

客戶名稱：
CUSTOMER

Documnet No.: ENS000176370

Approval Sheet Rev.: A0

Spec. Rev. P1

承認書

APPROVAL SHEET

產品品名/Product Model No. : WA-P-LB-01-314

客戶料號/Customer No. : KXWIFPLB2PA01

案名/Model Name: ButterflyMX.M8.1

發行日期/ Issue Date : 2023/4/27

承認日期/ Approved Date :

Approved by customer: (signing or stamping here)



佳邦科技股份有限公司
INPAQ TECHNOLOGY CO., LTD.

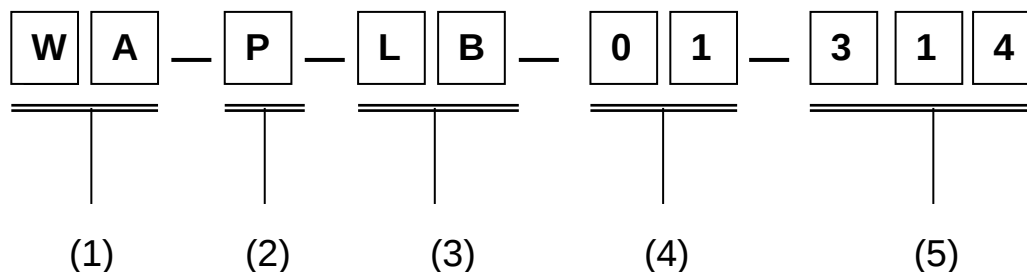
■ 350 苗栗縣竹南鎮公義里11鄰科義街11號 □ 428 台中市大雅區科雅路27號4樓
電話：037-585-555 電話：04-2560-6555
傳真：037-585-511 傳真：04-2560-5151

No. 11, Ke-Yi St., Chunan, Miaoli 350,
Taiwan, R.O.C.
Tel. : +886-37-585-555
Fax : +886-37-585-511

4F, No. 27, Keya Road, Daya Dist., Taichung City
428, Taiwan, R.O.C.
Tel. : +886-4-25606555
Fax : +886-4-25605151

Embedded Dual-Band Antenna for WA-P-LB-01-314

1. Explanation of part number :



- (1) Product Type : Wireless Antenna
- (2) Material : PCB
- (3) Frequency : 2400-2500 、 5150-5850 MHz
- (4) Coaxial Cable Type : White Cable
- (5) Suffix : 314

2. Electrical Specification :

Those specifications were specially defined for **ButterflyMX.M8.1** model **Dual-Band Antenna**, and all characteristics were measured under the model's handset testing jig.

2-1. Frequency Band	MHz
WiFi	2400-2500 、 5150-5850 MHz

2-2. Impedance :

50 ohm nominal

2-3. Matching circuit :

None

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=N/A X.X=N/A X.XX=N/A

ANGLES=N/A HOLEDIA=N/A



INPAQ TECHNOLOGY CO., LTD.

SCALE : N/A

UNIT : mm

DRAWN BY : 廖偉廷

CHECKED BY : 鄭榮謀

DESIGNED BY : 黃健育

APPROVED BY : 謝立庭

THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION

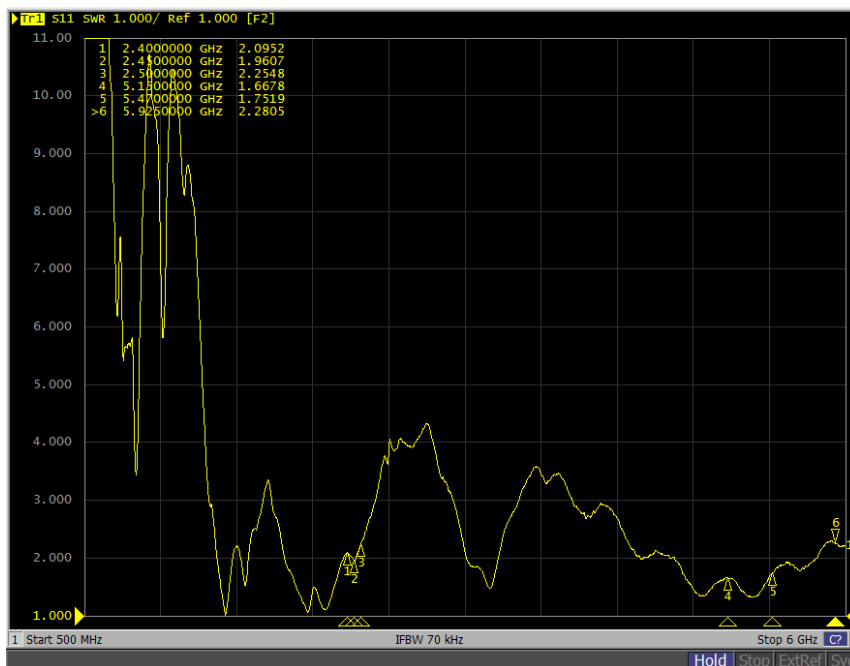
TITLE : Embedded Dual-Band Antenna for
WA-P-LB-01-314

