TO: IDSBG

SPECIFICATION FOR APPROVAL

CUSTOMER DWG. No./PART No. : N/A REV. : N/A

DESCRIPTION : ZIGBEE PCB ant.Ass'y

FOXCONN PART. No. : FX02A35-0G-EF REV. : B

ATTACHMENTS:

PLEASE RETURN TO FOXCONN ONE COPY OF

COVER PAGE WITH YOUR APPROVED SIGNATURES.

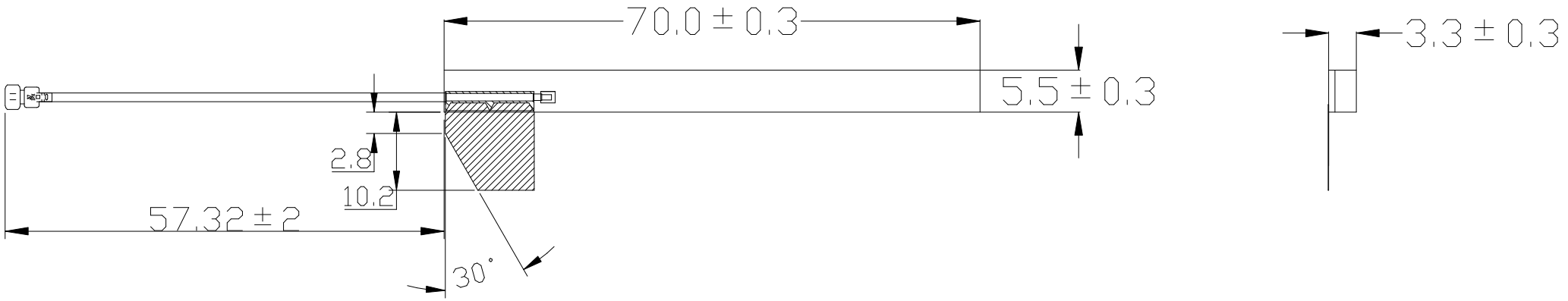
APPROVED SIGNATURES

Approved by : Eric Checked by: Joanna Prepared by: Xu Ling

File No.: FX02A35-0G-EF Revision No.: B Date: 2016/6/3

IDEAS GENERATED DRAWING. DON'T CHANGE BY HAND

REV.	ECN. NO.	APPD.



NOTES:

1.HARMFUL MATERIAL CONTROL PLEASE FOLLOW RoHS REQUIREMENT.

AND HALOGEN FREE(Br<900ppm,Cl<900ppm,Br+Cl<1500ppm)

ITEM	PART NAME	FOXCONN P/N	DESCRIPTION
4	FOAM ADHESIEVE	090-0004-8622	69*4.5*2.7MM
3	PCB	01B0G00-574-G	70*5.5MM
2	Cu Foil	083-0004-1382	11.6*11.4MM
1	JUMPER CABLE	FX02A35-0G-EF-H	GRAY CABLE WITH MINI CONN

X.± 2.0	X.°±	UNITS mm	NAME(INTENDED USE) CUSTOMER
.X± 1.0	.X°±	MAT'L	
.XX± 0.25	.XX°±		PART NO.(INTENDED USE) FX02A35-0G-EF
.XXX±	.XXX°±	FINISH	
Q'TY			APPD: Arthur Huang 04/21'16
			CHKD: Louis Liu 04/21'16
			DRAW: Will Qin 04/21'16

FOXCONN INTERCONNECT TECHNOLOGY LIMITED.

CLASS: □CONFIDENTIAL □SECRET ■GENERAL

TITLE: ZIGBEE PCB ant. Ass'y

DWG NO.: 315-0000-4547

SCALE	SHEET	REV.
1:1	3/3	B

HON HAI PRECISION IND. CO., LTD

SYSTEM:	SUBJECT:	DOCUMENT NO:			
Product Specification	RF Cable Spec.	PAGE	1 OF 1	REV	X1

5. Raw cable specification

C&W Specification Number : **K0133749-SP13-084**

Cable Construction :		RF cable
Part Number		703-32**-201
Item		Description
Conductor	AWG	32
	Material	Tin Plated Copper
	Construction	7/0.08 mm
Insulation	Material	FEP
	Diameter	0.68mm (Nom.)
	Color	White
Braid	Material	Tin Plated Copper (16/4/0.05 Pitch=7.2mm)
	Coverage	90% Min.
Jacket	Material	FEP
	Diameter	1.15mm+/-0.05mm
Marking		/
Drawing		

Electrical characteristics

1.UL 1354 80℃ 30V

2.Condutor Resistance : 32AWG Max. 540ohms/Km @20℃

3.Insulation Resistance : Min.1000Mohm-Km

4.Impendence: 50+/-5 ohms (at 0.5-6GHz)

