□□ □□□ □□□□□□□ O-□□□□□□□□

□□□□ O-Leading □□□□□□ □□□□□□ □□ □□□□□□□ □□□□□□ □□□□□□ □□□□□□ EMS □ □□□□□□ □□□□□□□□ □□□□□□ □□□□□□ □□□ □□ □□□□ □□□□□□□ □□□□□□ □□□□□□□□ □□□□□□ □□□□□□□ □ □□□□□□□ □□□□□□ □□□□□□□□ □□□□□□ □□□□□□□ □ □□□□□□□ (PCBA). .□□□□□□□ □□□□□□□□ □□□□□□□□ □□□□ □□□□□□□ □□□□□□□□□ □□□□□□□ □□□□□□□□ □□ □□□□□□ □□□□□□□□□□□□□□□.

□□□□□□□□□□ □□□□□□□□□ □□□□□□□□ □□□□□□□□□□ :□□□□□□□□□ □□□□□ □□□□□□□ □□□□□□□□□□ □□□□□□□□ □□ □ □□□□ □□□□□ □□□□□□□□ □□□□□□□□□□.

□□□□□□ □ □□□□□□□□□ □□□□ □□□□□□□□ O-□□ □□□□ □□□□□□□□□□□□□□ □□□□□□ □□□□□□□□□□ □□□□□□□ □□□□□□□ □□□□ □□□□□□□□ □□□□□ □□□□□ □□□□ □□□□□□□□ □□□□□□□ □□□□□□□ □ □□□□□□□ □□□□□□ PCB □ PCBA □□□□□ □□□□□□□ □□□□□□□ □□ □□□□□□ □□□□□□□ □□□□□□□□□ □□□□□□□ □□ □□□□□□□.

□□□□□□□ □□□□□□□ □□□□□ □□□□□ □□□□□□:□□□□□□□□□□ □□ □□□□□□ □□□□ □□□□ □□□□□□ □□□□□

□□□□□□□ □□□□

H0BR4x □□□□□□□□ □□□□□□□ □□□□□□□ □□□□□□□□ □□□□□ □□□□□ □□ □□□□□□ **(IMU)** □□□□□□ □□□□□□ □□□□□ □□ □□□□□□ □□□□□ □□□□ □□□□□□□□ □□□□□□□ **STM32F0 MCU □ LSM6DS3 IMU □ LSM303AGR**

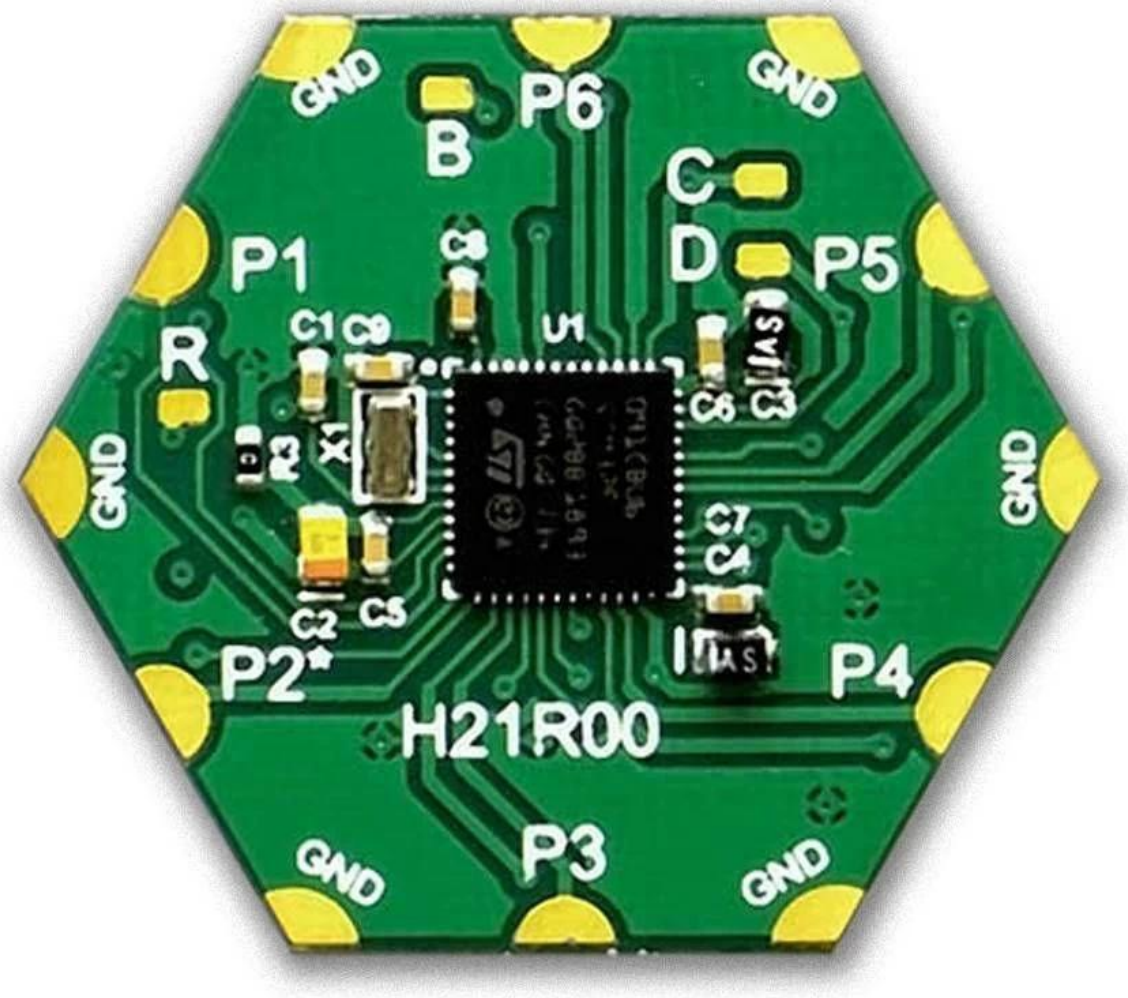
* 2 × 3 .□□□□□□□□□ □□□□□□□□ □□□□□□□ □□□□□□□ □□□□□ □□□□□□ □□□□□□

.□□□□□□□ □□□□□□□ □□□□□□□□ □□□□□□□□ □□□□□□ □□□□□□□□□ *

.□□□□□□□□□□□ □□□□□□□ □□□□□□ □□□□□□ □□□□□□□□ □□□□□□ □□□□□□□□□ □□□□□□ *

.□□□□□□□□□□□ □□□□□□ □□□□□ □□□□□□□ □□□□□□□□ □□□□□□□□ □□□□□ □□□□□□□ □□□□□□□ □□□□□ □□□□□□ □□□□□ □□□□□□□ *

□□□□□□□ * H0BR4x □□□□□□□□□ IMU □□□□□□□ □□□□□□□□□ □□□□□ □□□□□ □□□□□□□□□ □□ □□□□□□□□ □□□□□□□ □□□□□□□ □□□□□□□.



