

Line Width/Space	127/127.1 um
Laser Via	N/A
Laser Via Land	N/A
Via	203.2 um
Via Land	457.2 um
Ball Pad Size	2100x1000 um
Ball Opening Size	2200x1100 um
Ball Pitch	1270 um
S/M REGIST.	37.5 um


CUSTOMER	I/O DRAWING NO. (LAYER) I-F3296 <4L>	
PACKAGE TYPE & I/O (BODY SIZE) SIP-M-I(HF) 27 (20.5X14.5mm)	CHIP SIZE	
	DATE 05-26-2016	REV NO. C

LAYOUT	
<input checked="" type="checkbox"/> L1	
<input type="checkbox"/> L2	
<input type="checkbox"/> L3	
<input type="checkbox"/> L4	
<input type="checkbox"/> Solder-Top	
<input type="checkbox"/> Solder-Btm	
<input type="checkbox"/> Drill	
<input type="checkbox"/> Silkscreen-Top	
<input type="checkbox"/> Cross-Section	
<input type="checkbox"/> Impedance Form	
<input type="checkbox"/> Revision history	

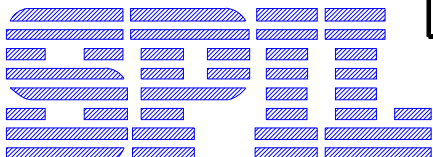
DESIGN Nicholas
CHECKED BY Shunji Lu
APPROVED BY April Chen

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SHEET NO. 1/11

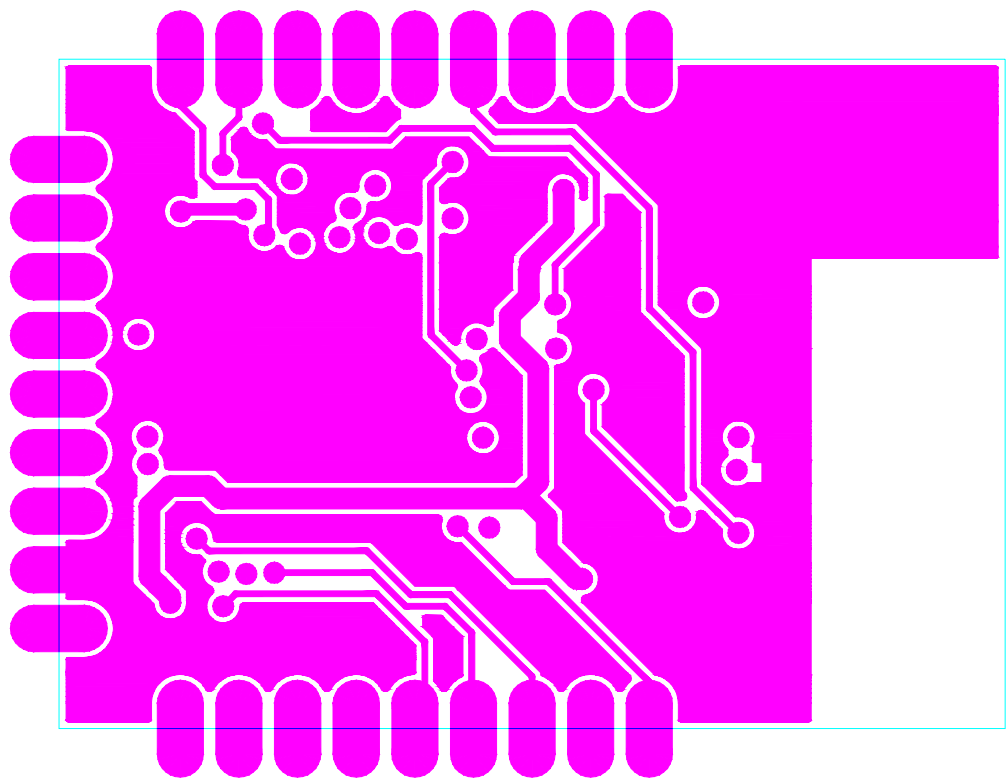
CUSTOMER	I/O DRAWING NO. (LAYER) I - F 3 2 9 6 < 4 L >	
PACKAGE TYPE & I/O (BODY SIZE) SIP-M-I(HF) 27 (20.5X14.5mm)	CHIP SIZE	
	DATE 05-26-2016	REV NO. C

DESIGN	Nicholas
CHECKED BY	Shunji Lu
APPROVED BY	April Chen

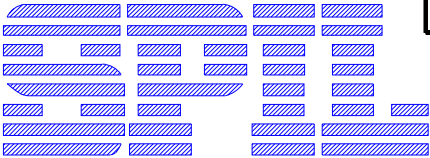


SHEET NO.