5.Dielectic Strength: 500v 1min

6.VSWR: MAX.1.3 at 0~6GHz

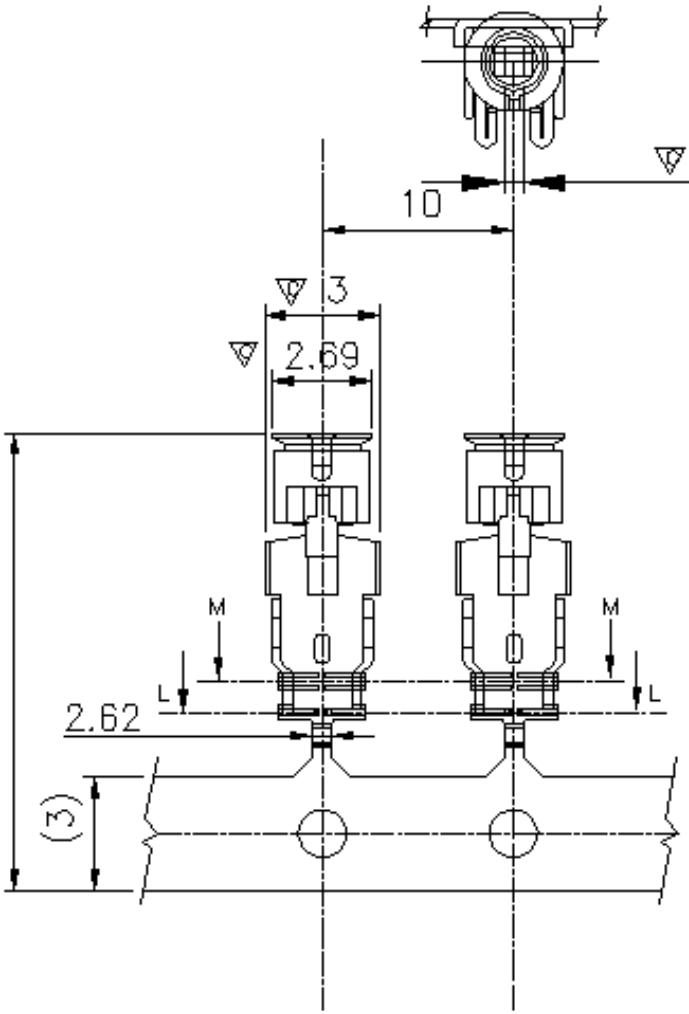
7. Attenuation:

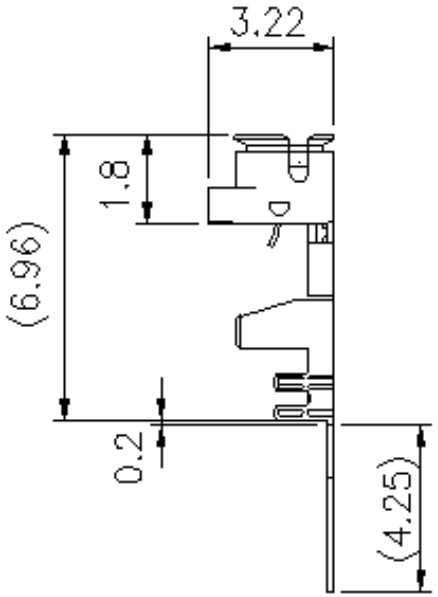
0.5GHz	1GHz	2 GHz	3GHz	4GHz	5GHz	6GHz
1.46dB/m	2.11dB/m	3.08 dB/m	3.87dB/m	4.59dB/m	5.24dB/m	5.85dB/m

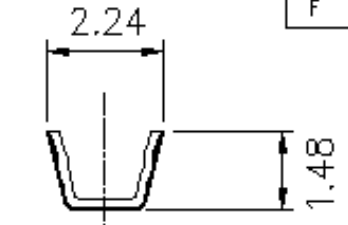
Approved: William Yao **Checked: Joan.j.zheng** **Prepared: Li Jiajia 2013-07-31**

IDEAS GENERATED DRAWING. DON'T CHANGE BY HAND.

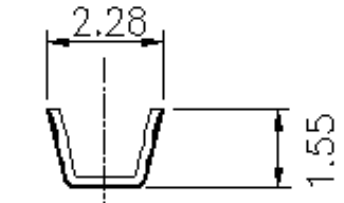
REV.	ECN. NO.	APPD.
A	BC-10-0068495	Paul Huang
B	BC-11-0105098	Tim
C	BC-14-0029205	Comward
D	BC-14-0046843	Nick Lin
E	BC-14-0049177	Nick Lin
F	BC-14-0080301	Nick Lin







SECTION M-M



SECTION L-L

NOTES:

1. DIMENSIONS MARKED ▽ SHALL BE CHECKED.
2. HARMFUL MATERIAL CONTROL PLEASE FOLLOW DOC. NO. "EPI12".
3. Conforming to ROHS Directive and Halogen Free