:□□□□□□□□ □□□□□□□

.□□□□ / □□□□□□□ □□□ □□□□ □□□□□□ □□□□□□ □□□□□□□ *

□□□□□□□ □□□□□□□□ □□□□□□ □□□ □□□□□□□□□□ □□□□□□ □□□□ □□ □□□□ □□□□□□□ □□□□ * SRAM □□□□□□□ □ □□□□□□□□□ CLI

.□□□□□□ □□□□□□ □□□□ □□ □□□□ □□□ □□

□□□□□□□ □□□□□□□□ □□□□□□ □□□ □□□□□□□□□□ □□□□□□□ □□ □□□ □□□□ * SRAM □□□□□□ □□ □□□□□□□□□ CLI □□ □□□□□ □□□ □□ □□□□□ .□□□□□□ □□□□□□ □□□□□

.(□□□□□□□□ □□□ □□□□□) □□□□□□□□ □□□□□□ □□□□□□ □□□□□

□□□□□□ □□ □□□□□□ □□ □□□□□□□□□ □□□□□□□□□ □□□□□□□□ * Hexabitz !□□□□□□□

□□□□□□□ □□□□□□□□□□

□□□□□□□□ □□□□□□

□□□□□ * STSM6DS3 iNEMO :(□□□□□□□□ □□□□□□ □□□□□□□□□□ □□□□□□□□ □□□□□□ □□□□□□ □□□□□□) □□□□□□□ □□□□□□□□

.□□□□□ □□□□□□ □□□□□□ □□□□□ 16 ± / 8 ± / 4 ± / 2 ± *

2000 ± / 1000 ± / 500 ± / 250 ± / 125 ± * dps □□□□□□□ □□□□□ □□□□□□□□□.

* ODR .□□□□□ □□□□□ 6 □□□

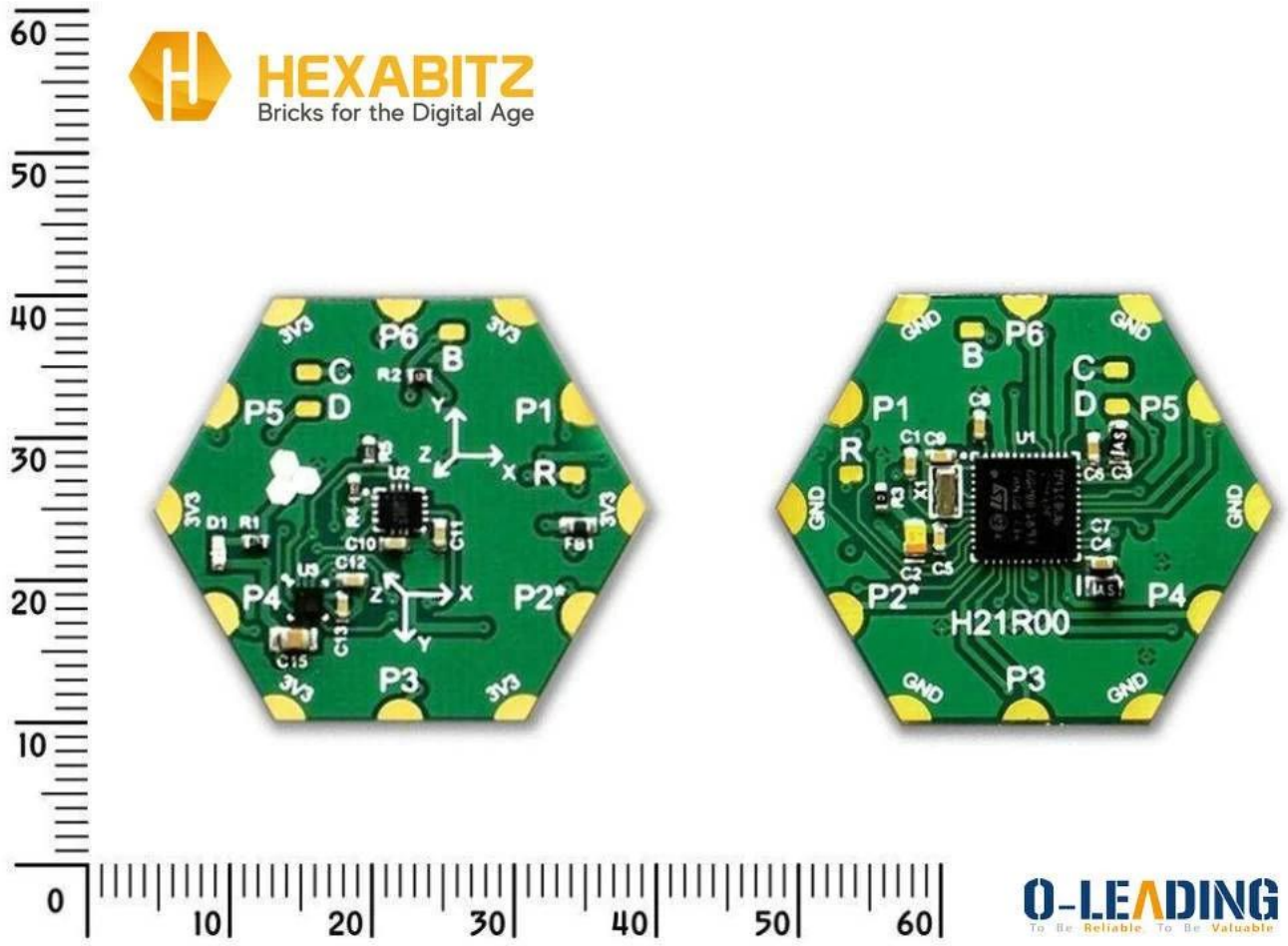
□□□□□ □□□□□□ □□□□□ □□□□□□□ *.

