

PA1590MS4G-100-SMD-S

Engineering Specification

1. Typical Electrical Properties

Characteristics	Specification	Unit	Conditions
GPS Center Frequency	1575.42 ± 2	MHz	On 70x70 mm Ground Plane
Glonass Center Frequency	1602 ± 2	MHz	On 70x70 mm Ground Plane
GPS Bandwidth	8 min.	MHz	S11 ≤ -10dB
Glonass Bandwidth	8 min.	MHz	S11 ≤ -10dB
GPS Gain at Zenith	2.5 typ.	dBic	Center Frequency
Glonass Gain at Zenith	3 typ.	dBic	Center Frequency
S11	< -10	dB	By Test Ground Plane
Polarization	RHCP		
Frequency Temperature Coefficient	0±20	ppm/°C	-40°C to +85°C

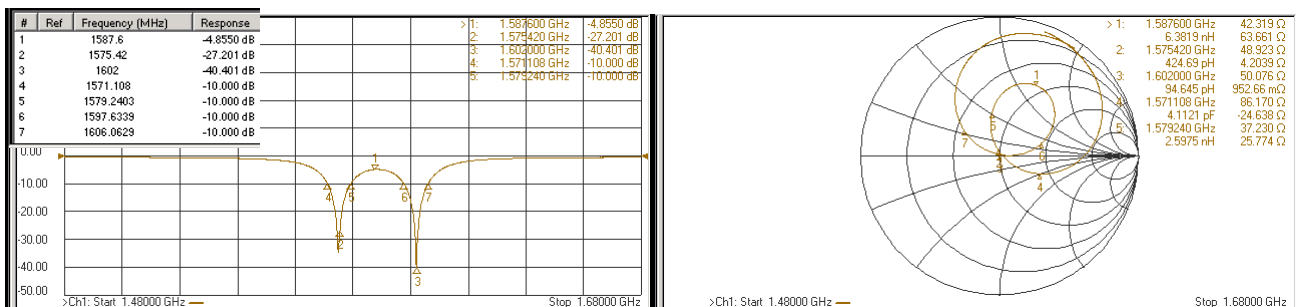
Frequency (MHz)	S ₁₁ (dB)	Gain 0°XZ-plane (dBic)	RH Upper Hemi. efficiency (%)
1575.42	-27.2	2.7	
1602	-40.4	3.5	

PA1590MS4G-100-SMD-S, G : Green parts (RoHS compliance)

-100 are the code of project number, -SMD SMD type, -S Special Marking

2. Patch Antenna Performance and Characteristic Data on 70x70 mm Ground

2.1 Smith Chart/Return Loss



UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±
 ANGLES=± HOLEDIA=±



INPAQ TECHNOLOGY CO., LTD.