2/11



Line Width/Space	127/127.1 um
Laser Via	N/A
Laser Via Land	N/A
Via	203.2 um
Via Land	457.2 um
Ball Pad Size	2100x1000 um
Ball Opening Size	2200x1100 um
Ball Pitch	1270 um
S/M REGIST.	37.5 um

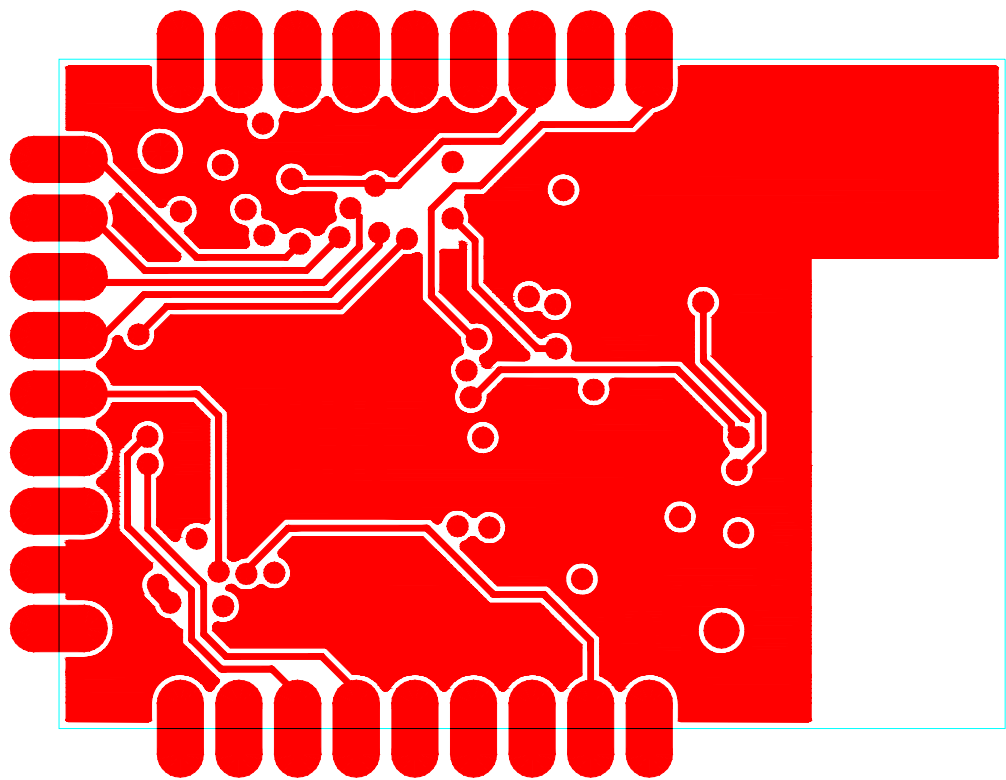
CUSTOMER	I/O DRAWING NO. (LAYER) I-F3296 <4L>	
PACKAGE TYPE & I/O (BODY SIZE) SIP-M-I(HF) 27 (20.5X14.5mm)	CHIP SIZE	
	DATE 05-26-2016	REV NO. C

LAYOUT	
<input type="checkbox"/> L1	<input type="checkbox"/> Solder-Top
<input type="checkbox"/> L2	<input type="checkbox"/> Solder-Btm
<input checked="" type="checkbox"/> L3	<input type="checkbox"/> Drill
<input type="checkbox"/> L4	<input type="checkbox"/> Silkscreen-Top
<input type="checkbox"/> Cross-Section	<input type="checkbox"/> Impedance Form
<input type="checkbox"/> Revision history	