DOCUMENT
NO.

ENS000176370

SPEC REV.
P1

2-4. VSWR :



2-5. Efficiency :

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=N/A X.X=N/A X.XX=N/A

ANGLES=N/A HOLEDIA=N/A



INPAQ TECHNOLOGY CO., LTD.

SCALE : N/A

UNIT : mm

DRAWN BY : 廖偉廷

CHECKED BY : 鄭榮謀

DESIGNED BY : 黃健育

APPROVED BY : 謝立庭

TITLE : Embedded Dual-Band Antenna for
WA-P-LB-01-314DOCUMENT
NO.

ENS000176370

SPEC REV.
P1

Frequency (MHz)	Efficiency (%)	Peak Gain (dBi)
2400	33.51	2.05
2450	37.61	1.92
2500	36.68	2.3
5150	50.5	6.77
5250	50.54	6.48
5350	47.34	7.35
5450	47.89	7.7
5600	49.01	8.66
5750	48.86	8.52
5850	48.04	7.78

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=N/A X.X=N/A X.XX=N/A

ANGLES=N/A HOLEDIA=N/A



INPAQ TECHNOLOGY CO., LTD.

SCALE : N/A

UNIT : mm

DRAWN BY : 廖偉廷

CHECKED BY : 鄭榮謀

DESIGNED BY : 黃健育

APPROVED BY : 謝立庭

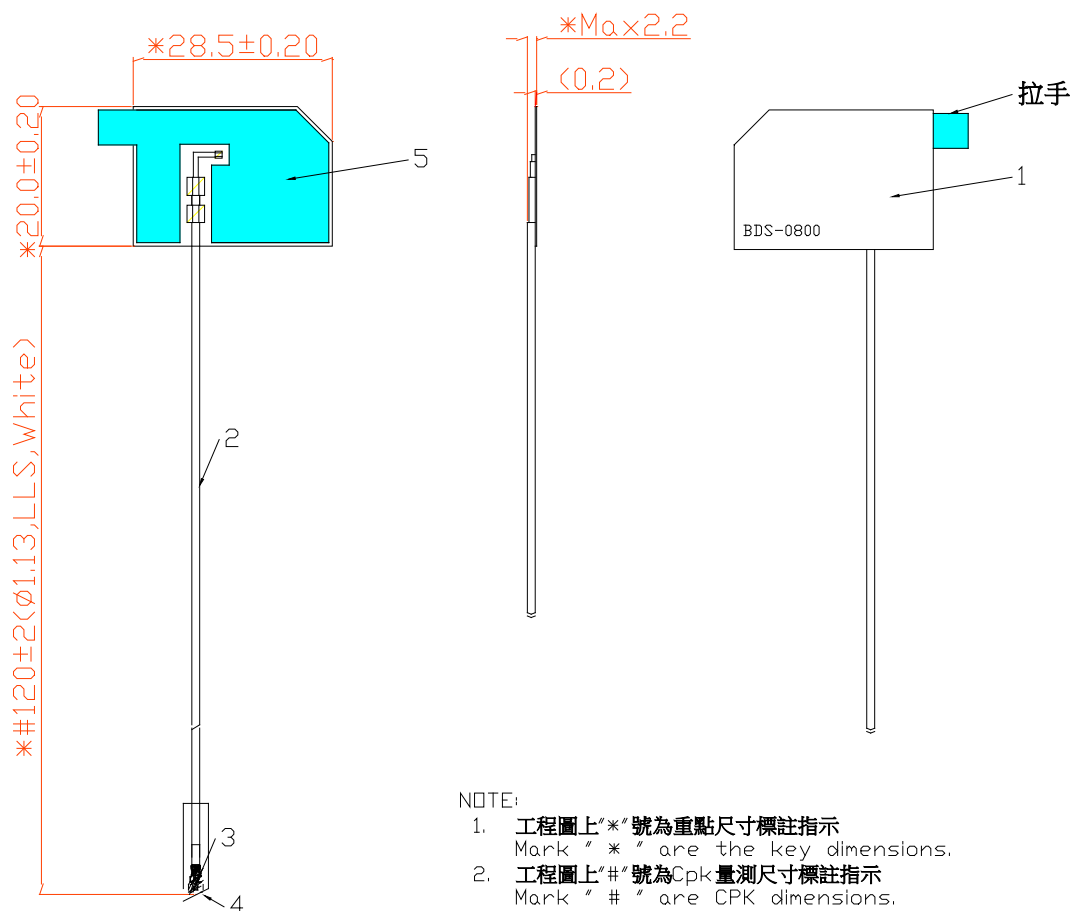
THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF
INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED
OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF
APPARATUS OR DEVICES WITHOUT PERMISSIONTITLE : Embedded Dual-Band Antenna for
WA-P-LB-01-314DOCUMENT
NO.

