



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:

1.DRAWING	2
2.CABLE DWG	3
3.CONNECTOR DWG	4
4.PCB DWG	5
5.TWIN ADHESIVE FOAM DWG	6
6.CU FOIL DWG	7
7.PACKING SPECIFICATION	8~12
8.TEST REPORT	13~15

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

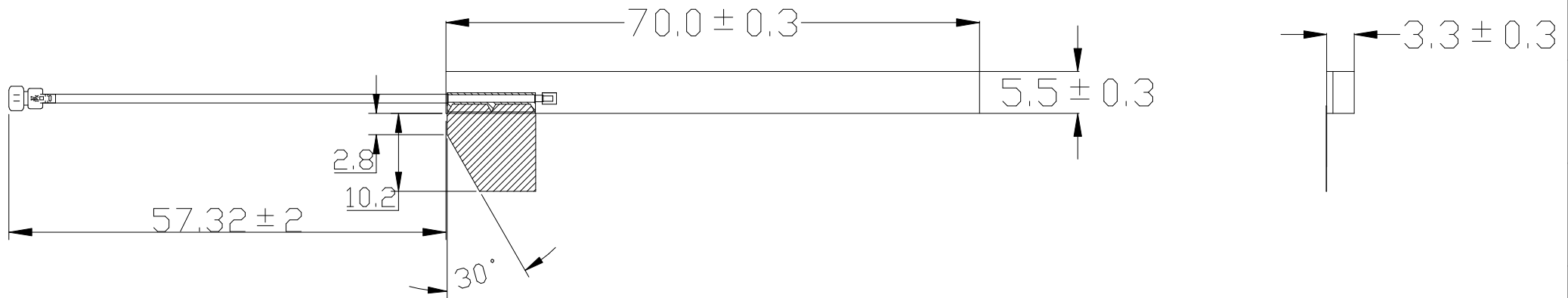
File No.: FX02A35-0G-EF

Revision No.: B

Date: 2016/6/3

IDEAS GENERATED DRAWING. DON'T CHANGE BY HAND

REV.	ECN. NO.	APPD.



NOTES:

- HARMFUL MATERIAL CONTROL PLEASE FOLLOW RoHS REQUIREMENT.
AND HALOGEN FREE(Br<900ppm,Cl<900ppm,Br+Cl<1500ppm)

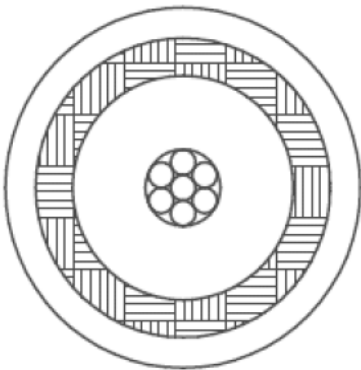
4	FOAM ADHESIEVE	090-0004-8622	69*4.5*2.7MM
3	PCB	01B0G00-574-G	70*5.5MM
2	Cu Foil	083-0004-1382	11.6*11.4MM
1	JUMPER CABLE	FX02A35-0G-EF-H	GRAY CABLE WITH MINI CONN
ITEM	PART NAME	FOXCONN P/N	DESCRIPTION

x,± 2.0	x.*±	UNITS mm	NAME<INTENDED USE> CUSTOMER	foxconn® FOXCONN INTERCONNECT TECHNOLOGY LIMITED.
.x± 1.0	.x.*±	MAT'L	PART NO.<INTENDED USE> FX02A35-0G-EF	
.xx± 0.25	.xx.*±	FINISH	APPD: Arthur Huang 04/21'16	CLASS: ☐ CONFIDENTIAL ☐ SECRET ☒ GENERAL
.xxx±	.xxx.*±	Q'TY	CHKD: Louis Liu 04/21'16	TITLE: ZIGBEE PCB ant. Ass'y
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			DRAW: Will Qin 04/21'16	SCALE SHEET REV. 1:1 3/3 B