I-PEX P/N:20278-112R-13

P/N:073-0001-8749

X.±0.2	X.°±	UNITS mm	NAME(INTENDED USE) RF ANTENNA CONN.	FOXCONN FOXCONN INTERCONNECT TECHNOLOGY LIMITED.
.X±0.2	.X°±	MAT'L	PART NO.(INTENDED USE) WDAN-*****-**	CLASS: □CONFIDENTIAL □SECRET ■GENERAL
.XX±0.2	.XX°±	FINISH	APPD: Nick Lin	TITLE: PART DRAWING
.XXX±	.XXX°±	Q'TY	CHKD: Bill Her	DWG NO.: 073-0000-8749
			DRAW: Allen Peng 12/30'14	SCALE: N/A SHEET: 1/5 REV.: F

REV.	ECN. NO.	APPD.
X12	TBD	Tim

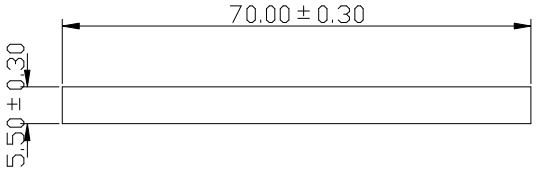
TOP VIEW

③ INK layer.
(Hatch zone is the INK zone.)

① Marklayer

④ Copper layer

②HAL (Lead Free) Layer



⑤ FR4 layer

① MARK LAYER	
② HAL LAYER	③ INK LAYER
④ COPPER LAYER	
⑤ FR4 LAYER	

SIDE VIEW

NOTES:

1. Harmful material control please follow Doc. No."EPI12" HALOGEN FREE(Cl<900ppm,Br<900ppm,Cl+Br<1500ppm)
2. Dimension marked ▽ should be checked.
3. The mass production should be compared with the golden sample when IQC make a careful check of the PCB board.
4. PCB Total Thickness is 0.6 +/− 0.10mm
5. Material : FR4
6. HAL (Lead Free) Finish: Normal,Thickness= 1~40 uM
7. Solder mask : INK ; Color: Green ; Legend mark: White. The thickness is 0.4mil min.
8. The shadow section of PCB must be covered by soldermask .
9. Plating is smooth and uniform through hole. The maximum shift less than 0.025mm
10. Best no wicking present. And wicking does not exceeds 0.10mm [4mil] is acceptable.
11. PCB thermal resists is max 288°C, time is 10second. 3 Times.
12. Material must meet UL 94V−0.
13. All the words on the mark layer must be capital letters.
14. The words on the process side should be at the center and the contents of process side should be VENDOR LOGO, PCB PART NO, REVISION and its text height is 2.0±0.3mm
15. All the mark must follow the mark layer,especially the dimensions. The YY/WW height is 1.5±0.3mm, the height of UL MARK is 2.0±0.3mm such as 94V−0 or 94V−0. Unless otherwise specified,the text height is 1.5±0.3mm The PAD should not be covered with the mark.

VENDOR LOGO,UL MARK,PCB PART NO. REV.X12

Process side mark

X.± 1.0	X.°±	UNITS mm	NAME(INTENDED USE) COMPONENT
.X± 0.25	.X°±	MAT'L	PART NO.(INTENDED USE) 01B0G00−574−G
.XX± 0.12	.XX°±	FINISH	APPD: Tim Lin 04/18'16
.XXX±	.XXX°±	Q'TY	CHKD: Louis Liu 04/18'16
			DRAW: Will Qin 04/18'16

FOXCONN®
FOXCONN INTERCONNECT TECHNOLOGY LIMITED.