DESIGN Nicholas
CHECKED BY Shunji Lu
APPROVED BY April Chen

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SHEET NO. 3/11



Line Width/Space	127/127.1 um
Laser Via	N/A
Laser Via Land	N/A
Via	203.2 um
Via Land	457.2 um
Ball Pad Size	2100x1000 um
Ball Opening Size	2200x1100 um
Ball Pitch	1270 um
S/M REGIST.	37.5 um

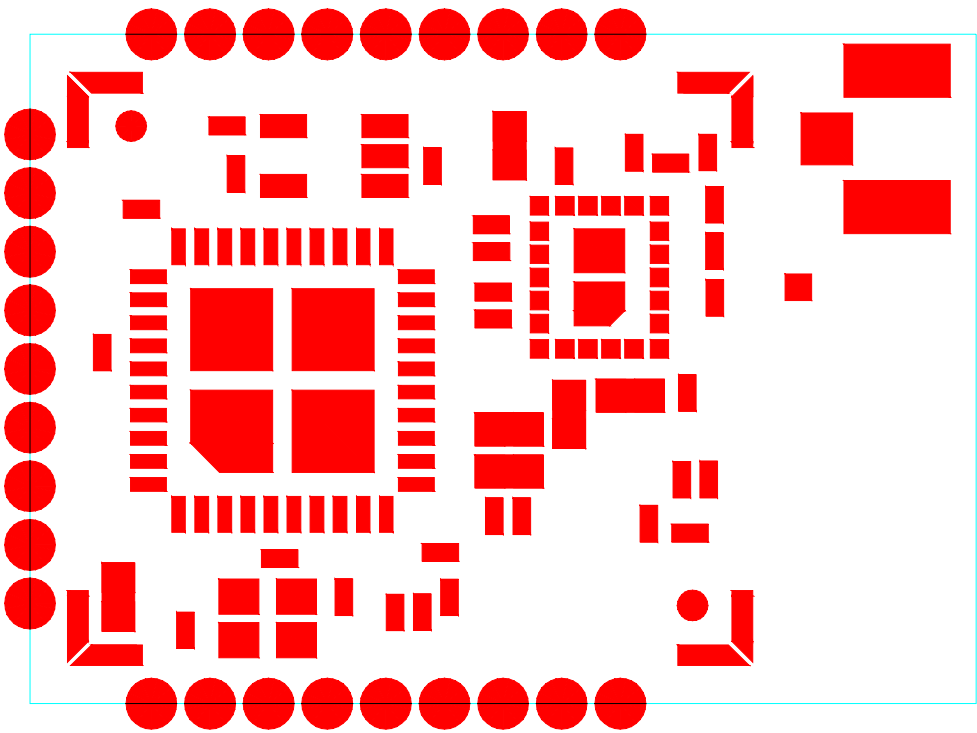
CUSTOMER	I/O DRAWING NO. (LAYER) I-F3296 <4L>	
PACKAGE TYPE & I/O (BODY SIZE) SIP-M-I(HF) 27 (20.5X14.5mm)	CHIP SIZE	
	DATE 05-26-2016	REV NO. C

LAYOUT	
<input type="checkbox"/> L1	<input type="checkbox"/> Solder-Top
<input type="checkbox"/> L2	<input type="checkbox"/> Solder-Btm
<input type="checkbox"/> L3	<input type="checkbox"/> Drill
<input checked="" type="checkbox"/> L4	<input type="checkbox"/> Silkscreen-Top
<input type="checkbox"/> Cross-Section	
<input type="checkbox"/> Impedance Form	
<input type="checkbox"/> Revision history	

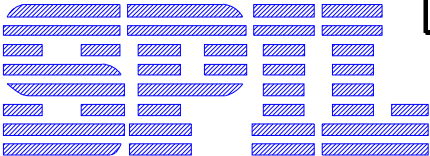
DESIGN Nicholas
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SHEET NO. 4/11



Note : The copper of different net can't be exposed in front of finger after solder mask shift.