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

3.Insulation Resistance : Min.1000Mohm-Km

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

5.Dielectric 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	Camvard
D	BC-14-0046843	Nick Lin
E	BC-14-0049177	Nick Lin
F	BC-14-0080301	Nick Lin

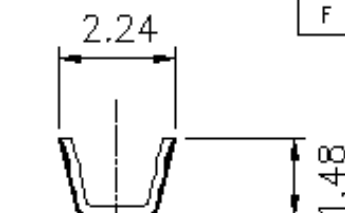
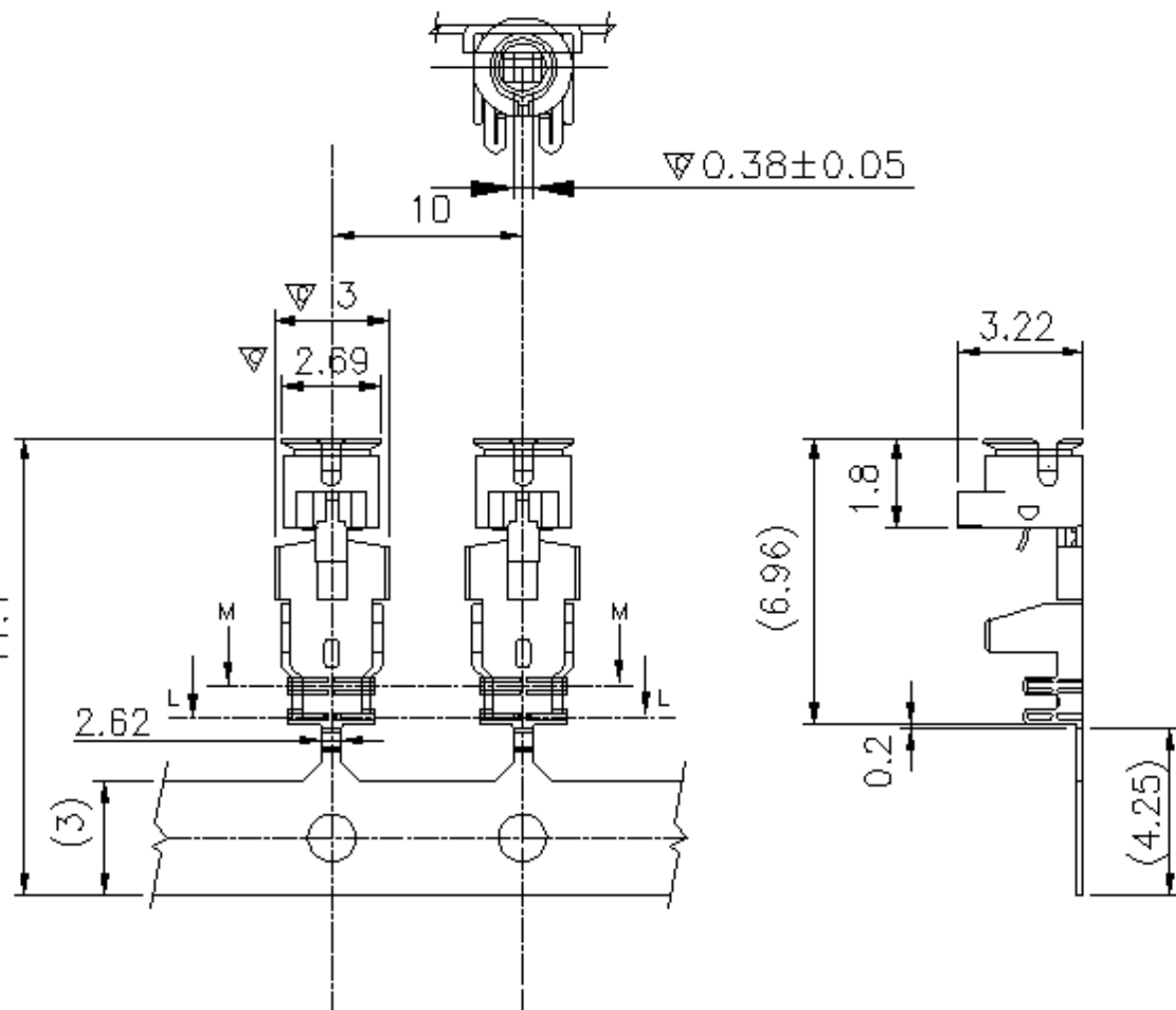
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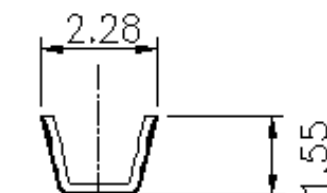
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D