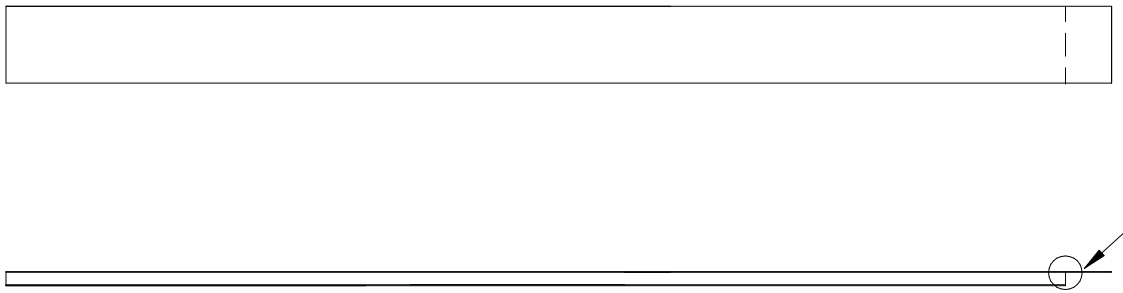
CLASS: □CONFIDENTIAL □SECRET ■GENERAL

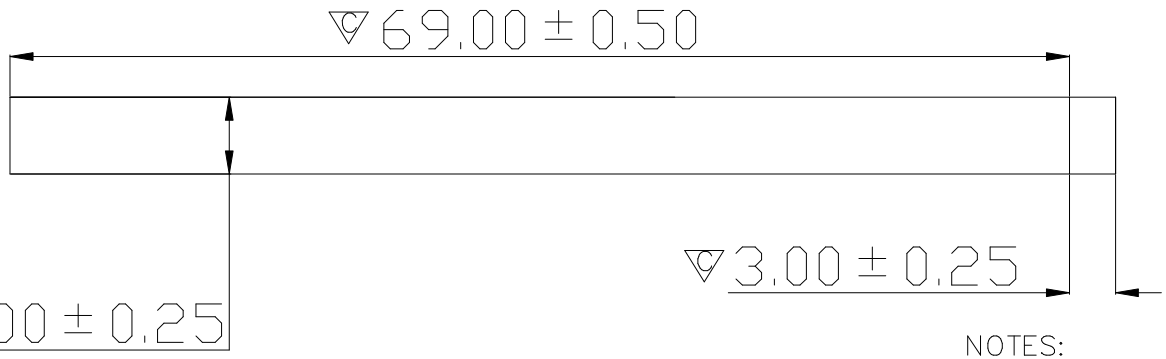
TITLE: ZIGBEE Antt. PCB

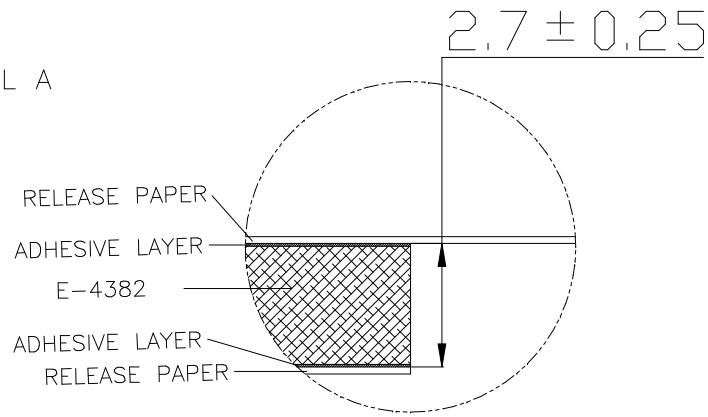
DWG NO.: 072−0000−5903

SCALE	SHEET	REV.
1:1	1/1	X12

REV.	ECN. NO.	APPD.
AX1	TBD	TIM







DETAIL A
SCALE 10:1

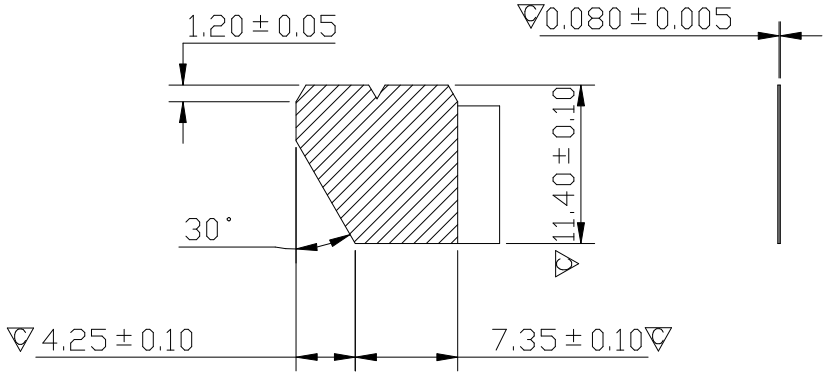
NOTES:

1. HARMFUL MATERIAL CONTROL PLEASE FOLLOW DOC. NO. 'EPI12'. AND HALOGEN FREE
2. DIMENTION MARKED ▽C SHOULD BE CHECKED.
3. MATERIAL : E-4382 FOAM+ADHESIVE + RELEASING PAPER:GREEN TAPE G9000 SONY THICKNESS=2.7mm (NOT INCLUDING RELEASING PAPER)
4. PART TO BE CLEAN AND FREE OF ALL FOREIGN MATERIAL, DIRT, OIL, GREASE OR OTHER CONTAMINANTS

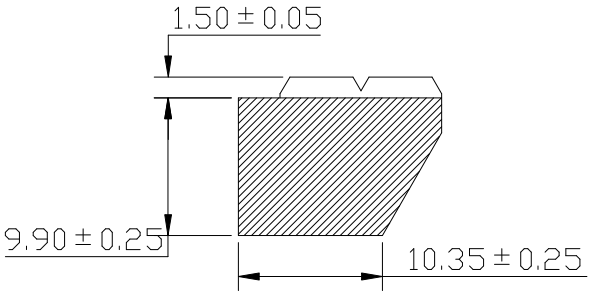
X.± 0.50	X.°±	UNITS mm	NAME(INTENDED USE) COMPONENT	FOXCONN® FOXCONN INTERCONNECT TECHNOLOGY LIMITED.
.X± 0.25	.X°±	MAT'L		
.XX± 0.15	.XX°±		PART NO.(INTENDED USE) 090-0002-8622	TITLE: TWINS ADHESIVE
.XXX±	.XXX°±	FINISH	APPD: Tim Lin 10/31'15	DWG NO.: 090-0000-8622
		Q'TY	CHKD: Louis Liu 10/31'15	SCALE 1:1 / SHEET 1/1 / REV. AX1
			DR: Will Qin 10/31'15	

REV.	ECN. NO.	APPD.

