of Figures and Tables .....</b>	<b>12</b>
	List of Figures .....	12
	List of Tables.....	12
	<b>Appendix C – Revision History .....</b>	<b>13</b>

### 3 Hardware Description

Please refer to section 4.2 for connector settings.

#### 3.1 VI800A-ETH module



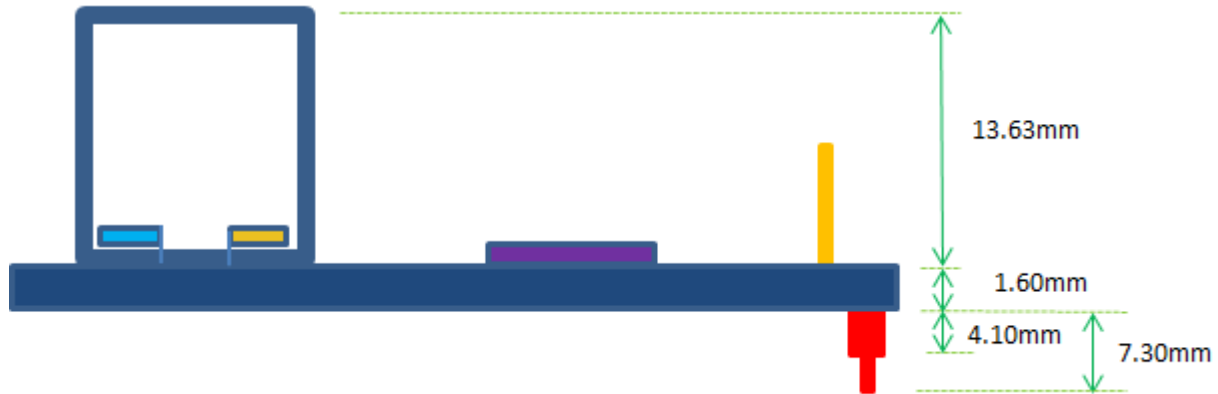
**Figure 3-1 – VI800A Ethernet module**

The VI800A Ethernet module is designed to connect directly with the VM800P Plus module.

The main functions of the VI800A Ethernet module are as follows:

- Plug in accessory board for the VM800P Plus module.
- Interface to the VM800P Plus board as a SPI slave device.
- Connects with an external Ethernet interface.
- Contains 6 LEDs (2 integrated in RJ45 connector).
- Powered by the VM800P Plus board.





**Figure 4-3 – VI800A-ETH module Side view**

All dimensions are in mm

## 4.2 VI800A-ETH Connectors

Connectors and jumpers are described in the following sections.

- **CN1 - RJ45 (LPJ0514GENL)**

This is a standard Ethernet connector with integrated LEDs.

Pin No.	Name	Type	Description
1	TX+	O	Ethernet data TX+ output
2	TX-	O	Ethernet data TX- output
3	RX+	I	Ethernet data RX+ input
4	NC	NC	NOT USED
5	NC	NC	NOT USED
6	RX-	I	Ethernet data RX- input
7	GND	GND	Ground
8	GND	GND	Ground

**Table 4-1 – CN1 Pinout**

- **CN2- Plug in Interface**

This is the interface where the control and data signals from the VM800P boards are routed. There are also power and ground pins on this interface. This interface is used to connect the VI800A Ethernet board to the VM800P Plus board.

**Note:**

**This connector should be connected to J6 of the VM800P plus board.**

Pin No.	Name	Type	Description
1	SCK	I	SPI Clock input
2	MOSI	I	SPI Master Out Slave in
3	MISO	O	SPI Master In Slave out
4	SS	I	SPI Chip select, active low

Pin No.	Name	Type	Description
5	INT0	O	Interrupt output, active low
6	IO6	I	Daughter reset input, active low
7	AD4	IO	Address/Data Line 4
8	AD5	IO	Address/Data Line 5
9	3V3	P	3.3V power supply
10	5V	P	5V power supply
11	GND	P	Ground
12	RST#	I	Reset, active low
13	AD1	IO	Address/Data Line 1
14	NC	NA	Not Connected
15	ETH_INT#	O	Interrupt out, active low
16	AD2	IO	Address/Data Line 2

**Table 4-2 – CN2 Pinout**

- **JP1- POE**

Jumper connection not fitted by default

### 4.3 VI800A Ethernet Components

- **U1 – W5100**

This converts the SPI signals from the VM800P Plus board to Ethernet signals. The interface is IEEE 802.3 10BASE-T and 802.3u 100BASE-TX compliant.