E



SECTION M-M

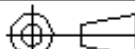


SECTION L-L

NOTES:

1. DIMENSIONS MARKED ∇ SHALL BE CHECKED.
2. HARMFUL MATERIAL CONTROL PLEASE FOLLOW DOC. NO. 'EP112'.
3. Conforming to ROHS Directive and Halogen Free

I-PEX P/N20278-112R-13
P/N073-0001-8749

X ₁ ±0.2	X ₁ *±	UNITS mm	NAME(INTENDED USE) RF ANTENNA CONN.	foxconn FOXCONN INTERCONNECT TECHNOLOGY LIMITED.			
X ₂ ±0.2	X ₂ *±	MAT'L	PART NO.(INTENDED USE) WDAN-****-***	CLASS: ☐ CONFIDENTIAL ☐ SECRET ☒ GENERAL			
.XX±0.2	.XX*±			TITLE: PART DRAWING			
.XXX±	.XXX*±	FINISH	APPD: Nick Lin	DWG NO: 073-0000-8749			
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			DRAW: Allen Peng 12/30'14	N/A		1/5	F

A

B

C

D

E

REV.	ECN. NO.	APPD.
X12	TBD	Tim

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

NOTES:

- Harmful material control please follow Doc. No."EPI12"
HALOGEN FREE(CI<900ppm,Br<900ppm,CI+Br<1500ppm)
- Dimension marked ▽ should be checked.
- The mass production should be compared with the golden
sample when IQC make a careful check of the PCB board.
- PCB Total Thickness is 0.6 +/- 0.10mm
- Material : FR4
- HAL (Lead Free) Finish: Normal,Thickness= 1~40 uM
- Solder mask : INK ; Color: Green ; Legend mark: White.
The thickness is 0.4mil min.
- The shadow section of PCB must be covered by soldermask .
- Plating is smooth and uniform through hole.
The maximum shift less than 0.025mm
- Best no wicking present. And wicking does not
exceeds 0.10mm [4mil] is acceptable.
- PCB thermal resists is max 288°C, time is 10second. 3 Times.
- Material must meet UL 94V-0.
- All the words on the mark layer must be capital letters.
- 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
- 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.