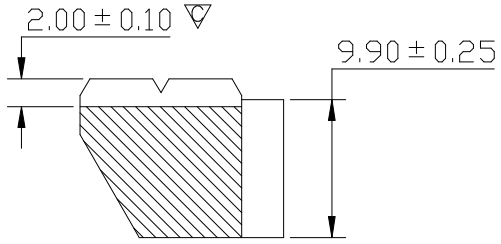
Not Including Releasing paper



TOP VIEW
COPPER LAYER
THE HATCH ZONE IS COPPER



BOTTOM VIEW
RELEASING PAPER LAYER
THE HATCH ZONE IS RELEASING PAPER



COVER LAYER
THE HATCH ZONE IS COVERLAY

NOTES:

1. Harmful material control please follow Doc. No."EPI12"
   And Halogen Free(Br<900ppm,Cl<900ppm, Br+Cl<1500ppm)
2. DIMENTION MARKED ▽ SHOULD BE CHECKED.
3. Material : Cu foil + Conductive Adhesive + Releasing Paper
   THICKNESS=0.085mm MAX. (NOT INCLUDING RELEASING PAPER)
   Conductive Adhesive: VENDER:GRAND STAR,TYPE:0.05T-8JH0605SH
4. PART TO BE CLEAN AND FREE OF ALL FOREIGN MATERIAL,
   DIRT, OIL, GREASE OR OTHER CONTAMINANTS

X.± 1.0	X.°± 3.0	UNITS mm	NAME(INTENDED USE) COMPONENT	FOXCONN INTERCONNECT TECHNOLOGY LIMITED.
.X± 0.25	.X°±	MAT'L		CLASS: ☐CONFIDENTIAL ☐SECRET ■GENERAL
.XX± 0.12	.XX°±		PART NO.(INTENDED USE) 083-0004-1382	TITLE: Cu Foil
.XXX±	.XXX°±	FINISH	APPD: Tim Lin 01/29'16	DWG NO.: 083-0000-1382
		Q'TY	CHKD: Louis Liu 01/29'16	SCALE 1:1 / SHEET 1/1 / REV. X7
			DRAW: Will Qin 01/29'16	

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環保要求
符合 EPI12 規定

包　　裝　　作　　業　　規　　範
PACKING　SPECIFICATION

保密等級 Class	□機密 Confidential	□密 Secret	■一般 General

規範編號 SPEC. NO.	EB5-APFX-006			PAGE	1/5	REV.	A
適用客戶 APPLICABLE CUSTOMER	IDSBG	適用產品 Applicable Product	FX02A35-0G-EF FX02A60-0G-EF FX02A61-0G-EF	包裝類別 PACKAGING CATEGORY	Tray 盤		

修訂履歷 REVISION HISTORY

ECN NO / REV.	頁次 PAGE									
	1	2	3	4	5					
A	BC-15-0025366									

核定Approved By	審核 Checked By	會　　簽 Consigned By			制作單位 DIVISION	制作人 Prepared By
		* 自定義	生產單位	品保單位		
林長青 2015/6/2	劉海兵 2015/6/2		姚日紅 2015/6/2	徐榮榮 2015/6/2	FAS-ME	秦陸倉 2015/6/2

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包　　裝　　作　　業　　規　　範

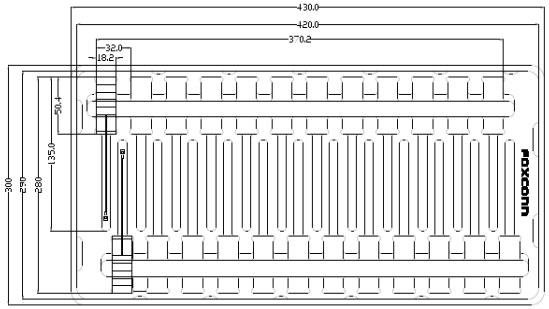
PACKING　SPECIFICATION

保密等級 Class	□ 機密 Confidential	□密 Secret	■一般 General

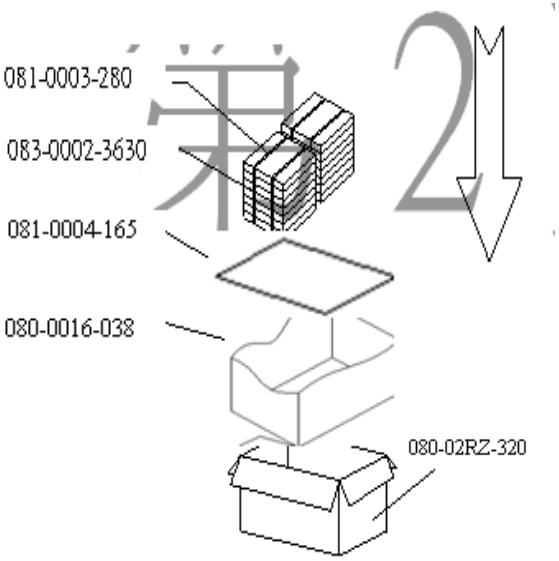
規範編號 SPEC. NO.	EB5-APFX-006	PAGE	2/5	REV.	A

包 裝 作 業 圖 示 及 說 明　PACKING OPERATION DIAGRAM & INSTRUCTION

一：圖示僅供參考



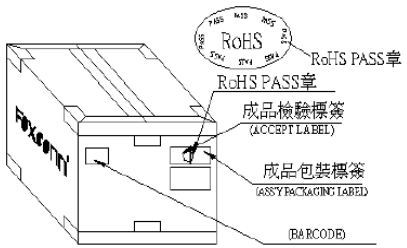
二、依次完成包裝，圖示僅供參考



三：

1.封箱. To seal the box.