* ST LSM303AGR □□□□□ □□□□□□□□ □□□□□□ □□□□□□□ □□□□□ □□□□□ □□□□□) □□□□□□□□□□□ □□□□□□□ □□□□
:(□□□□□□□□
.□□□□□□ □□□□□□□□ □□□□ 50 ± *
.□□□□ □□□□□ □□□□□ □□□□ 16 ± / 8 ± / 4 ± / 2 ± *
□□□□ 150 □□□ * ODR.

□□□□□□□ □□□□□□□

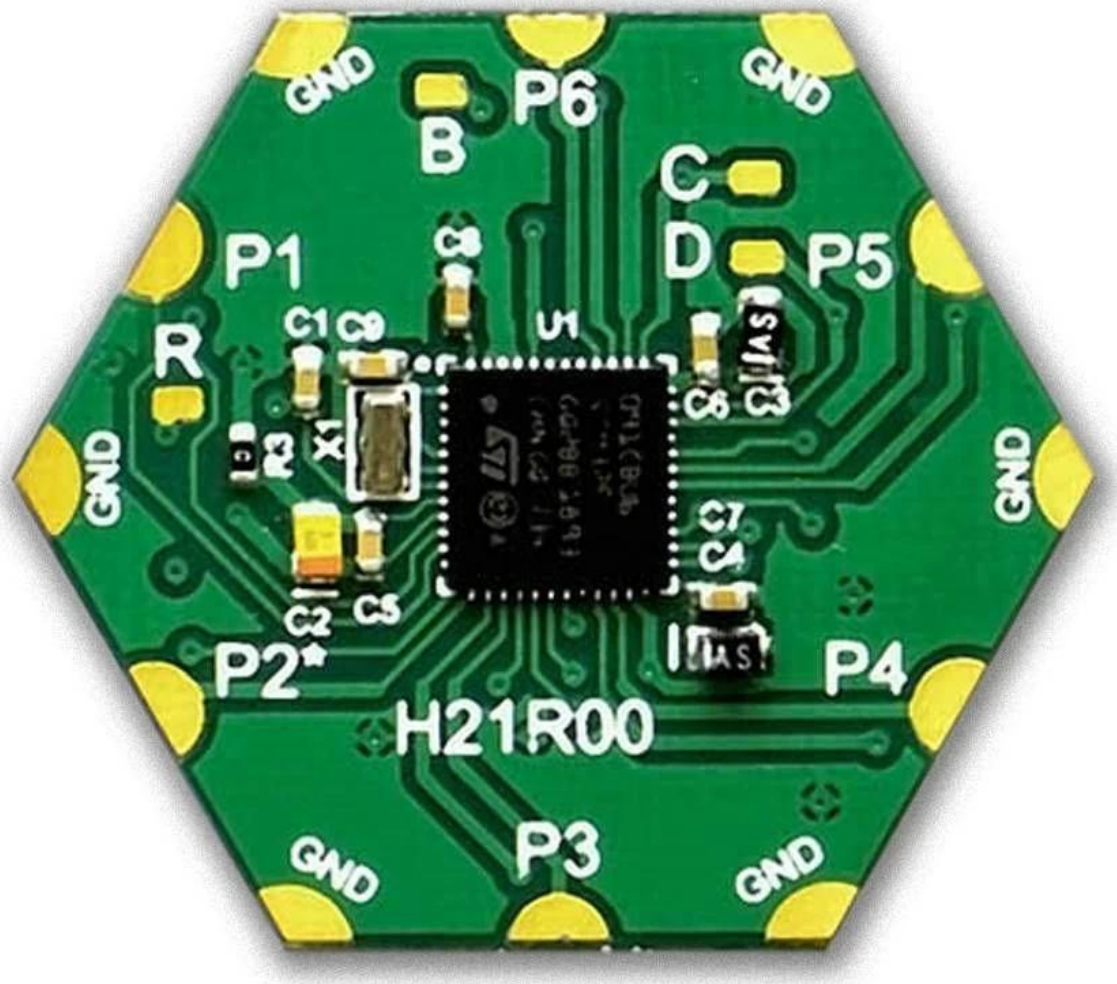
* STM32F091CBU6 32 □□ ARM Cortex-M0 MCU.
* .□□□□ □□□□ 8 □□□□□ □□□□□
□ □□□□ 3.3 +) □□□□ □□□□□ □□□□ □□□□ □□□□□ □□□ * GND).
* 6 □□□ □□□□□□xUART 2 □ xI2C □ SWD □ BOOT0 □ RESET.

□□□□□□□□□□ □□□□□□□	
□□□:	□□□□□□□ □□□□□
□□□□:	□□□ 17.32 □□□□ □ □□□□ □□□ 30 □□□
□□□□□:	7.8 2 ^ □□
□□□:	3 □
□□□□ □□□□:	□□□□ □□□□
□□□□□□ □□□:	ENIG (□□ (□□□□ HASL-LF (□□□□□)