① Marklayer

④ Copper layer

② HAL (Lead Free)
Layer

⑤ FR4 layer

SIDE VIEW

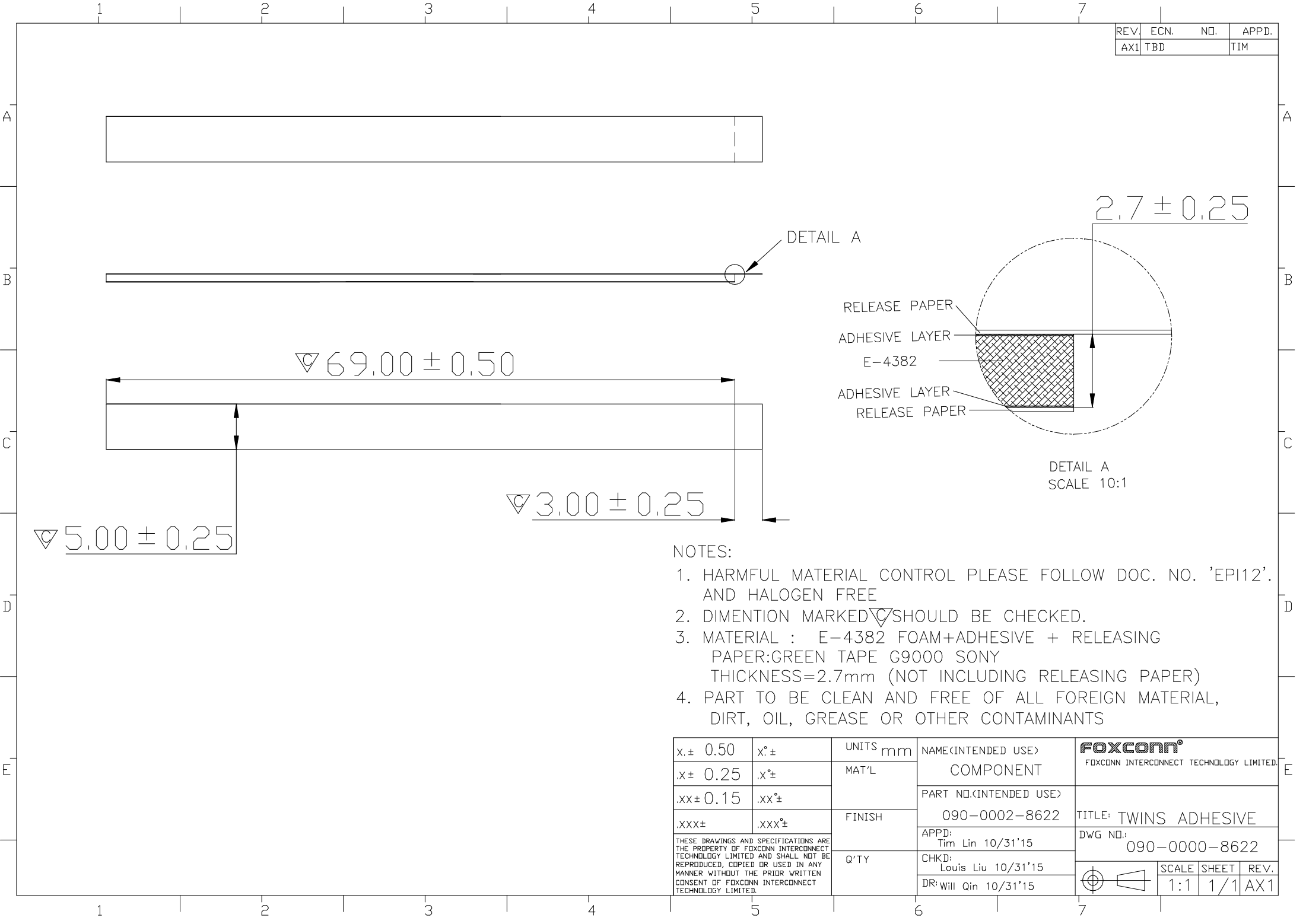
① MARK LAYER
② HAL LAYER ③ INK LAYER
④ COPPER LAYER
⑤ FR4 LAYER

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

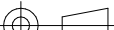
Process side mark

x.± 1.0	x.*±	UNITS mm	NAME<INTENDED USE> COMPONENT	Foxconn® FOXCONN INTERCONNECT TECHNOLOGY LIMITED.		
.x± 0.25	.x.*±	MAT'L	PART NO.<INTENDED USE> 01B0G00-574-G	CLASS: ☐ CONFIDENTIAL ☐ SECRET ☒ GENERAL		
.xx± 0.12	.xx.*±		APPD: Tim Lin 04/18'16	TITLE: ZIGBEE Antt. PCB		
.xxx±	.xxx.*±	FINISH	CHKD: Louis Liu 04/18'16	DWG NO: 072-0000-5903		
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				REV.		