2.在外箱貼上所需標簽.（如圖示） to stick the labels out of the box. (as the drawing)



備　　註　REMARK

'箱子包裝方式如下:
(1). 外箱(080-02RZ-320)1PC,底部先行封口.
(2). 箱內放置防水袋(080-0016-038)1PC.
(3). 防水袋內放置隔板(081-0004-165)1PC.
成品包裝方式如下:
(4).如步驟1 放置產品於第一個TRAY盤中，
FX02A35-0G-EF,48PCS/盘, 37盤/箱
FX02A60-0G-EF,36PCS/盘　30盤/箱
FX02A61-0G-EF,48PCS/盘　30盤/箱
(5). 第二個TRAY盤放滿產品後，掉轉180度疊放在第一個TRAY盤上.
(6). 依次重復第（6），第（7）步驟，裝滿箱.並在最上面放置一空盤.
(7).每26個TRAY盤放一疊,加織帶2PCS.把裝好產品的TRAY放入處理好的箱子中.
(8).將防水袋用膠帶封口，將外箱上層封口.在外箱貼上所需標簽.（如圖示）
* 若出貨爲成品時,每箱實重應以實測重量爲準.

包　　裝　　作　　業　　規　　範

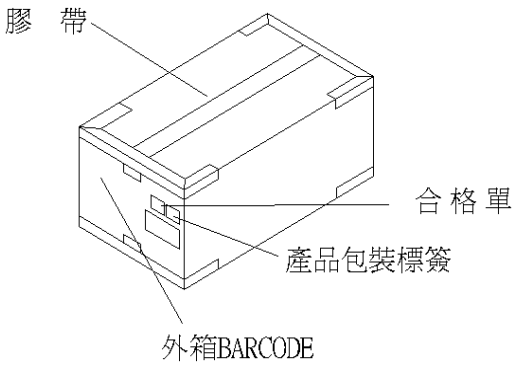
PACKING SPECIFICATION

保密等級 Class	□ 機密 Confidential	□密 Secret	■一般 General
□ CONFIDETIAL	□ TOP SECRET		

規範編號 SPEC. NO.	EB5-APFX-006	PAGE	3/5	REV.	A

包 裝 作 業 圖 示 及 說 明　PACKING OPERATION DIAGRAM & INSTRUCTION

外箱BARCODE:



VC: Vendor Code, 供應商代碼;

A. for台灣Ambit : 昆山廠生產Vendor Code爲0T00;
英泰廠爲F300; MH爲MZK000; 寶源(ICS爲
MPT000, HSDI爲MTT000);

B. for 中山Ambit Vendor Code : A30412;

C. for 上海Ambit : 電插法人Vendor Code爲A30172;
鴻海法人Vendor Code爲A30412;
富翔法人Vendor Code爲7589889721;

備　註　REMARK

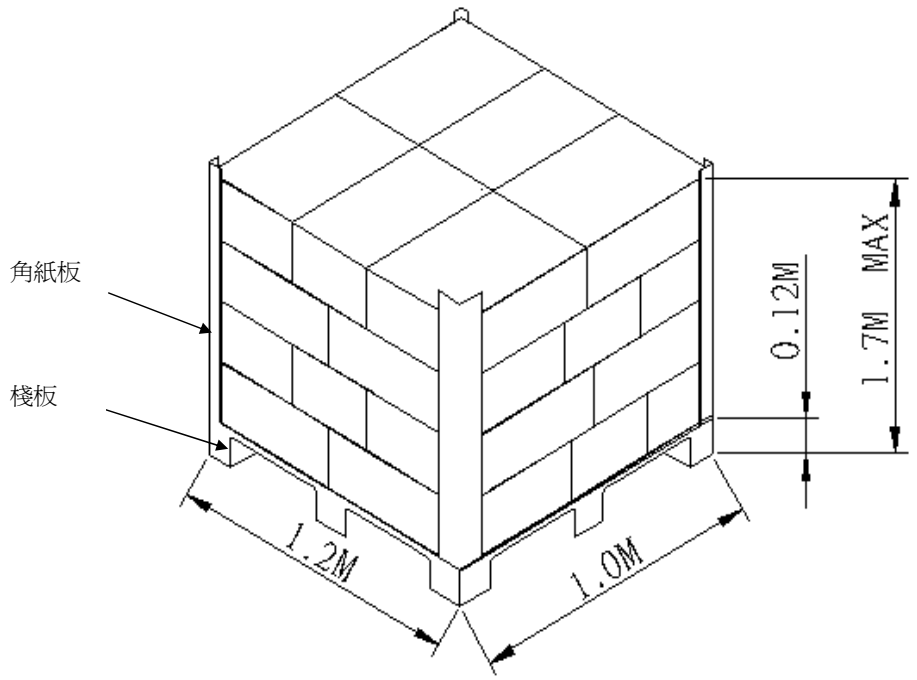
1.Barcode的型號爲Code 128 .
第一欄的條碼內容爲: PNIVClDClLClQty
具體含義如下:
PN: 爲客戶料號; VC: 詳見左圖. LC:追溯代碼,此處填生產DC.出上海國基時此處用生產日期YYYYMMDD表示.
MPN: 此處填客戶料號.
第二欄的條碼的內容爲: 客戶料號.
2.Barcode高度爲：第一欄 8mm,第二欄 3mm.字高爲：3mm 最小.
3.DC編碼定義：
若客戶有要求則依工標最新文件爲準，若客戶無要求則依廠內DC編碼原則；
4.Label 086-0001-3049, 30mmX90mm,Label 兩邊至少保留3mm的邊寬.
5.詳細規格依據工標文件BC-AMBI-01最新版.