SCALE : UNIT : mm

DRAWN BY:詹雅萍 CHECKED BY:馬敏勝
 DESIGNED BY:鄭大福 APPROVED BY:曾源標

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

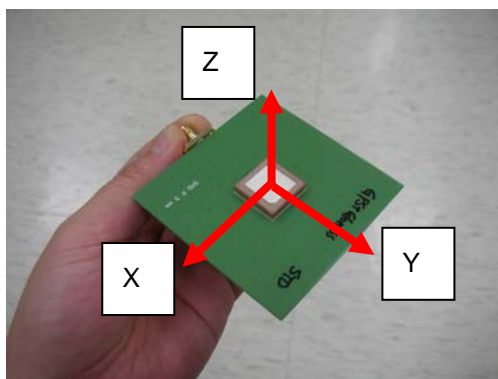
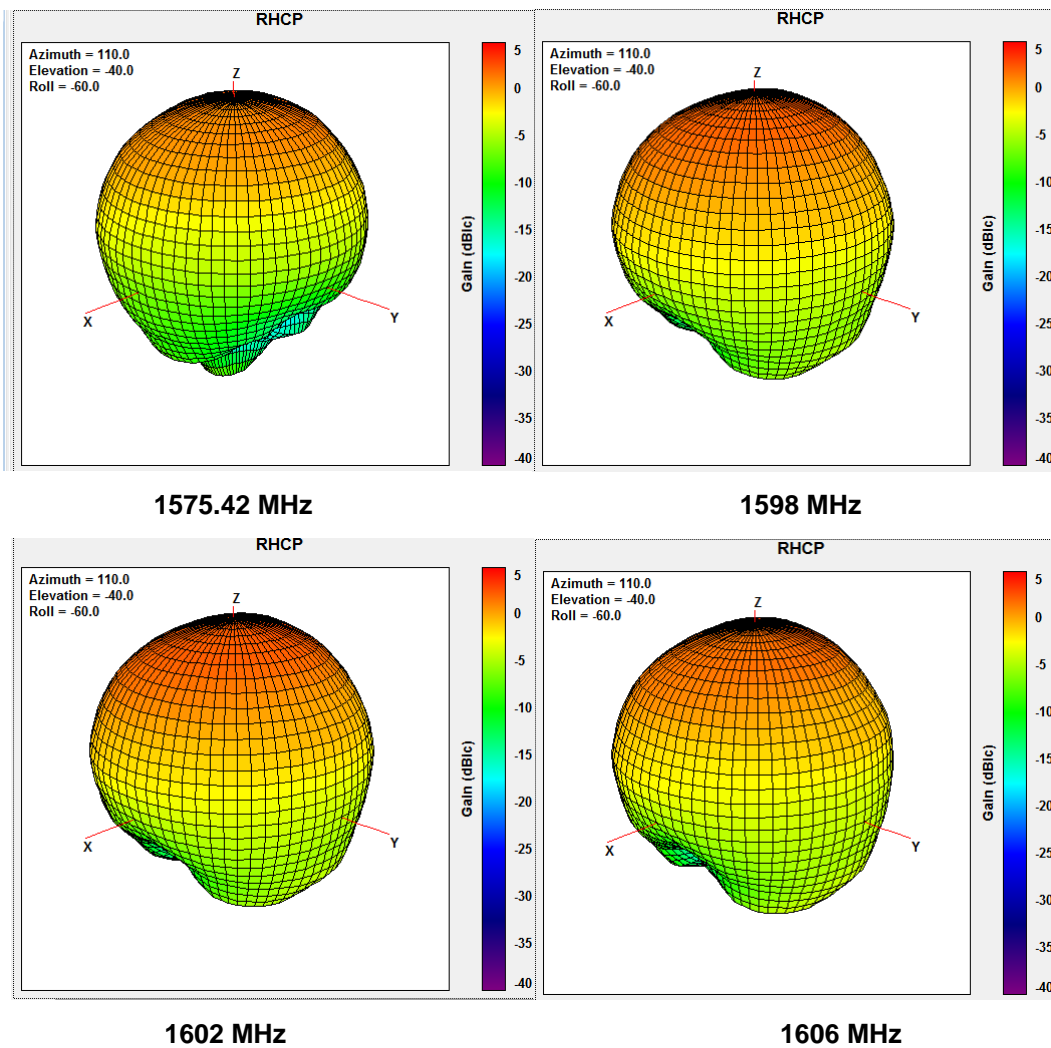
TITLE : PA1590MS4G-100-SMD-S
 Engineering Specification

DOCUMENT NO.

ENS000073450

SPEC REV.
 P0

2.2 Gain Pattern (Unit : dBic)



UNLESS OTHER SPECIFIED TOLERANCES ON :	
X=±	X.X=± X.XX=±
ANGLES=±	HOLEDIA=±
SCALE :	UNIT : mm
DRAWN BY:詹雅萍	CHECKED BY:馬敏勝
DESIGNED BY:鄭大福	APPROVED BY:曾源標
TITLE : PA1590MS4G-100-SMD-S Engineering Specification	

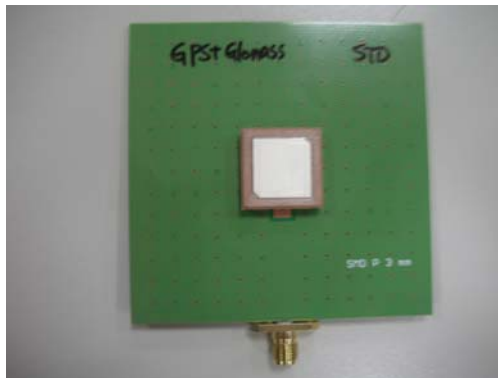


INPAQ TECHNOLOGY CO., LTD.