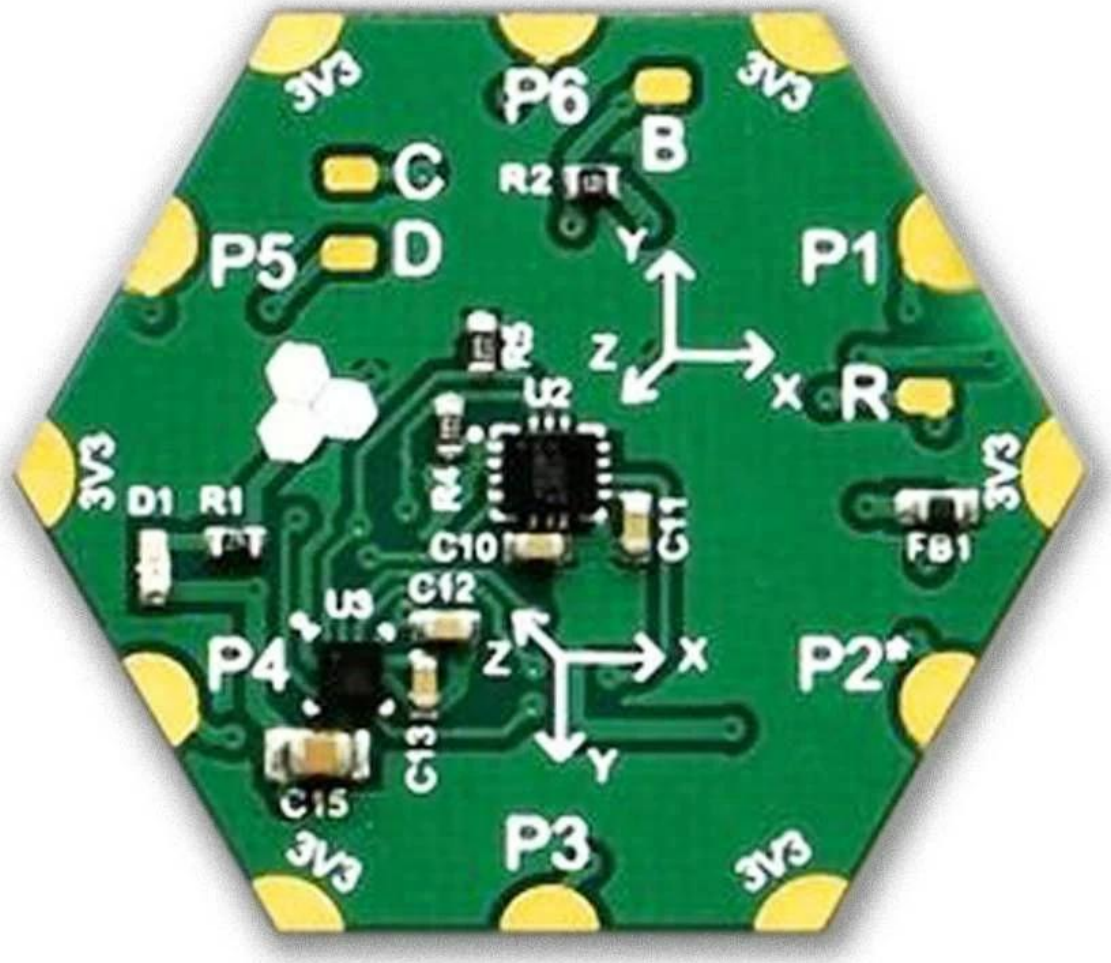
HEXABITZ
Bricks for the Digital Age

O-LEADING
To Be Reliable To Be Valuable

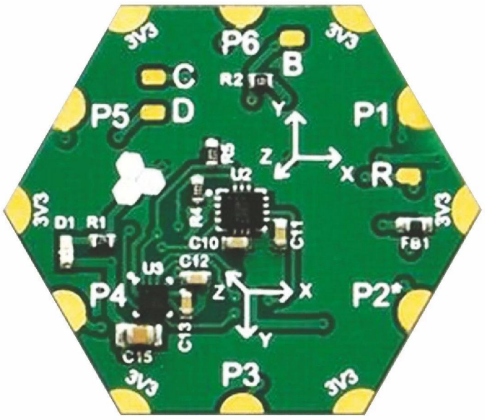


HEXABITZ
Bricks for the Digital Age

O-LEADING
To Be Reliable, To Be Valuable



HEXABITZ
QUICK START GUIDE

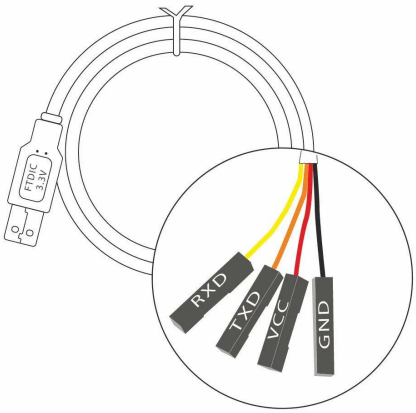


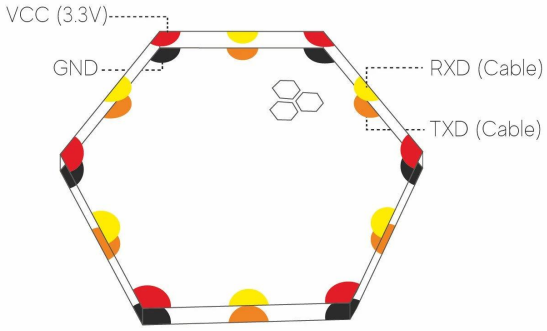
HOBR4x

IMU & Digital Compass

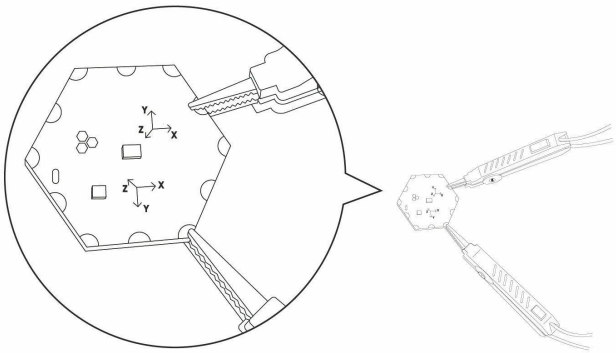
link

Re-48-19

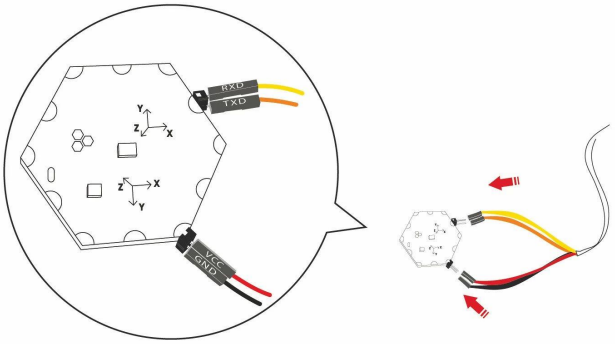




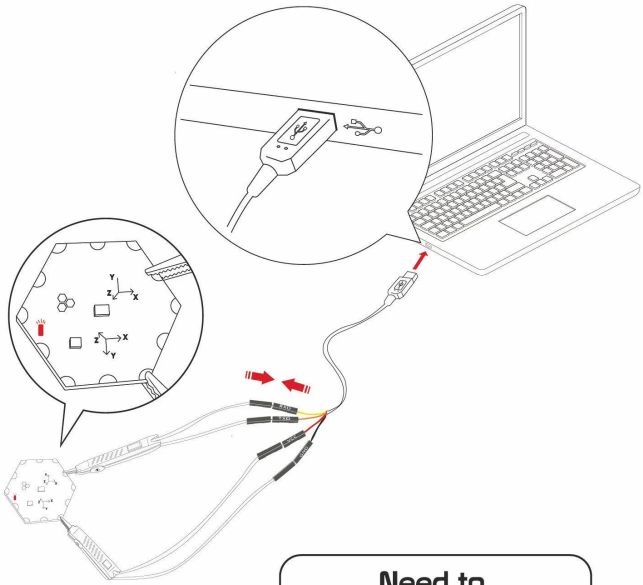
1



OR



2



Need to update firmware?

link

3

RealTerm (Windows)

Putty (Windows/Mac/Linux)

SecureCRT (Windows/Mac/Linux)

Use your favorite terminal software with these settings:

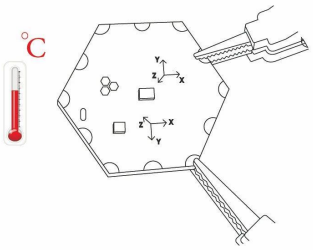
- Baudrate: 921600
- Display Format: Ansi
- Parity: none
- Data Bits: 8
- Stop Bit: 1
- Hardware Flow Control: none

Open the virtual COM port and hit the ENTER key.
Module will respond with a welcome message.