包　　裝　　作　　業　　規　　範
PACKING　SPECIFICATION

保密等級 Class	□ 機密 Confidential	□密 Secret	■一般 General

規範編號 SPEC. NO.	EB5-APFX-006	PAGE	4/5	REV.	A

包 裝 作 業 圖 示 及 說 明　PACKING OPERATION DIAGRAM & INSTRUCTION



備　　註　REMARK

1. 木棧板上放滿後, 在4個角各放1PC角板, 之後於四周纏繞打包膜; 打包膜至少纏繞3 層.(打包膜一定要從棧板底部一直纏繞到貨物頂部)
2.棧板尺寸爲1.2M×1.0M×0.12M,0.12M爲支承木塊的高度.
3.棧板必須爲木質的,包括原木和膠合木.
4.棧板連同貨物堆積高度不大于1.7M.
5.木栈板上每层最多摆放8箱,每栈板最多放5层，共40箱.（棧板連同貨物堆積高度不大于1.7M）.

***本產品,制程之原物料/零件必須符合EPI12環境管理物質規定.

FOXCONN®

包　　裝　　作　　業　　規　　範

PACKING　SPECIFICATION

保密等級 Class	□ 機密 Confidential	□密 Secret	■一般 General

規範編號 SPEC. NO.	EB5-APFX-006	PAGE	5/5	REV.	A

包　裝　材　料　PACKING MATERIAL				產　品　型　號	包　裝　容　量 PACKING CAPATITY			重　量　WEIGHT(KG)		
材　料　名　稱　NAME	料　號　PART NO.	N.W.(kg)	數量(PC)	PRODUCT　NO.	PCS/INNER PACKING	INNER PACKING/CTN	PCS/CTN	N.W./PC	N.W./BOX	G.W./BOX
外　　箱(576*450*360mm)	080-02RZ-320	1.79	1	FX02A35-0G-EF	1776	1	1776	0.0011	1.954	7.27
防水袋	080-0016-038	0.08	3	FX02A60-0G-EF	1080	1	1080	0.00285	3.078	7.73
TRAY盤	TBD	78.583	*	FX02A61-0G-EF	1140	1	1140	0.00315	3.591	8.22
乳膠織帶	081-0003-280	5	2							
成品包裝標簽	080-1011-319	0.001	6							
外箱BARCODE	086-0001-3049	N/A	1							
封箱膠帶	090-0060-510	N/A	1							
隔板	081-0004-165	0.08	2							
	以下空白									