REV	ECN.	NO.	APPD.
AX1	TBD		TIM

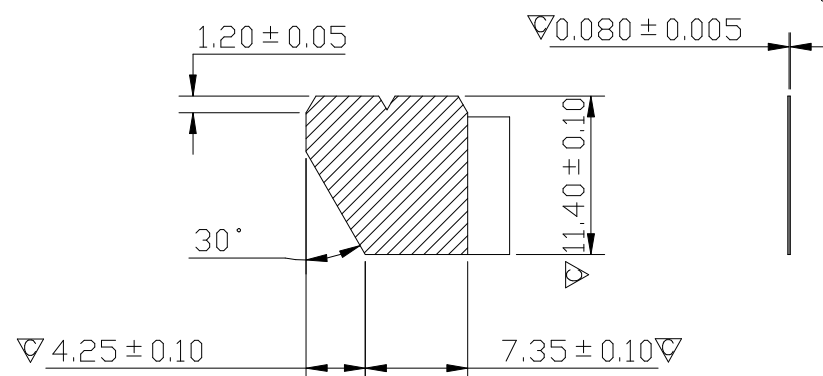


- NOTES:
- HARMFUL MATERIAL CONTROL PLEASE FOLLOW DOC. NO. 'EPI12'. AND HALOGEN FREE
 - DIMENTION MARKED ∇ SHOULD BE CHECKED.
 - MATERIAL : E-4382 FOAM+ADHESIVE + RELEASING PAPER:GREEN TAPE G9000 SONY THICKNESS=2.7mm (NOT INCLUDING RELEASING PAPER)
 - PART TO BE CLEAN AND FREE OF ALL FOREIGN MATERIAL,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

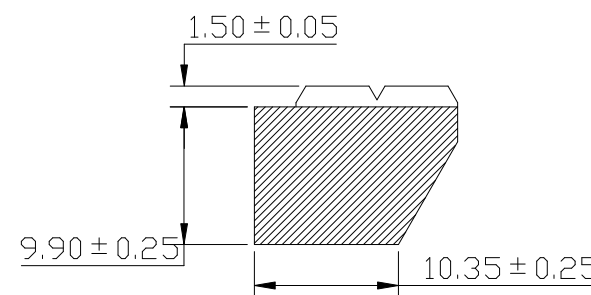
x.± 0.50	x°.±	UNITS mm	NAME<INTENDED USE> COMPONENT	FOXCONN® FOXCONN INTERCONNECT TECHNOLOGY LIMITED.			
.x± 0.25	.x°.±	MAT'L	PART NO.<INTENDED USE> 090-0002-8622	TITLE: TWINS ADHESIVE			
.xx± 0.15	.xx°.±	FINISH	APPD: Tim Lin 10/31'15	DWG NO.: 090-0000-8622			
.xxx±	.xxx°.±		Q'TY	CHKD: Louis Liu 10/31'15		SCALE 1:1	SHEET 1 / 1
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REV.	ECN. NO.	APPD.

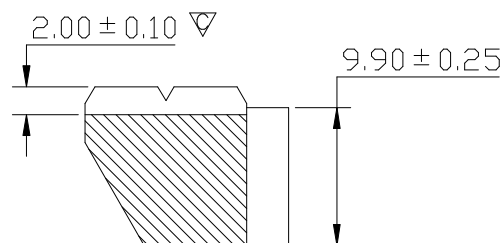
Not Including Releasing paper



TOP VIEW
COPPER LAYER
THE HATCH ZONE IS COPPER



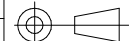
BOTTOM VIEW
RELEASING PAPER LAYER
THE HATCH ZONE IS RELEASING PAPER



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® FOXCONN INTERCONNECT TECHNOLOGY LIMITED.			
.x± 0.25	.x*±				PART NO.<INTENDED USE> 083-0004-1382	CLASS: ☐ CONFIDENTIAL ☐ SECRET ☒ GENERAL	
.xx± 0.12	.xx*±	FINISH	APPD: Tim Lin 01/29'16	TITLE: Cu Foil			
.xxx±	.xxx*±			Q'TY	CHKD:Louis Liu 01/29'16	DWG NO: 083-0000-1382	
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				SCALE	SHEET		REV.
				1:1	1/1		X7