ENS000176370

SPEC REV.
P1

3. Antenna Drawing :

The appearance of the antenna is according to drawing Figure . 3-1-1



NOTE:

1. 工程圖上“*”號為重點尺寸標註指示
Mark “*” are the key dimensions.
2. 工程圖上“#”號為Cpk量測尺寸標註指示
Mark “#” are CPK dimensions.

Drawing Rev.P1

Figure 3-1-1.

ITEM	DESCRIPTION	MATERIAL SPECIFICATION	QUANTITY	UNIT
1	PCB	28.5x20x0.2mm	1	PCS
2	Cable	1.13,LLS,White	1	PCS
3	Connector	I-PEX MHF4L I-PEX Equivalent(compatible)	1	PCS
4	Tube	OD1.9*20mm	1	PCS
5	Adhesive	27.5*19*0.15mm	1	PCS

UNLESS OTHER SPECIFIED TOLERANCES ON :
X=N/A X.X=N/A X.XX=N/A
ANGLES=N/A HOLEDIA=N/A



INPAQ TECHNOLOGY CO., LTD.

SCALE : N/A

UNIT : mm

DRAWN BY : 廖偉廷

CHECKED BY : 鄭榮謀

DESIGNED BY : 黃健育

APPROVED BY : 謝立庭

THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF
INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED
OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF
APPARATUS OR DEVICES WITHOUT PERMISSION

TITLE : Embedded Dual-Band Antenna for
WA-P-LB-01-314

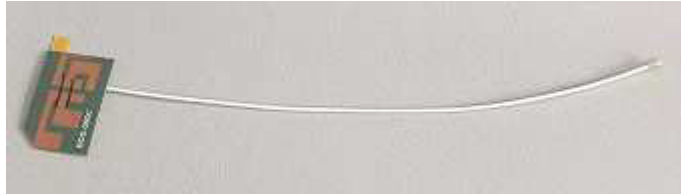
DOCUMENT
NO.

ENS000176370

SPEC REV.
P1

Reliability Testing Report

Product Model: Verification DPNA5093 WA-P-LB-01-314 (WA-P-LB-02-995) Reliability test of product



總部/竹南廠：

35059 苗栗縣竹南鎮公義里科義街 11 號
TEL:+886-37-585555 FAX:+886-37-585511

Headquarters/Chunan Plant：

NO.11, Kei-Yi St., Chunan Chen, Miaoli
Hsien 35059, Taiwan, R.O.C.

台中廠：

42878 台中市大雅區科雅路 27 號 4 樓
TEL:+886-4-25606555 FAX:+886-4-25605151

Taichung Plant：

4F, No. 27, Keya Road, Daya Dist.,
Taichung City 42878, Taiwan, R.O.C.