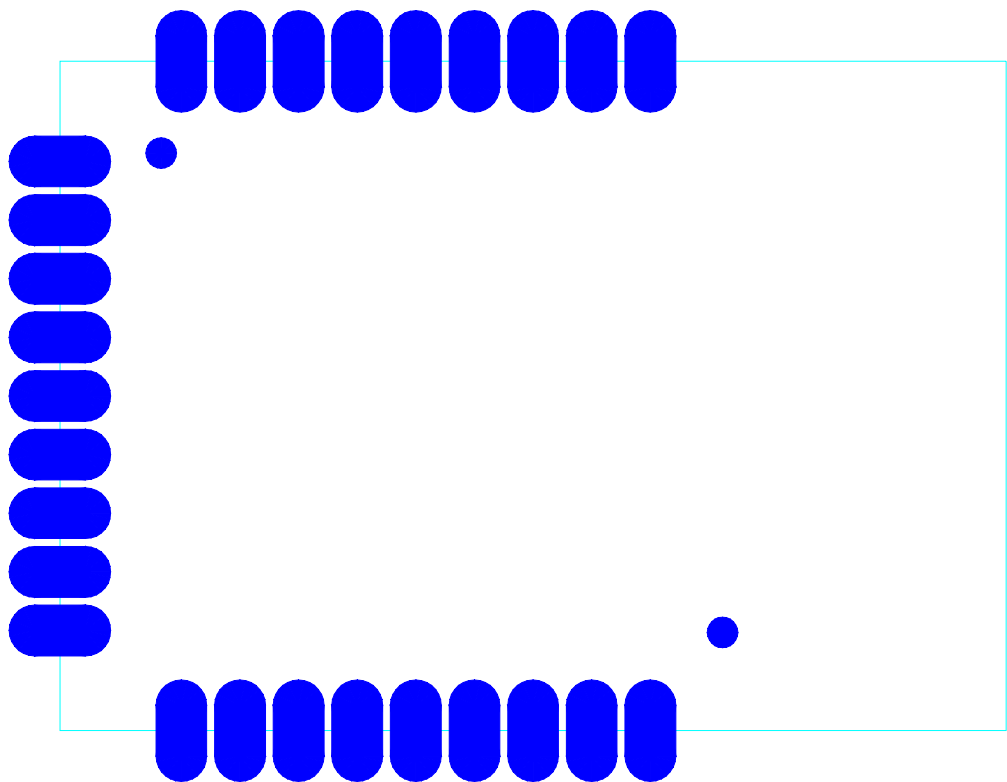
CUSTOMER	I/O DRAWING NO. (LAYER) I-F3296 <4L>	
PACKAGE TYPE & I/O (BODY SIZE) SIP-M-I(HF) 27 (20.5X14.5mm)	CHIP SIZE	
	DATE 05-26-2016	REV NO. C

LAYOUT	
<input type="checkbox"/> L1	
<input type="checkbox"/> L2	
<input type="checkbox"/> L3	
<input type="checkbox"/> L4	
<input checked="" type="checkbox"/> Solder-Top	
<input type="checkbox"/> Solder-Btm	
<input type="checkbox"/> Drill	
<input type="checkbox"/> Silkscreen-Top	
<input type="checkbox"/> Cross-Section	
<input type="checkbox"/> Impedance Form	
<input type="checkbox"/> Revision history	

Line Width/Space	127/127.1 um
Laser Via	N/A
Laser Via Land	N/A
Via	203.2 um
Via Land	457.2 um
Ball Pad Size	2100x1000 um
Ball Opening Size	2200x1100 um
Ball Pitch	1270 um
S/M REGIST.	37.5 um
DESIGN	Nicholas
CHECKED BY	Shunji Lu
APPROVED BY	April Chen

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SHEET NO.
5/11



CUSTOMER	I/O DRAWING NO. (LAYER) I-F3296 <4L>	
PACKAGE TYPE & I/O (BODY SIZE) SIP-M-I(HF) 27 (20.5X14.5mm)	CHIP SIZE	
	DATE 05-26-2016	REV NO. C