環保要求
符合 EPI12 規定

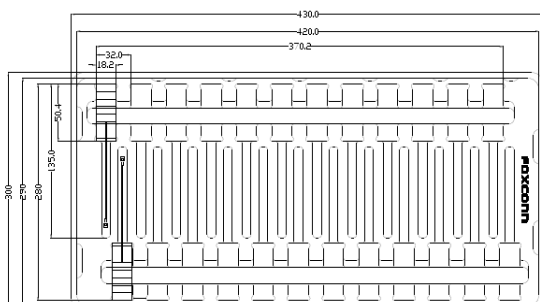
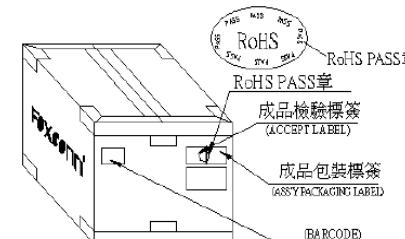
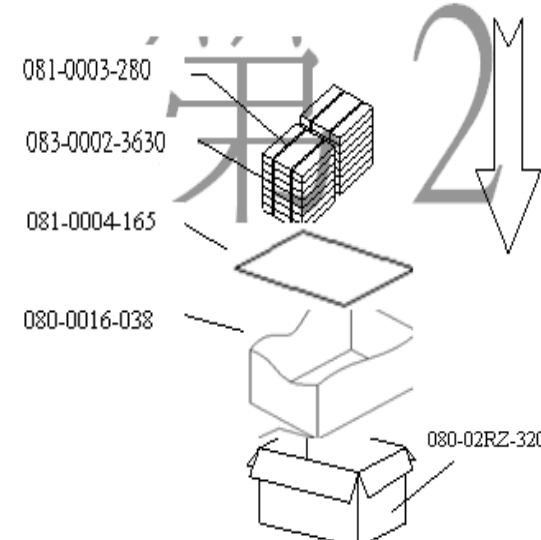
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FK3B00281A

包裝作業規範

PACKING SPECIFICATION

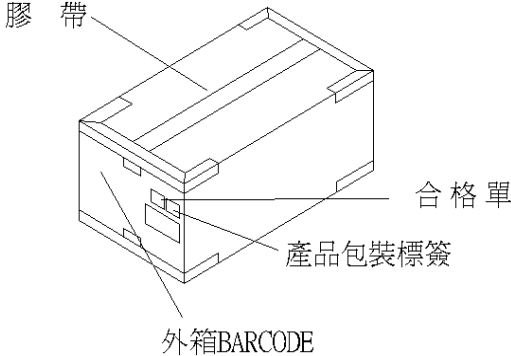
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PAGE	2/5	REV.	A

規範編號 SPEC. NO.	EB5-APFX-006
包裝作業圖示及說明 PACKING OPERATION DIAGRAM & INSTRUCTION	備註 REMARK
一：圖示僅供參考  三： 1.封箱. To seal the box. 2.在外箱貼上所需標籤. (如圖示) to stick the labels out of the box. (as the drawing) 	二、依次完成包裝，圖示僅供參考  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/盤, 37盤/箱 FX02A60-0G-EF,36PCS/盤 30盤/箱 FX02A61-0G-EF,48PCS/盤 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). 依次重複第（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.在外箱貼上所需標籤.（如圖示） * 若出貨為成品時,每箱實重應以實測重量為準.