- **CN1 – LPJ0514GENL**

The RJ45 Ethernet connector to connect the Ethernet cable with 2 integrated indicator LEDs.

The green LED indicates if a link is established or not. If illuminated the link is good.

The yellow LED indicates the link speed. Illuminated is 100Base-TX and unlit is 10Base-T

- **LED1 –LED4**

Indicates the status of the Ethernet transmission.

LED1: This is the FDX LED. It is yellow in colour.

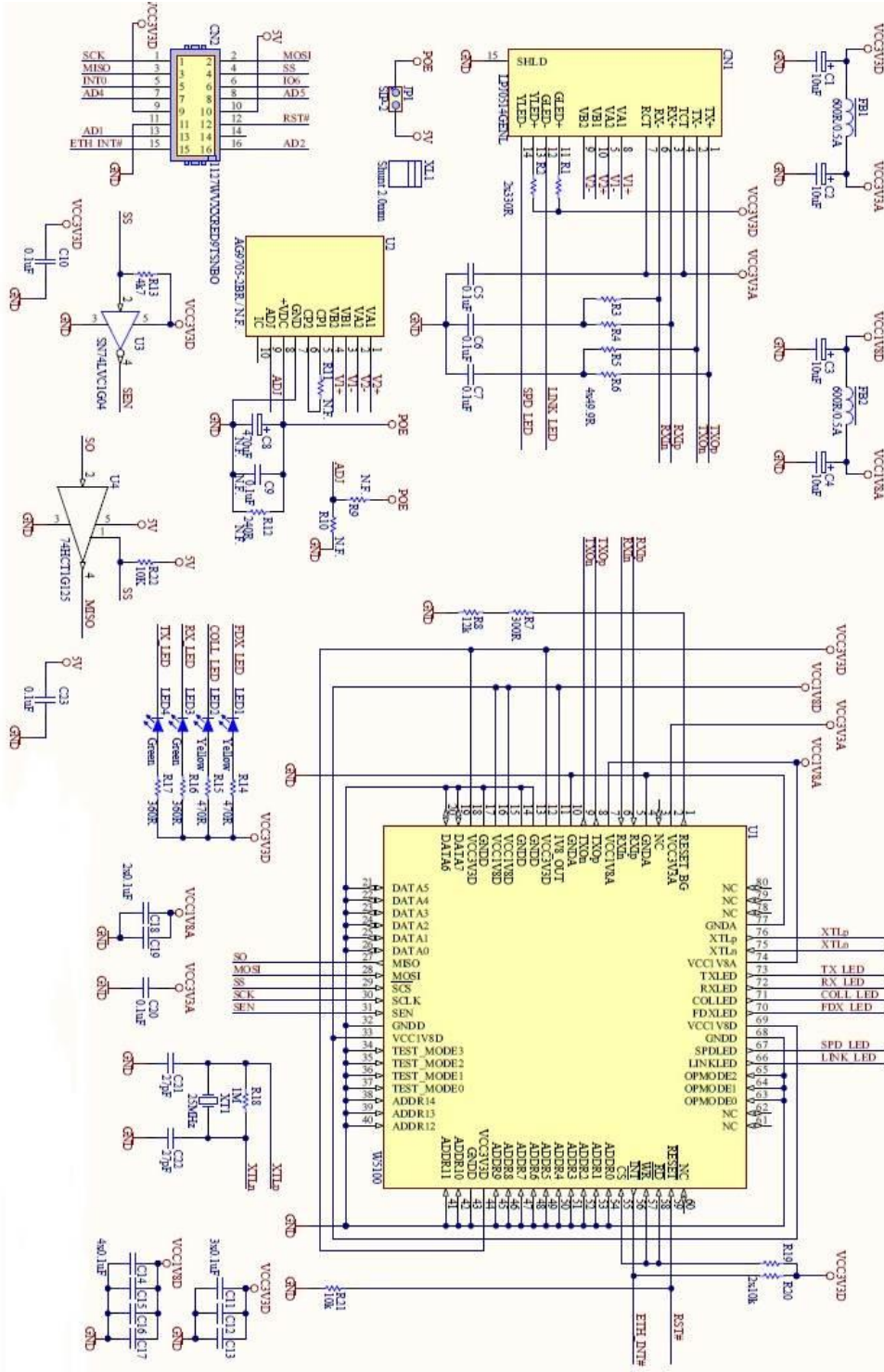
LED2: This is the collision LED. It is yellow in colour.