LAYOUT

☐ L1

☐ L2

☐ L3

☐ L4

☐ Solder-Top

☒ Solder-Btm

☐ Drill

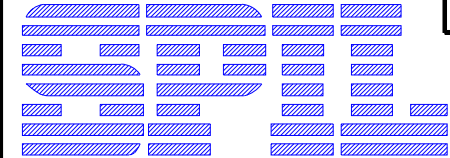
☐ Silkscreen-Top

☐ Cross-Section

☐ Impedance Form

☐ Revision history

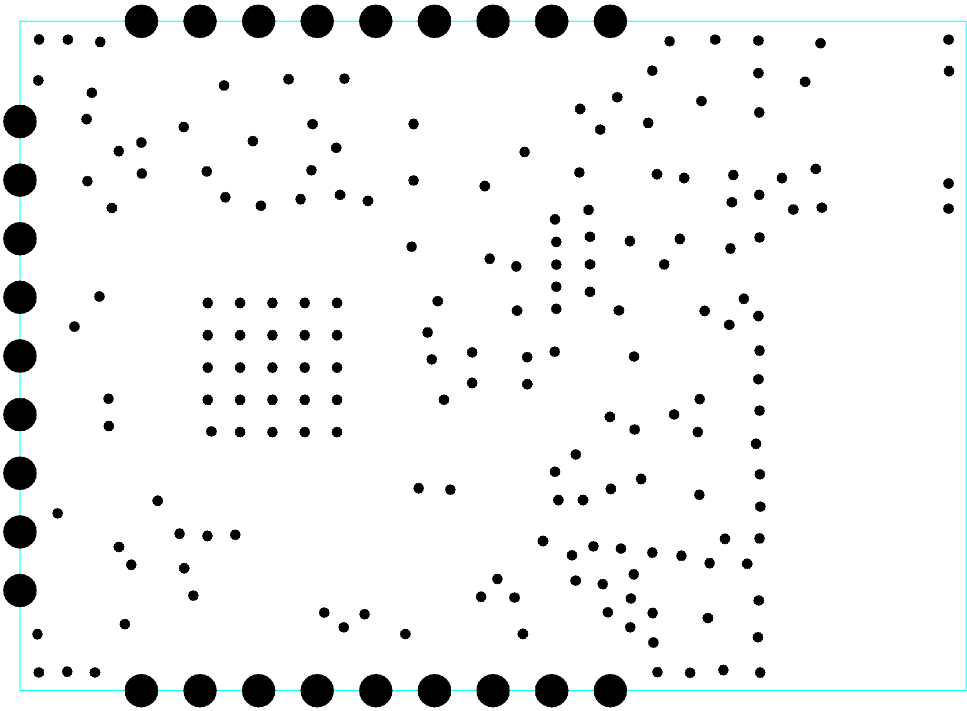
Line Width/Space	127/127.1 um
Laser Via	N/A
Laser Via Land	N/A
Via	203.2 um
Via Land	457.2 um
Ball Pad Size	2100x1000 um
Ball Opening Size	2200x1100 um
Ball Pitch	1270 um
S/M REGIST.	37.5 um
DESIGN	Nicholas
CHECKED BY	Shunji Lu
APPROVED BY	April Chen



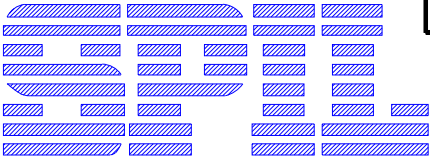
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SHEET NO.

6/11



Line Width/Space	127/127.1 um
Laser Via	N/A
Laser Via Land	N/A
Via	203.2 um
Via Land	457.2 um
Ball Pad Size	2100x1000 um
Ball Opening Size	2200x1100 um
Ball Pitch	1270 um
S/M REGIST.	37.5 um