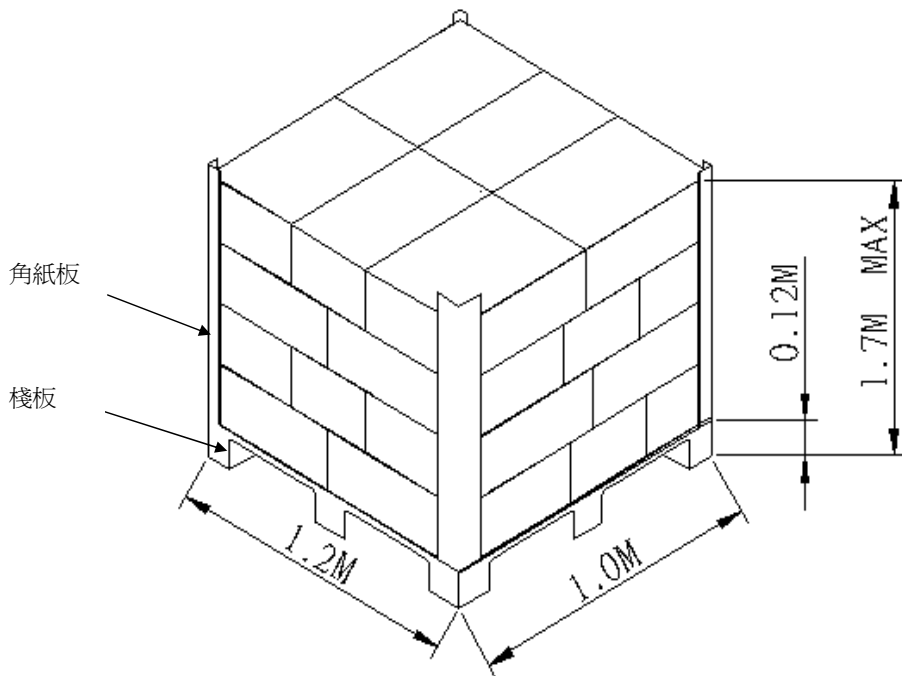
PACKING SPECIFICATION

保密等級 Class	☐ 機密 Confidential	☐ 密 Secret	☒ 一般 General
☐ CONFIDENTIAL ☐ TOP SECRET			
PAGE	3/5	REV.	A

規範編號 SPEC. NO.	EB5-APFX-006
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包 裝 作 業 圖 示 及 說 明 PACKING OPERATION DIAGRAM & INSTRUCTION	備 註 REMARK
外箱BARCODE: 客戶料號 PN: ***,***,*** VC: ***,***,*** MPN: ***,***,*** DC: XXXXX Qty LC: XXXXX Remark: FOXCONN 裝箱數量  VC: Vendor Code, 供應商代碼; A. for 台灣Ambit : 昆山廠生產Vendor Code為0T00; 英泰廠為F300; MH為MZK000; 寶源(ICS為 MPT000, HSDI為MTT000); B. for 中山Ambit Vendor Code : A30412; C. for 上海Ambit : 電插法人Vendor Code為A30172; 鴻海法人Vendor Code為A30412; 富翔法人Vendor Code為7589889721;	1.Barcode的型號為Code 128 . 第一欄的條碼內容為: PNIVCIDCILCIQty 具體含義如下: PN: 為客戶料號; 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為: 客戶料號. 2.Barcode高度為: 第一欄 8mm,第二欄 3mm.字高為: 3mm 最小. 3.DC編碼定義: 若客戶有要求則依工標最新文件為準,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