Try some CLI commands:

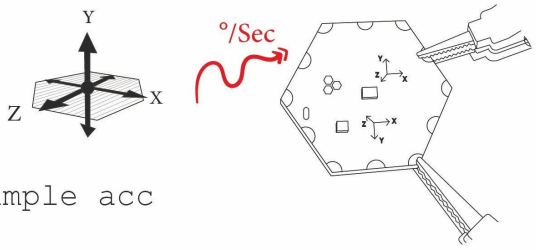
```
>> sample temp
```

Temp (Celsius) | 25.23



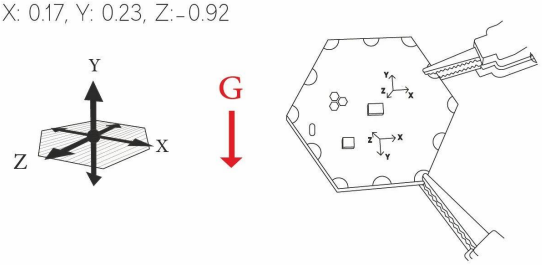

```
>> sample gyro
```

Gyro (DPS) | X: 3.27, Y: 1.12, Z:-0.71



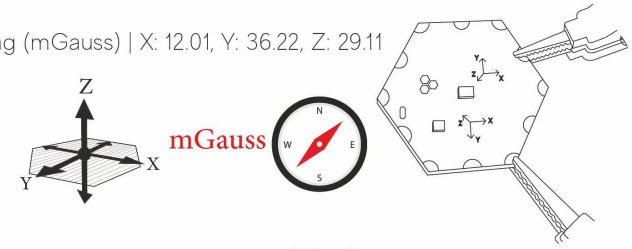

```
>> sample acc
```

Acc (G) | X: 0.17, Y: 0.23, Z:-0.92



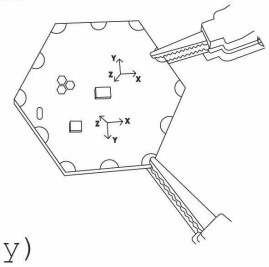

```
>> sample mag
```

Mag (mGauss) | X: 12.01, Y: 36.22, Z: 29.11

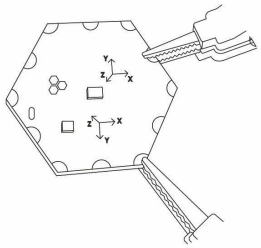



```
>> stream temp 500 inf
```

Temp (Celsius) | 25.23
Temp (Celsius) | 25.23
Temp (Celsius) | 25.23



```
>> stop (or ENTER key)
```



`Type » help` for more CLI commands.

Check module documentation, schematics, firmware and design files in the Resources tab.

Resources

Related Projects

فريقنا

Factory PCB

Automatic vacuum press machine

Drilling Machine

Pattern Plating Machine

Scrubbing Machine

Developing Machine

Routing Machine

High-speed flying probe machine

E-test Machine

Factory SMT

الشهادات

CICC INSPECTION CERTIFICATION

CICC CERTIFICATION
嘉泰认证

QUALITY MANAGEMENT SYSTEM CERTIFICATE

Certificate No: 18118Q10347R0S

We hereby certify that

O-LEADING SUPPLY CHAIN(HK) CO.,LIMITED

Credit No: 61691591-000-07-18-7

Registration Add: FLAT/RM 1205 12/F TAI SANG BANK BUILDING 130-132 DES VOEUS ROAD CENTRAL HK

Business Add: 1313, Floor 13, Fortune Building, Danshui Town, Huiyang District, Huizhou, Guangdong, China

Has implemented and maintains a **Quality Management System**

Which fulfils the requirements of the following standards

GB/T19001-2016 idt ISO9001:2015

Scope of certification

Sales of printed circuit boards

Initial Issuance period: February 27, 2018

Renewal date: April 22, 2019

This certificate is valid during: April 22, 2019 ~ February 26, 2021

This certificate is invalid without CICC qualified label in the following period

First supervision and audit		Second supervision and audit	Qualified mark

CICC IAF CNAS

CICC INSPECTION CERTIFICATION

CICC CERTIFICATION
嘉泰认证

质量管理体系认证证书

证书号：18118Q10347R0S

兹证明

诚领供应链（香港）有限公司

统一社会信用代码：61691591-000-07-18-7

注册地址：香港中环德輔道中 130-132 號大生銀行大廈 1205 室

经营地址：广东惠州惠阳淡水南亨西路财富大厦 13 楼 1313

建立的质量管理体系符合

GB/T19001-2016 idt ISO9001:2015 质量标准适用条款的要求

认证范围

印刷线路板的销售

初次获证日期：2018 年 02 月 27 日

换 证 日 期 ：2019 年 04 月 22 日

证 书 有效期：自 2019 年 04 月 22 日至 2021 年 02 月 26 日

在下列期限内，未经 CICC 贴贴合格标贴，本证书无效

第一次监审		第二次监审	贴标处

CICC IAF CNAS

O-LEADING SUPPLY CHAIN (HK) CO.,LIMITED

1313,FLOOR 13, FORTUNE BUILDING, DANSHUI TOWN, HUIYANG DISTRICT, HUIZHOU, GUANGDONG, CHINA

The following sample(s) was/were submitted and identified on behalf of the clients as : OSP

SGS Job No. :	RP19-005089 - SZ
Date of Sample Received :	22 Mar 2019
Testing Period :	22 Mar 2019 - 30 Mar 2019
Test Requested :	Selected test(s) as requested by client.
Test Method :	Please refer to next page(s).
Test Results :	Please refer to next page(s).
Conclusion :	Based on the performed tests on submitted sample(s), the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) , and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch