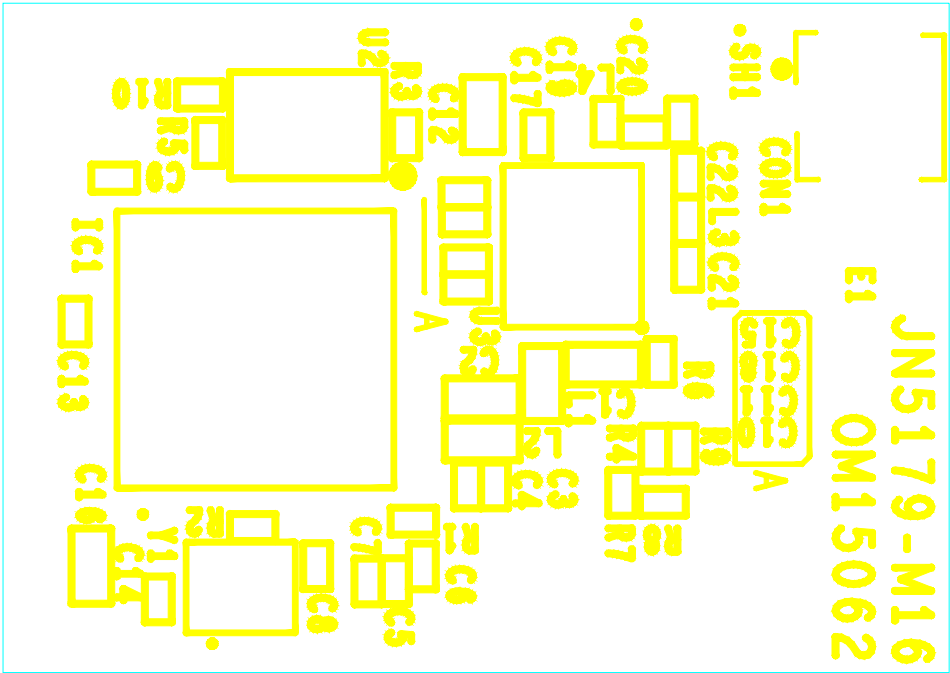
CUSTOMER	I/O DRAWING NO. (LAYER) I-F3296 <4L>	
PACKAGE TYPE & I/O (BODY SIZE) SIP-M-I(HF) 27 (20.5X14.5mm)	CHIP SIZE	
	DATE 05-26-2016	REV NO. C

LAYOUT
<input type="checkbox"/> L1
<input type="checkbox"/> L2
<input type="checkbox"/> L3
<input type="checkbox"/> L4
<input type="checkbox"/> Solder-Top
<input type="checkbox"/> Solder-Btm
<input checked="" type="checkbox"/> Drill
<input type="checkbox"/> Silkscreen-Top
<input type="checkbox"/> Cross-Section
<input type="checkbox"/> Impedance Form
<input type="checkbox"/> Revision history

DESIGN Nicholas
CHECKED BY Shunji Lu
APPROVED BY April Chen

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SHEET NO. 7/11



Line Width/Space	127/127.1 um
Laser Via	N/A
Laser Via Land	N/A
Via	203.2 um
Via Land	457.2 um
Ball Pad Size	2100x1000 um
Ball Opening Size	2200x1100 um
Ball Pitch	1270 um
S/M REGIST.	37.5 um

CUSTOMER	I/O DRAWING NO. (LAYER) I-F3296 <4L>	
PACKAGE TYPE & I/O (BODY SIZE) SIP-M-I(HF) 27 (20.5X14.5mm)	CHIP SIZE	
	DATE 05-26-2016	REV NO. C

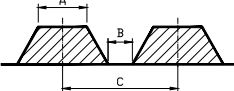
LAYOUT
<input type="checkbox"/> L1
<input type="checkbox"/> L2
<input type="checkbox"/> L3
<input type="checkbox"/> L4
<input type="checkbox"/> Solder-Top
<input type="checkbox"/> Solder-Btm
<input type="checkbox"/> Drill
<input checked="" type="checkbox"/> Silkscreen-Top
<input type="checkbox"/> Cross-Section
<input type="checkbox"/> Impedance Form
<input type="checkbox"/> Revision history