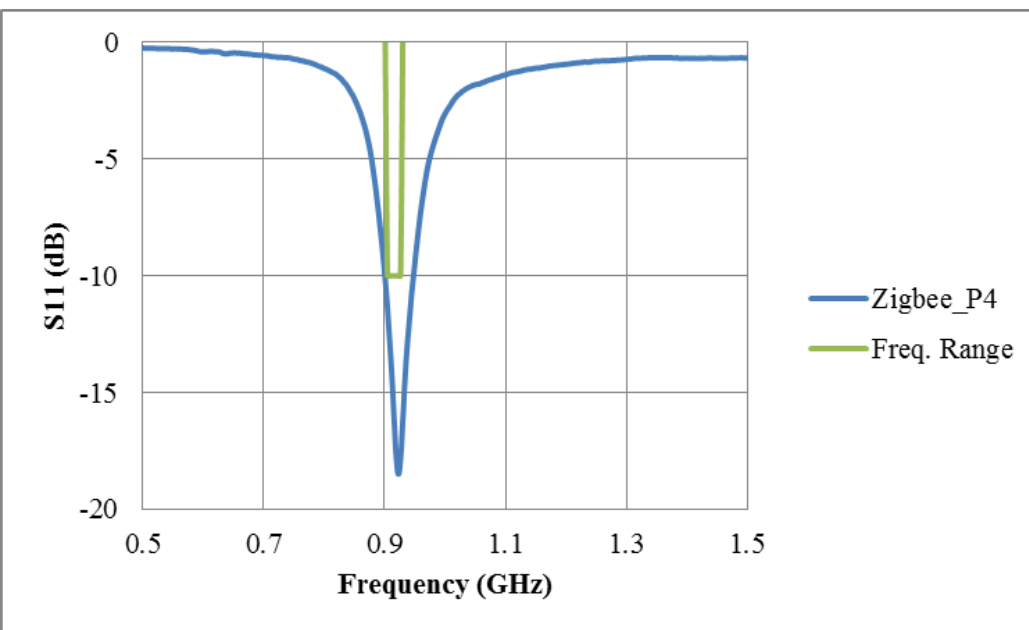
		保密等級 Class		☐ 機密 Confidential		☐ 密 Secret		☒ 一般 General	
規範編號 SPEC. NO.		EB5-APFX-006		PAGE		4/5		REV. A	
包 裝 作 業 圖 示 及 說 明 PACKING OPERATION DIAGRAM & INSTRUCTION				備 註 REMARK					
				1. 木棧板上放滿後, 在4個角各放1PC角板, 之後於四周纏繞打包膜; 打包膜至少纏繞3層.(打包膜一定要從棧板底部一直纏繞到貨物頂部) 2. 棧板尺寸為1.2M×1.0M×0.12M,0.12M為支承木塊的高度. 3. 棧板必須為木質的,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. 木棧板上每层最多摆放8箱,每棧板最多放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.					

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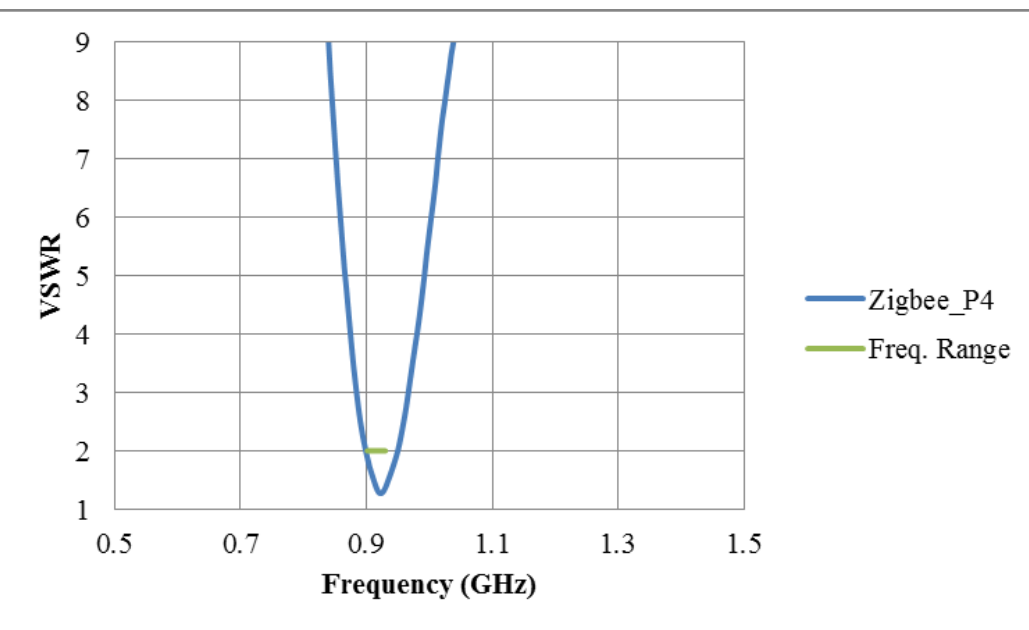
The Specification of Zigbee Antenna

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