注：　產品.制程之原物料/零件必須符合EPI12環境管理物質規定

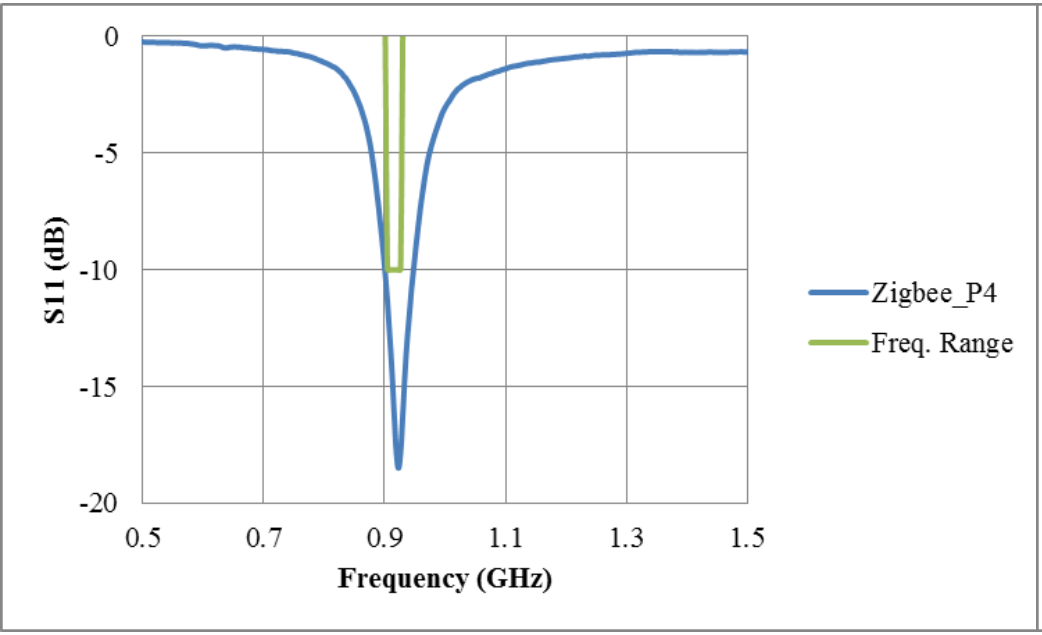
零數箱包裝處理方式:不足空間用泡棉填充

FK3B00281A

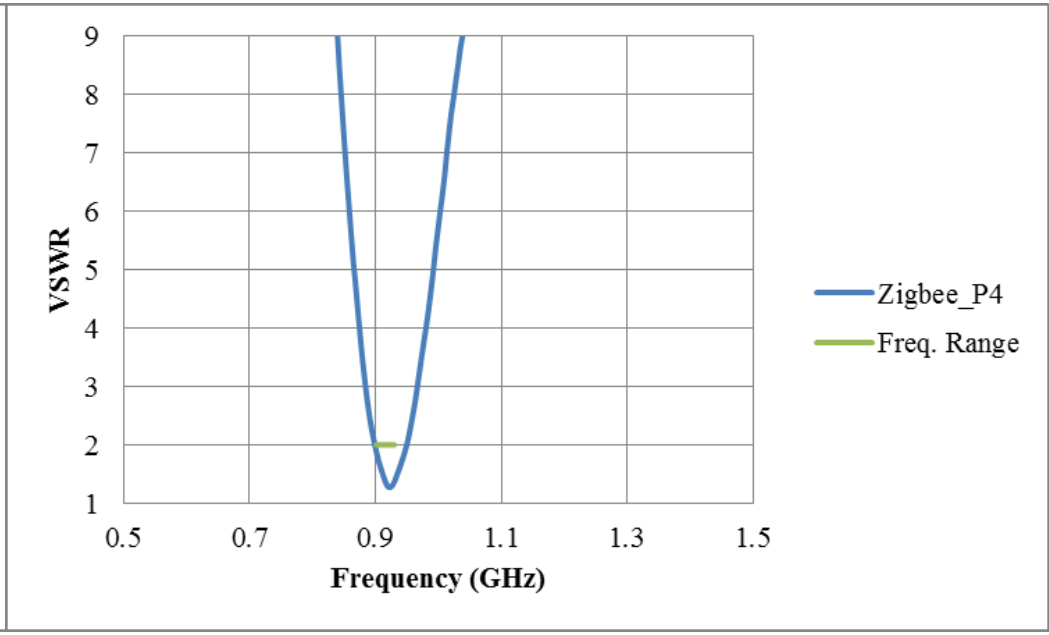
The Specification of Zigbee Antenna

Parameter	Zigbee antenna
Frequency (MHz)	902-928
Return Loss (dB)	< -10
VSWR	< 2.0
Efficiency (%)	> 30
Maximum Gain (dB)	< 2.0
Impedance	50 ohms

The Performance of Zigbee Antenna



(a) S11



(b) VSWR

	Zigbee	
Frequency (MHz)	S11 (dB)	VSWR
902	-10.2	1.89
916	-16.1	1.37
928	-14.4	1.47

The 3D Gain and Efficiency of Zigbee Antenna

Zigbee Ant.								
Frequency	**900**	**902**	**904**	**906**	**908**	**910**	**912**	**914**
Efficiency (%)	**50.83**	**52.58**	**54.16**	**55.96**	**57.97**	**60.14**	**62.27**	**64.60**
Maximum Gain (dBi)	**0.25**	**0.39**	**0.50**	**0.63**	**0.79**	**1.00**	**1.18**	**1.40**
Average Gain (dB)	**-2.94**	**-2.79**	**-2.66**	**-2.52**	**-2.37**	**-2.21**	**-2.06**	**-1.90**

Frequency	**916**	**918**	**920**	**922**	**924**	**926**	**928**	**930**
Efficiency (%)	**65.93**	**67.10**	**67.03**	**66.76**	**66.40**	**65.90**	**65.48**	**64.86**
Maximum Gain (dBi)	**1.56**	**1.70**	**1.75**	**1.77**	**1.83**	**1.87**	**1.91**	**1.93**
Average Gain (dB)	**-1.81**	**-1.73**	**-1.74**	**-1.75**	**-1.78**	**-1.81**	**-1.84**	**-1.88**