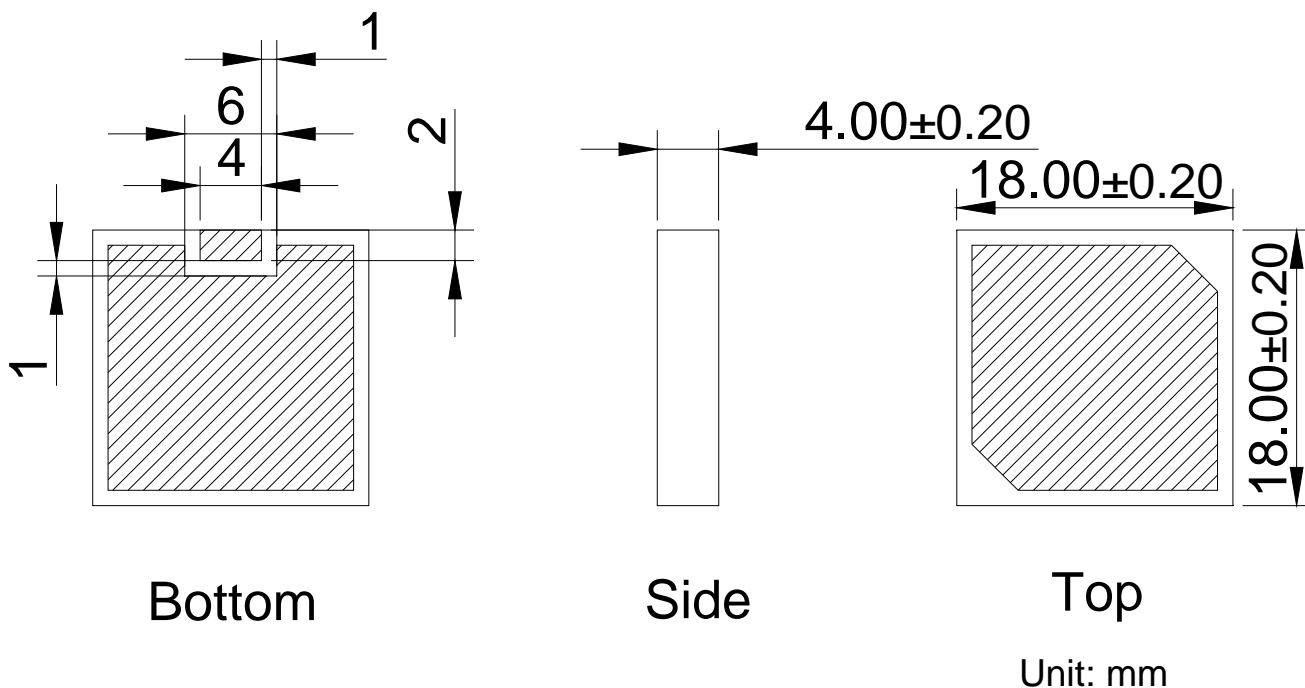
THIS DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF INPAQ TECHNOLOGY CO.,LTD.AND SHALL NOT BE REPRODUCED OR USED AS THE BASIS FOR THE MANUFACTURE OR SALE OF APPARATUS OR DEVICES WITHOUT PERMISSION