禾邦(中國)電子：

214105 江苏省无锡市锡山区安镇安泰一路 81 号
TEL:+86-0510-88785968 FAX:+86-0510-88789918

Wuxi Plant：

No. 81 Antai 1 Road, Anzheng Town,
Xishan Economic Development Zone,
Wuxi, Jiangsu, China

禾邦电子：

215143 江苏省苏州市相城区黄埭镇潘阳工业园春秋
路 5 号
TEL:+86-0512-65719988 FAX:+86-0512-65716988

Suzhou Plant：

No.5, Chunqiu Road, Panyang Industrial Park,
Huangdai Town, Xiangcheng Zone, Suzhou
City, 215143 Jiangsu Province, China

Test item list

ITEMS	PAGE
高温高湿试验	2
冷热冲击试验	3
PAD 拉力测试	4

Date: 2023-2-26

高温高湿试验

Product Type :	WA-P-LB-01-314		
Lot No. :	N/A	Sample Size :	5 pcs
Judgment Criteria :	外观无异常; 电性符合规格;		
Test Condition :	85±2℃, 90±2%RH, 24hrs;		
Equipment :	恒温恒湿机		

Result :

编号	Before test				After test			
	2.60GHz	3.40GHz	4.10GHz	6.50GHz	2.60GHz	3.40GHz	4.10GHz	6.50GHz
	<2.5	<2.5	<3.5	<3.5	<2.5	<2.5	<3.5	<3.5
1	1.97	2.13	1.56	1.57	2.05	2.14	1.61	1.69
2	1.98	1.91	1.47	1.50	2.11	2.15	1.77	1.55
3	1.86	1.93	1.42	1.43	1.81	1.77	1.75	1.77
4	1.99	1.95	1.43	1.52	1.95	1.55	1.77	1.75
5	1.97	2.13	1.53	1.63	1.99	1.69	1.69	1.44

Judgment : OK
 Inspector : 王紅麗
 Approver : 吉金娟

冷热冲击试验

Product Type :	WA-P-LB-01-314		
Lot No. :	N/A	Sample Size :	5 pcs
Judgment Criteria :	外观无异常; 电性符合规格;		
Test Condition :	-40℃, 0.5 hrs<- (5mins) -> 85℃, 0.5 hrs; 测试 50 cycles;		
Equipment :	冷热冲击机		

Result :

编号	Before test				After test			
	2.60GHz	3.40GHz	4.10GHz	6.50GHz	2.60GHz	3.40GHz	4.10GHz	6.50GHz
	<2.5	<2.5	<3.5	<3.5	<2.5	<2.5	<3.5	<3.5
6	1.97	1.86	1.47	1.60	1.63	1.77	1.75	1.39
7	1.87	1.89	1.37	1.66	1.89	1.81	1.69	1.75
8	2.01	1.89	1.57	1.69	1.75	1.77	1.77	1.61
9	2.00	2.09	1.53	1.52	1.77	1.75	1.63	1.75
10	1.83	2.15	1.36	1.61	1.89	1.69	1.75	1.59

Judgment : OK

Inspector : 王紅麗

Approver : 吉金娟

PAD 拉力试验

Product Type :	WA-P-LB-01-314		
Lot No. :	N/A	Sample Size :	5pcs
Judgment Criteria :	PAD 点>1.0 kgf ;		
Test Condition :	PAD 点>1.0 kgf ;		
Equipment :	数显拉力器		

Result :

试验前..													
试验后..	<table border="1" data-bbox="276 1261 1082 1350"><thead><tr><th>编号</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th></tr></thead><tbody><tr><td>PAD拉力$\geq$1.0kg/f</td><td>4.30</td><td>4.06</td><td>4.21</td><td>4.33</td><td>4.12</td></tr></tbody></table>	编号	1	2	3	4	5	PAD拉力 $\geq$ 1.0kg/f	4.30	4.06	4.21	4.33	4.12
编号	1	2	3	4	5								
PAD拉力 $\geq$ 1.0kg/f	4.30	4.06	4.21	4.33	4.12								

Judgment : OK

Inspector : 王紅麗

Approver : 吉金娟