LED3: This is the RX LED. It is green in colour.

LED4: This is the TX LED. It is green in colour.



## 5 Board Schematics



**Figure 5-1 – VI800A Ethernet Schematics**



## 6 Hardware Setup Guide

### 6.1 Power Configuration

The board is powered from the VM800P Plus board. The CN2 connector on the VI800A Ethernet board should be connected to the J6 connector of the VM800P Plus board as shown in Figure 5-1.



**Figure 6-1 – VI800A Ethernet module connected to VM800P Plus module**

## 7 Contact Information

### Head Quarters – Singapore

Bridgetek Pte Ltd  
178 Paya Lebar Road, #07-03  
Singapore 409030  
Tel: +65 6547 4827  
Fax: +65 6841 6071

E-mail (Sales) [sales.apac@brtchip.com](mailto:sales.apac@brtchip.com)  
E-mail (Support) [support.apac@brtchip.com](mailto:support.apac@brtchip.com)

### Branch Office – Taipei, Taiwan

Bridgetek Pte Ltd, Taiwan Branch  
2 Floor, No. 516, Sec. 1, Nei Hu Road, Nei Hu District  
Taipei 114  
Taiwan, R.O.C.  
Tel: +886 (2) 8797 5691  
Fax: +886 (2) 8751 9737

E-mail (Sales) [sales.apac@brtchip.com](mailto:sales.apac@brtchip.com)  
E-mail (Support) [support.apac@brtchip.com](mailto:support.apac@brtchip.com)

### Branch Office - Glasgow, United Kingdom

Bridgetek Pte. Ltd.  
Unit 1, 2 Seaward Place, Centurion Business Park  
Glasgow G41 1HH  
United Kingdom  
Tel: +44 (0) 141 429 2777  
Fax: +44 (0) 141 429 2758

E-mail (Sales) [sales.emea@brtchip.com](mailto:sales.emea@brtchip.com)  
E-mail (Support) [support.emea@brtchip.com](mailto:support.emea@brtchip.com)

### Branch Office – Vietnam

Bridgetek VietNam Company Limited  
Lutaco Tower Building, 5th Floor, 173A Nguyen Van  
Troj,  
Ward 11, Phu Nhuan District,  
Ho Chi Minh City, Vietnam  
Tel : 08 38453222  
Fax : 08 38455222

E-mail (Sales) [sales.apac@brtchip.com](mailto:sales.apac@brtchip.com)  
E-mail (Support) [support.apac@brtchip.com](mailto:support.apac@brtchip.com)

### Web Site

<http://brtchip.com/>

### Distributor and Sales Representatives

Please visit the Sales Network page of the [Bridgetek Web site](#) for the contact details of our distributor(s) and sales representative(s) in your country.