DESIGN Nicholas
CHECKED BY Shunji Lu
APPROVED BY April Chen

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SHEET NO.
8/11

Substrate Fabrication Rule

		<input type="checkbox"/> Drop Test	
1. MATERIAL		6. PLATING THICKNESS	
CORE	NPG-150N	Cu	MIN. 15 um (PTH Via)
PP	NPG-150NB		MIN. N/A (Laser Via)
ABF	N/A	7. a. BONDING PAD PATTERN	
2. S/M(Die side)			
S/M(Ball side)		A MIN. N/A um	
3. STACK UP (um)		B MIN. N/A um	
FINISHED BOARD THICKNESS : 1.2±0.12 mm		C MIN. N/A um	
SOLDER MASK 25+5/-15		D Finger length N/A um	
Cu PLATING 50+/-20		8. TRACE PATTERN	
Cu FOIL 142.24+/-18		<input type="checkbox"/> Standard	
PP 16+/-5		<input checked="" type="checkbox"/> Consign	
Cu Plating 16+/-5		<input type="checkbox"/> Other	
Cu Foil 16+/-5		Trace width Finished value	
CORE 711.2+/-50		≤5mil Design width ±20um	
Cu Foil 16+/-5		>5mil Design width ±25um	
Cu Plating 142.24+/-18		9. SUBSTRATE PROCESS	
Cu FOIL 50+/-20		<input checked="" type="checkbox"/> NORMAL	
SOLDER MASK 25+15/-0		<input type="checkbox"/> NON PLATING LINE	
TOTAL Cu THICKNESS 50±20 um		<input type="checkbox"/> ETCH BACK	
4. FINISHED BOARD THICKNESS 1.2±0.12 mm		<input type="checkbox"/> OTHER	
5. SUBSTRATE DESIGN		10. SURFACE FINISHED	
<input checked="" type="checkbox"/> VIA IN PAD		BOND FINGER+SOLDER BALL (w/B base)	
<input type="checkbox"/> VIA ON PAD		<input type="checkbox"/> NIAU	
<input checked="" type="checkbox"/> OTHER Via filled+capping		<input type="checkbox"/> AFOP	
		<input checked="" type="checkbox"/> OTHER ENIG	
		<input type="checkbox"/> PoP PAD	
		<input type="checkbox"/> NIAU	
		<input type="checkbox"/> OSP	
		<input type="checkbox"/> NIPDAU	
		<input type="checkbox"/> OTHER	

Line Width/Space	127/127.1 um
Laser Via	N/A
Laser Via Land	N/A
Via	203.2 um
Via Land	457.2 um
Ball Pad Size	2100x1000 um
Ball Opening Size	2200x1100 um
Ball Pitch	1270 um
S/M REGIST.	37.5 um

CUSTOMER	I/O DRAWING NO. (LAYER)
PACKAGE TYPE & I/O (BODY SIZE)	CHIP SIZE
SIP-M-I(HF) 27 (20.5X14.5mm)	DATE
	REV NO.
	05-26-2016
	C

LAYOUT

☐ L1

☐ L2

☐ L3

☐ L4

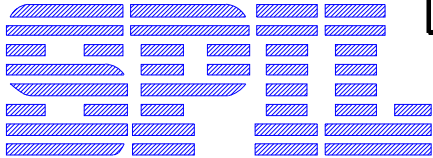
☐ Solder-Top

☐ Solder-Btm

☐ Drill

☐ Silkscreen-Top

DESIGN	Nicholas
CHECKED BY	Shunji Lu
APPROVED BY	April Chen



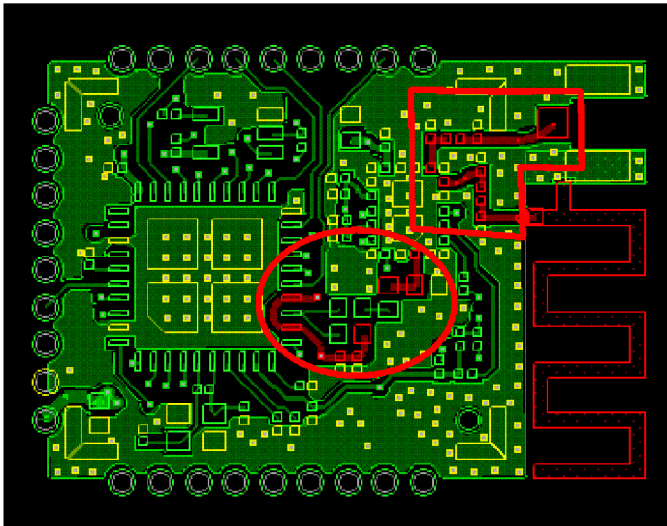
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SHEET NO.