DOCUMENT NO.	ENS000073450	SPEC REV.
		P0

2.3 Antenna Direction

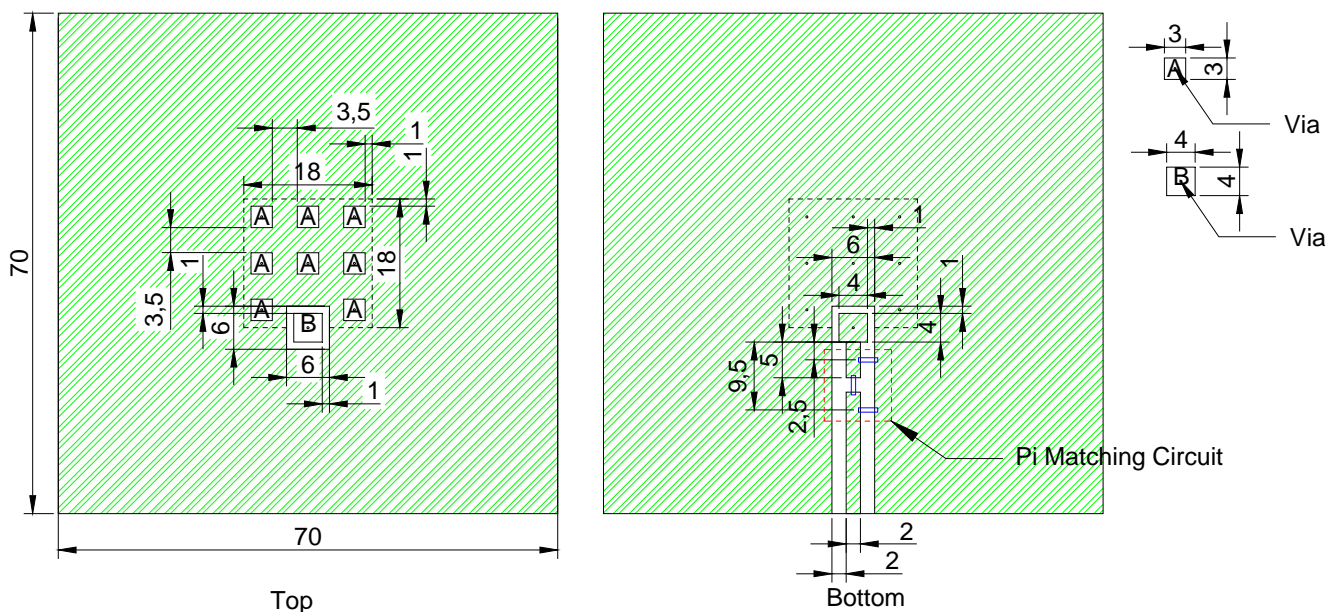


3. Dimension



UNLESS OTHER SPECIFIED TOLERANCES ON : $X = \pm$ $X.X = \pm$ $X.XX = \pm$ ANGLES = \pm HOLEDIA = \pm		 INPAQ TECHNOLOGY CO., LTD.
SCALE :	UNIT : mm	
DRAWN BY: 詹雅萍	CHECKED BY: 馬敏勝	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
DESIGNED BY: 鄭大福	APPROVED BY: 曾源標	
TITLE : PA1590MS4G-100-SMD-S Engineering Specification		DOCUMENT NO. ENS000073450
		SPEC REV. P0

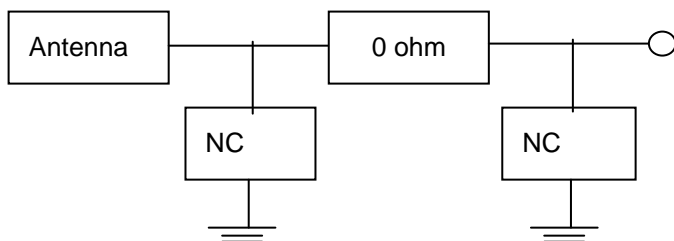
4. Test Condition Ground Plane (Example for PCB 1 mm)



Unit : mm

A, B are Solder Pads
 Bottom side needs π matching circuit.
 Tolerance : ± 0.2 mm

π matching circuit :



UNLESS OTHER SPECIFIED TOLERANCES ON :	
X=±	X.X=± X.XX=±
ANGLES=±	HOLEDIA=±
SCALE :	UNIT : mm
DRAWN BY:詹雅萍	CHECKED BY:馬敏勝
DESIGNED BY:鄭大福	APPROVED BY:曾源標
TITLE : PA1590MS4G-100-SMD-S Engineering Specification	