System and equipment manufacturers and designers are responsible to ensure that their systems, and any Future Technology Devices International Ltd (FTDI) devices incorporated in their systems, meet all applicable safety, regulatory and system-level performance requirements. All application-related information in this document (including application descriptions, suggested FTDI devices and other materials) is provided for reference only. While FTDI has taken care to assure it is accurate, this information is subject to customer confirmation, and FTDI disclaims all liability for system designs and for any applications assistance provided by FTDI. Use of FTDI devices in life support and/or safety applications is entirely at the user's risk, and the user agrees to defend, indemnify and hold harmless FTDI from any and all damages, claims, suits or expense resulting from such use. This document is subject to change without notice. No freedom to use patents or other intellectual property rights is implied by the publication of this document. Neither the whole nor any part of the information contained in, or the product described in this document, may be adapted or reproduced in any material or electronic form without the prior written consent of the copyright holder. Future Technology Devices International Ltd, Unit 1, 2 Seaward Place, Centurion Business Park, Glasgow G41 1HH, United Kingdom. Scotland Registered Company Number: SC136640

## Appendix A – References

### Document References

VM800P datasheet: [VM800P Plus board](#)

FT800 datasheet: [FT800 Embedded Video Engine](#)

FT800 software programming guide: [FT800 Programmer Guide](#)

FT800 sample application notes:

[AN 246 VM800CB SampleAPP Arduino Introduction](#)

[AN 275 FT800 Example with Arduino.pdf](#)

[AN 318 Arduino Library for FT800 Series](#)

## Appendix B - List of Figures and Tables

### List of Figures

Figure 3-1 – VI800A Ethernet module .....	4
Figure 3-2 – VI800A-ETH module Top view .....	5
Figure 3-3 – VI800A-ETH module Bottom view .....	5
Figure 3-4 – VI800A-ETH module Side view .....	6
Figure 4-1 – VI800A Ethernet Schematics .....	8
Figure 5-1 – VI800A Ethernet module connected to VM800P Plus module .....	9

### List of Tables

Table 2-1 – Ordering information .....	2
Table 3-1 – CN1 Pinout .....	6
Table 3-2 – CN2 Pinout .....	7

## Appendix C – Revision History

Document Title: VI800A-ETH Datasheet  
 Document Reference No.: BRT\_000010  
 Clearance No.: BRT#014  
 Product Page: <http://brtchip.com/product>  
 Document Feedback: [Send Feedback](#)

Revision	Changes	Date
Version 1.0	Initial Release	2014-10-14
Version 1.1	Added height dimensions	2014-10-21
Version 1.2	Dual branding to reflect the migration of the product to the Bridgetek name – logo changed, copyright changed, contact information changed	2016-09-15

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Daughter Cards & OEM Boards](#) category:*

*Click to view products by [FTDI](#) manufacturer:*

Other Similar products are found below :

[ADZS-21262-1-EZEXT](#) [27911](#) [MPC5777C-416DS](#) [KITMPC5744DBEVM](#) [SPC56ELADPT144S](#) [TMDXRM46CNCD](#) [DM160216](#) [EV-ADUCM350GPIOTHZ](#) [EV-ADUCM350-BIO3Z](#) [ATSTK521](#) [EXP-IO](#) [EXP-PROTO](#) [EXP-RELAY](#) [EXP-SER](#) [1130](#) [MA160015](#) [MA240013](#) [MA240026](#) [MA320014](#) [MA330014](#) [MA330017](#) [TMDSCNCD28054MISO](#) [MIKROE-2152](#) [MIKROE-2154](#) [MIKROE-2381](#) [TSSOP20EV](#) [MIKROE-1108](#) [MIKROE-1516](#) [SPS-READER-GEVK](#) [AC244049](#) [AC244050](#) [AC320004-3](#) [2077](#) [ATSMARTCARD-XPRO](#) [EIC - Q600 - 230](#) [ATZB-212B-XPRO](#) [SPC560PADPT100S](#) [SPC560BADPT64S](#) [MA180018](#) [EIC - Q600 -220](#) [AC164134-1](#) [BOB-12035](#) [STM8/128-D/RAIS](#) [AC164127-6](#) [AC164127-4](#) [AC164134-3](#) [AC164156](#) [MA320021](#) [MA320024](#) [DFR0285](#)