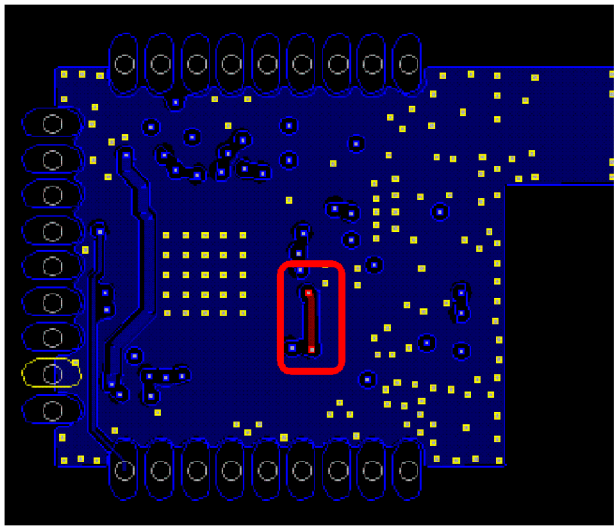
9/11

Impedance control: Please adjust the control 50ohm and width +/-25um : Marked in red

Trace in layer Top



Trace in layer 2



Line Width/Space	127/127.1 um
Laser Via	N/A
Laser Via Land	N/A
Via	203.2 um
Via Land	457.2 um
Ball Pad Size	2100x1000 um
Ball Opening Size	2200x1100 um
Ball Pitch	1270 um
S/M REGIST.	37.5 um

CUSTOMER

I/O DRAWING NO. (LAYER)

I-F3296 <4L>

PACKAGE TYPE & I/O (BODY SIZE)

SIP-M-I(HF) 27 (20.5X14.5mm)

CHIP SIZE

DATE

05-26-2016

REV NO.

C

LAYOUT

- ☐ L1
- ☐ L2
- ☐ L3
- ☐ L4
- ☐ Solder-Top
- ☐ Solder-Btm
- ☐ Drill
- ☐ Silkscreen-Top

- ☐ Cross-Section
- ☒ Impedance Form
- ☐ Revision history

DESIGN

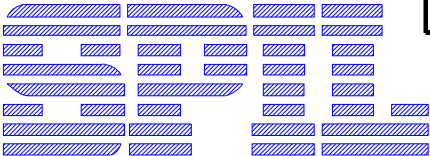
Nicholas

CHECKED BY

Shunji Lu

APPROVED BY

April Chen



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SHEET NO.

10/11

REVISION HISTORY :

[illegible]

Line Width/Space	127/127.1 um
Laser Via	N/A
Laser Via Land	N/A
Via	203.2 um
Via Land	457.2 um
Ball Pad Size	2100x1000 um
Ball Opening Size	2200x1100 um
Ball Pitch	1270 um
S/M REGIST.	37.5 um

CUSTOMER	I/O DRAWING NO. (LAYER) I - F 3 2 9 6 < 4 L >	
PACKAGE TYPE & I/O (BODY SIZE) SIP-M-I(HF) 27 (20.5X14.5mm)	CHIP SIZE	
	DATE 05-26-2016	REV NO. C

LAYOUT

☐ L1

☐ L2

☐ L3

☐ L4

☐ Solder-Top

☐ Solder-Btm

☐ Drill

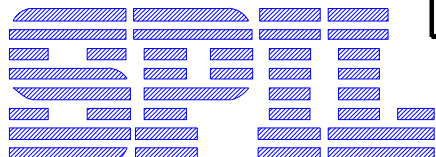
☐ Silkscreen-Top

☐ Cross-Section

☐ Impedance Form

☒ Revision history

DESIGN	Nicholas
CHECKED BY	Shunji Lu
APPROVED BY	April Chen



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SHEET NO.

$$\frac{11}{11}$$