Tina Fan
Approved Signatory

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch
SGS Bldg, No.2, Jingshan Industrial Park, No.498, Jihua Road, Bantian, Longgang District, Shenzhen, China 518129 t (86-755) 25328888 f (86-755) 83106190 www.sgsgroup.com.cn
中国·深圳·龙岗区坂田吉华路430号江灏工业园4栋SGS大楼 邮编: 518129 t (86-755) 25328888 f (86-755) 83106190 e sgs.china@sgs.com
Member of the SGS Group (SGS SA)

Test Results :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SZX19-005304.001	Green"PCB"

Remarks :

(1) 1 mg/kg = 1 ppm = 0.0001%
(2) MDL = Method Detection Limit
(3) ND = Not Detected (< MDL)
(4) "-" = Not Regulated

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method : With reference to IEC 62321-4:2013+A1:2017, IEC62321-5:2013, IEC62321-7-2:2017, IEC 62321-6:2015 and IEC62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit	MDL	001
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1,000	mg/kg	2	8
Mercury (Hg)	1,000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1,000	mg/kg	8	ND
Sum of PBBs	1,000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1,000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch
SGS Bldg, No.2, Jingshan Industrial Park, No.498, Jihua Road, Bantian, Longgang District, Shenzhen, China 518129 t (86-755) 25328888 f (86-755) 83106190 www.sgsgroup.com.cn
中国·深圳·龙岗区坂田吉华路430号江灏工业园4栋SGS大楼 邮编: 518129 t (86-755) 25328888 f (86-755) 83106190 e sgs.china@sgs.com
Member of the SGS Group (SGS SA)

UL Product iQ™

ZPMV2.E490354 - WIRING, PRINTED - COMPONENT

Wiring, Printed - Component

See General Information for Wiring, Printed - Component

O-LEADING SUPPLY CHAIN (HK) CO LTD
ROOM 1205, 12/F
TAI SANG BANK BLDG
130-132 DES VOEUS ROAD
CENTRAL, HONG KONG

E490354

Type	Cond Width Min mm(in)	Min Edge mm(in)	Cond Thk mic(mil)	SS/ DS/ DSO	Max Area Diam mm(in)	Solder Limits C	sec	Max Oper Temp C	Flame Class	Meets UL796 DSR	CTI
Multilayer (mass laminate) printed wiring boards.											
O-LEADING-401	0.1 (0.004)	0.3 (0.012)	34 (1.34)	DS	12.7 (0.5)	260	10	130	V-0	-	-
O-LEADING-407	0.08 (0.003)	0.2 (0.008)	17 (0.67)	DS	9.7 (0.4)	260	10	130	V-0	All	-
Multilayer printed wiring boards.											
O-LEADING-408	0.125 (0.005)	0.125 (0.005)	12 (0.47) Int:136	DS	50.8 (2.0)	280	20	130	V-0	All	*
Single layer printed wiring boards.											
O-LEADING-002	0.38 (0.015)	1.14 (0.045)	34 (1.34)	SS	19.1 (0.8)	260	10	105	V-0	All	-
O-LEADING-003	0.38 (0.015)	1.14 (0.045)	34 (1.34)	SS	19.1 (0.8)	260	10	130	V-0	▲	-
O-LEADING-033	0.15 (0.006)	0.3 (0.012)	34 (1.34)	SS	25.4 (1.0)	260	10	120	V-0	All	-
O-LEADING-205	0.1 (0.004)	0.3 (0.012)	34 (1.34)	DS	69.6 (2.7)	260	10	130	V-0	All	-
O-LEADING-206	0.15 (0.006)	0.33 (0.013)	17 (0.67)	DS	69.6 (2.7)	260	10	130	V-0	All	-
O-LEADING-D01	0.14 (0.006)	0.15 (0.006)	33 (1.30)	DS	25.4 (1.0)	260	10	130	V-0	All	*
O-LEADING-S01	0.25 (0.010)	0.25 (0.010)	17 (0.67)	SS	25.4 (1.0)	260	4	130	V-0	All	*

WIRING, PRINTED - COMPONENT | UL Product iQ

O-LEADING-S02	0.2 (0.008)	0.2 (0.008)	17 (0.67)	SS	25.4 (1.0)	260	4	130	HB	▲	*
O-LEADING-S03	0.25 (0.010)	0.25 (0.010)	34 (1.34)	SS	25.4 (1.0)	260	4	130	V-0	All	*

* - CTI marking is optional and may be marked on the printed wiring board.

Marking: Company name or file number and type designation. May be followed by a suffix to denote factory identification or burning test classification.

并不是所有出现在本数据库中的公司名称和产品都满足了UL 跟踪检验服务的要求。只有带有 UL 标志的产品，才应该被视为经过UL认证，并满足UL 跟踪检验服务的要求。注意查看产品上的标志。

UL 允许在线认证目录中所含材料的复制遵循以下条件：1.指南信息、装配、构造、设计、系统和/或认证（文件）必须在不篡改任何数据（或图纸）的情况下完整且无误导性地呈现。2.“经 UL 允许从在线认证目录转载”声明必须出现在所摘取材料的邻近位置。此外，转载材料必须包含以下格式的版权声明： "© 2019 UL LLC"

القدرة العملية

□□□□□□ □□□□□ □□□□□□□ □□□□□ □□□□□ □□□□□	
□□□□□□□ □□□	1 □□□□ 32- □□□□
□□□□□□□ □□□□□□ □□□	1 / 3oz-12oz
□□□□□□□ □□□□□□□ / □□□□ □□□□ □□□□□□ □□□□	3.0 □□□ 3.0 / □□□
□□□□□□□ □□□□ □□□□□ / □□□□ □□□□□□ □□□□	4.0 □□□ 4.0 / □□□
□□□□□□□□ □□□ □□□□□ □□□□ □□□□	10: 1
□□□□ □□□□□	0.2 □□ 5.0 - □□
□□□□□□□) □□□□□□ □□□□ □□□□□□ □□□□)	635 * 1500 □□
□□□□□□□ □□□□□ □□□□ □□□□□□ □□□□	4 □□□
□□□ □□ □□□□□□□ Plated	+/- 3 □□□
BIind / Buried Vias (□□□□□ AII)	□□□
□□□□□ □□□□ □□□□□) □□□□□□□ □□□)	□□□
□□□□□□ □□□□	FR-4 □ FR-4hg Tg. □□□□□□□□□ □□ □□□□□ □□□□ □ Rogers □ □□□□ □□□□ □ □□□□□□□□ □□□□□□□□ □□□□□
□□□□□□□ □□□□□□□□□	HASL □ OSP □ ENIG □ HAL-LF □ lmmersion silver □□□□□□□□ □□□ □ □□□□□ □□□□□ □ □□□□□□□