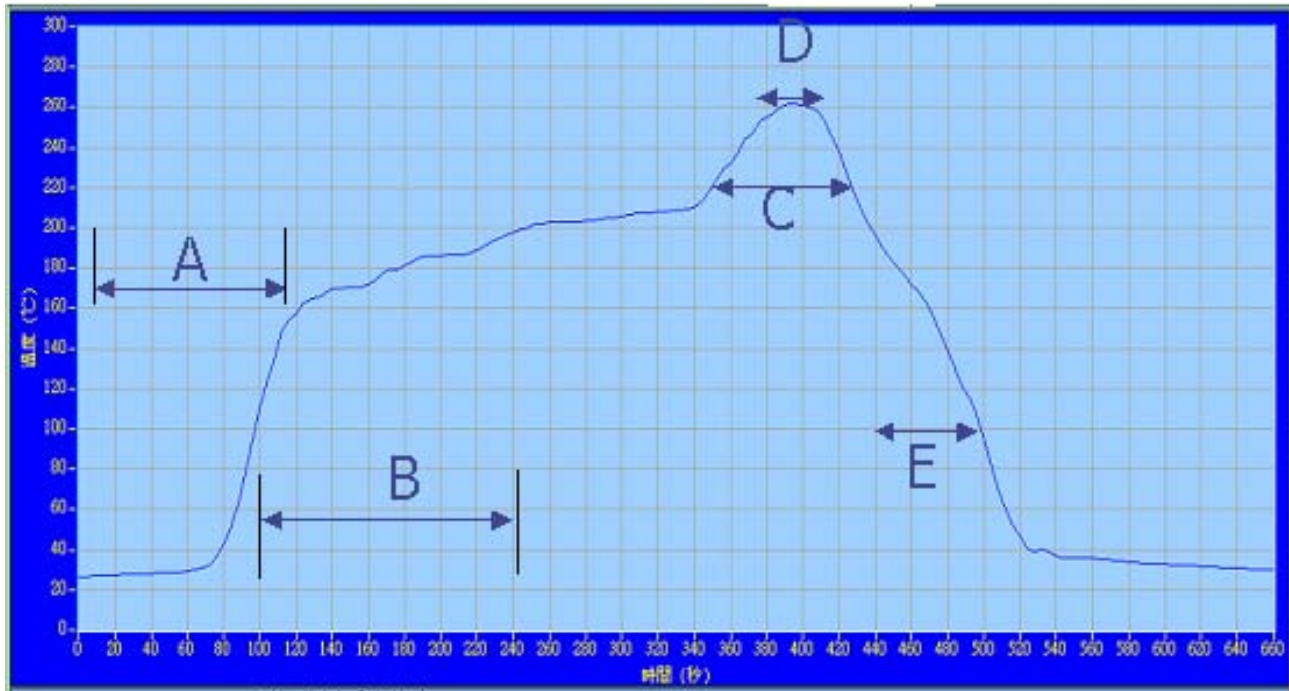


INPAQ TECHNOLOGY CO., LTD.

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

DOCUMENT NO.	ENS000073450	SPEC REV.
		P0

5. Recommendable Reflow Soldering



A	Rising temperature	The normal to Preheating	60s to 120s
B	Preheating	80°C to 200°C	140s to 150
C	Temperature	220°C to 260°C to 220°C	80 to 90s
D	Main heating	if 260°C	20s~30s
E	Regular cooling	200°C to 100°C	1°C/s ~ 4°C/s

* The thickness of Solder should be controlled to be higher than 0.1 mm.

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=± X.X=± X.XX=±
 ANGLES=± HOLEDIA=±



INPAQ TECHNOLOGY CO., LTD.

SCALE : UNIT : mm

DRAWN BY:詹雅萍 CHECKED BY:馬敏勝
 DESIGNED BY:鄭大福 APPROVED BY:曾源標

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 : PA1590MS4G-100-SMD-S
 Engineering Specification

DOCUMENT NO.

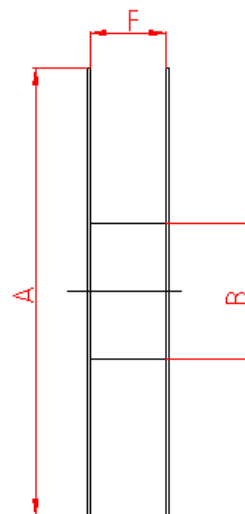
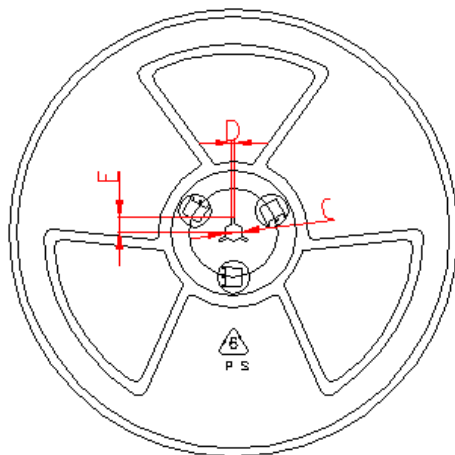
ENS000073450

SPEC REV.
 P0

6. Delivery mode

Pending

7. Taping Reel Dimensions



A	B	C	D	E	F
±2.0	±4.0	±0.2	±0.2	±2.0	±2.0
330	100	13.2	2	10.75	32.4

8. Quantity of Products in the Taping Package

(1) Standard quantity : 300Pcs/Reel

UNLESS OTHER SPECIFIED TOLERANCES ON :
 X=± X.X=± X.XX=±
 ANGLES=± HOLEDIA=±



INPAQ TECHNOLOGY CO., LTD.

SCALE : UNIT : mm
 DRAWN BY:詹雅萍 CHECKED BY:馬敏勝
 DESIGNED BY:鄭大福 APPROVED BY:曾源標

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 : PA1590MS4G-100-SMD-S
 Engineering Specification

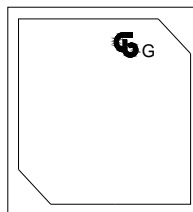
DOCUMENT NO.	ENS000073450	SPEC REV.
		P0

9. Explanation of Appendix


PA1590MS4G-100-SMD-S (1)

(1) S is Option appendix Marking

Special Marking



Patch top electrode

UNLESS OTHER SPECIFIED TOLERANCES ON : X=± X.X=± X.XX=± ANGLES=± HOLEDIA=±		 INPAQ TECHNOLOGY CO., LTD.
SCALE :	UNIT : mm	
DRAWN BY:詹雅萍	CHECKED BY:馬敏勝	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
DESIGNED BY:鄭大福	APPROVED BY:曾源標	
TITLE : PA1590MS4G-100-SMD-S Engineering Specification		DOCUMENT NO. ENS000073450
		SPEC REV. P0