□□□□□ □□□□□ SMT

□□□□□□ □□□□□ □□□□□□□ □□□□□ □□□□	FR-4 □ CEM-1 □ CEM-3 □ □□□□□□□□□□ □□ □□□
□□□□□□ □□□□□ □□□□□□□ □□□□□ □□□□ □□□□□□ □□□□	510x460 □□
□□□□□□ □□□□□ □□□□□□□ □□□□□ □□□□ □□□□□□ □□□□	50x50 □□
□□□□□□ □□□□□ □□□□□□□ □□□□□ □□□	0.5 □□ 4.5 - □□
□□□□ □□□□□	0.5-4 □□□
□□□□□□□□ □□□□ □□□□□□ □□□□	0201
□□□□□ □□□□□ □□□ □□□□	0603 □□□□□
□□□□□□ □□□□□□ □□□□□□	15 □□□
□□□□□□ □□□□□□ □□□□	0.3 □□□
□□□ □□□□□ □□□□□ □□□□□□ □□□□	0.4 □□
□□□□□□□ □□□	+/- 0.03 □□□

التعبئة والتغليف والتسليم

Shipping service

DHL WORLDWIDE EXPRESS TNT FedEx Express UPS

Quick Turn Lead Time		
Layer Count:	Lead Tim	Special Requirement
1L/2L	2-3days	24 Hours,48 Hours
4L	3-4days	48 Hours
6L	4-5days	72 Hours
8L	5-6days	NA
10L	6-7days	NA
12L	7-8days	NA
14L	8-9days	NA

Standard Lead Time		
Layer Count:	Sample Lead Time	Volume order lead time
2L	4 days	10 days
4L	5 days	11 days
6L	6 days	12 days
8L	8 days	14 days
10L	10 days	16 days
12L	12 days	18 days
14L	14 days	20 days
16-32L	18 days	24 days

التعليمات

1. □□□□ □□□ **O-Leading** □□□□□□□□
.□□□ □□□ □□□□□ □□□□□□□ □□□□□□ □□□□□□ □□□□□ □□□
□□□□□□□ □□□□□ □□□□ □□□□ □□□□□□□ □□ □□□□□□ □□□ 1.1 ISO 9001: 2008.
1.2 □□□□□□□ □□□□□ □□□□□ □□ □□□□□□□□□ □□□□□□ □□□□□□□□□
□□□□□□□ □□□□□□ □□□ □ □□□□□□ □□□□□□□ □□□□□□ □□□□ □□□ .□□□□□□□ □□□□□□□□ □□□□□□ □□□□□ 1.3 □ AOI
(.(□□□□□□□ □□□□□□) □□□□□□□□□□ □□□□□□□□□ □□□□□□□□□□ (□□□□□ □□□□□□ □□□□□□
□□□□□ □□□□ □□□□□ □□□□□ □□ □□□□□□ □□□□□ □□□□ □□□□.1.4
□□□□□□□□ □□□□□□□□ □□□□□□□ □□□□□□□ 1.5

□□□□□ □□□ **.2 O-Leading** □□□□□□□□□ □□□□ □□□
□□ (□□□□□□□□□□ □□□□□□□ □□□□□□ □□□) □□□□□ □□□□□□ □□ □□□□□□ □□□□□ □□□□□□ □ □□□□□□ □□□□□ □□□ □□□
.□□□□□□□□ □□□□□□□ □□□ □ 31 □□□□□□□□□ □□□□□□□ □□□□□□ □□□□ □□□□□□ □ □□□□ □□□□ □□ □□□□ □□□□ □□□□□□
.□□□□□ □□□□ □□□□□ □□□□□□□ □□□□□ □□□□ □□□
□□□□□ □ □□□ □□□ O-Leading □□□□□□□ □□□□□ □□ □□□□□□□□□□ □□□ □□□□□□□ □□□□ □□□ .□□□□□ □□□□□□□ □□□
.□□□□□□ □□□□□ □□□□ □□□□□□□ □□ □□□□□□ □□□□□□□ □□□□□□□ .□□□□□□□ □□□□□□ □□□□□□□□ □□□□□
□□□□□ □□□□□ □□□□□ □□ □□□□□ □□□ □□□□□□□ □□□□□ □□□□□□□ □□□□□ .□□□□□□□ □□ □□□□□ □□□□□□ □□□□ □□□
.□□ □□□□□□□

□□□□□ □□□□ □□ □□□□ □□□□ □□□□□□□ □□□□□ □□ □□ **.3 O-Leading**□
□□□□□ FR4 □□□□□ □ □□□□□□□ TG □□□□□□□□□ □□ □□□□□□ □ Rogers □ Arlon □ Telfon □ / □□□□□□□□□ □□□□□
□□□□□□ □ PI □ .□□□

□□□□□□□ □□□□□ □□□□□□□ □□□□□ □ □□□□□□ □□□□□ □□□□□□□ □□□□□ □□□□□□ □□□□□□□ □□□□□□□□ □□ □□ **.4**
.□□□□□ □□□□ □□□□□□□ □□□□□□ □□□□ □□□□□□ □□□ :□□□□□□□□ □□□□□□□□ □□ (□□□□□□ □□□□□) □□□□□□ □□□□□ 4.1
□□□□□ 4.2 PCB Gerber.
4.3 □□□□□ □□□ PCB □□□□□ □□□□ PCBA.
4.4 .□□□□□□□□ □□□□□□□
.□□□□□□□ □□□□□□ □□□□□□□ □□□ □□□□□□□□ □□□□ □□ 4.5

□□□□□□□□ □□□□□ □□□□□□ □□□□□ □□□□□□□ □□□□□□ □□□□□□□□ □□□□□□□ □□□□ □□ □□ **.5**
□□□□□ □□□ ← □□□□□ □□□ □□□□ ← □□□□□□ □□□ ← AOI □□□□□ ← □□□□□□ □□□□□□ □□□□□ ← □□□□□□ □□□□□ ← □□□□□
← PTH ← □□□□□□ ← □□□□□□□ □□□□□ ← □□□□□ □□□□ ← □□□□□ □□□ □□□□ ← □□□□□□ □□□□ AOI ← ← □□□□□□ □□□□
□□□□□□□ ← □□□□□ □□□□□ ← □□□□□□□□ □□□□□ ← E / T ← .□□□□□□ □□□□□

□□□□□□ □□□□□□□□ □□□□□□□ □□ □□ **.6 HDI**□
□□ □ □□□□□ □□□ □ □□□□□□□ □□□□□ □□□ :□□□ □□□ □□ □□□□□□□□ □□□□□□□ □□□□□ VCP □ □□□□□□□□ □□□□□□□ □□□ □
LDI .□□□□□□
□□□□□ □ □□□□□□□ □□□□□□□□□ □□ □□ □□□□□□□ □□□□□ □□□□□ □ □□□□□□□ □□ □□□□□□ □□ □□□□□ □□□□ □□□□□□□ LDI
□□ Screen (□□ □□□□□ □□ □□□□□□□□ □□□□□□□ □□□□□ □ (□□□□□□□ Hitachi □ □□□□□ □□□□□□ □□□□□□ □□□□□
.□□□□□□ □□□□□□□ □□□□□□□□□

□□□□□□□ □□□□□□ □□ □□□□ □□□□ □□□□□□□ □□□□□□□□□ □□□□□ □□□ □□ **.7**
O- □□□ □ □□□□□ □□□□□□□□ □□□□□□□ □□ □□□□□ □□□□□ □□□□ □□□□□□: ENIG □ OSP □ LF-HASL □ □□□□□ □□□□
□□□□□□ □□□□□□□□ □□□□□ □ □□□□□ □□□□□□□ □□□□ □ □□□□□ □□□□ □ □□□□□□□ □ □□□□□ □□□ □ (□□□ / □□□□). OSP □
ENIG □ OSP + ENIG □□□ □□□□□□□□□ □□□□ HDI □ □□ □□□□ □□□□□□□□ □□□□□ □□□□ OSP OSP + ENIG □□□ □□□
□□□ BGA PAD .□□ 0.3 □□ □□□

□□□ □□□□□ □□ □□ **.8 FPC**□□□□□ □□□□ □□ □ **O-Leading** □□□□ □□□□□ **SMT** □□□□□□
□□□□ □□ □□□□ O-Leading □□□□□□ FPC □□□□ □□□□□ □□□□ □□□ □□□□ □□ □□□□ □ 8 □□□□ □□□ □□□□□ □□□□ □□
2000mm * 240mm □ □□□□ □□ □□□□□□□□ □□□ □□□□□□□ □□□□ "Flex Flexability"
□□□□ □□□□ □□□ SMT .□□□□□□□ □□□□□ □□□□

□□□□□□□ □□□□□ □□□□□□□ □□□□□ □□□ □□□ □□□□□ □□□□ □□□□□□□□ □□□□□□□ □□ □□ **- 9**
□□□□□
□□□□□□□ □□□
□□□□□□□□□□□ □□□□□
□ □□□□□□□□ □□□□□□ □□□□□□
□ □□□□□□ □□□□□ □□□□□□□ □□□□□ □□□□□
□□□□□□ □□□□
.□□□□□□□□ □□□□□□□□ □□□□□

□□□□□ □□ □□ **.10 PCB □ PWB □ FPC** □□□□□□ □□□
□ □□□□□□□□ □□□□□□□ □□□□□ □□□□□□ □□ □□□□□□ □□□□□ □□□□□□□ □□□□□
PWB □□ □□□□□□ □□ Wire Wire Board □ □ □□□□□□□□ □□□□□□□□□□□ □□□□□□□ □□□□ □□□ □□□
FPC .□□□□ □□□□□□ □□□□□ □□□□□□

□□□□□ □□□□□□ □□□□□□ □□□□□□ □□□ □□□□□□□□ □□ □□□□□ □□□ □□□□ □□□□□□□ □□ □□ **.11 PCB**□
:□□□□□□ □□□□□ □□□□□□□ □□□□□ □□□□ □□□□□□ □□□ □□□□□□□ □□□□□□□ □□□□□□ □□□
□□□□ □□□□ □□ □□□ Tg □ □□□□□□□ □□□□□ □□□□ □□ □□□□ □□□□□□
□□□□ □□□□□ CTE □ □□□□□□□ □□□□□□□□□ □□□□□ □□□□□□□ □□□□□□□□
℃ 250 □□□□□□□ □□□□□□ □□□□□□ □□□□□ □□□□□□□ □□□□□ □□□□□□ □□□□ □□ □□□□ :□□□□□□□□ □□□□□□□□ □□□ □□□□

.□□□□□ □□□ □□□□□ 50 □□□□
□□□ □□□□□ □□□□□□ / □□□□□□ □□□□□ □□□ □□□□ □□□□□□□ □□□ □ □□□□□□□□□□ □□□□□□ □□□ □□□□□□ □ □□□ □□□□□
□□□□□□□ □□□□□□□□□ □□□□□□□□□ □□□□□□□□ □□□□□□□ □□□□□□□ □ □□□□□□ □□□□ □□□□□□ □□□□□ □□□□□□□ □□□□□
□□□□□□ □□□□□ □□□□□□□ □□□□□□ □□□□ □□□□□ □□□□□□□□ □□□□□□ □□□□□□ □ □□□□ □□□□□□ □□□□□ □□□□□□□ □□□□□
.□□□□□□□

□□□□□□ □□□□□ □□□□□□□ □□□□□ □□□□□ □□ □□ **.12 ridid-flex** □□□□□□
□□□□□ PCB □□ □□□□□□ □□□□□ O-□□ □□ □□□□□□□ □□□□□□□ FPC □ PCB □ □□□□□□□□ □□□ □□ □□□□□□□□ □□□□ □□□□
□ □□□□□□ □□□□□□□□ □□□□□□□ □□□□□ □□ □□□□□ □□ □□□□ □ □□□ □□□□□ □□□□□ □□□□□ □□□□ □□□□□□□ □□□ .□□□□□□
.□□□□□□ □□□□□□ □□□□□□ □□□ □□□□□□

□□□□□□□□□ □□□□□ □□□□ □□□ **.13**
□□□□□□□□ □□□□□ □□□ □□□□□□□□ □□□□□□□□ □□ □□□□□□ □□□□ □□□□□ □□□ □ SI6000 soft □□□□□□ CITS 500s □□
POLAR INSTRUMENTS.
□□□□□□□□ □□□□□ □□□□ □□□□□□ □□□□□□ □□□□ □□□□□□□□ □□□□□□ □□□□□ □□□□□ □□□□□□ □□□□□□ □□□□.