

PATGPS-I6H10G-102-1ZM

Engineering Specification

1. Typical Electrical Properties :

GPS L1 :

Characteristics	Specification	Unit	Conditions
Frequency	1560-1610	MHz	Note : (1)
Zenith Gain	2.1 typ.	dBic	
S ₁₁	≤-10	dB	
Polarization	RHCP		
Frequency Temperature Coefficient	0±20	ppm/°C	-40°C to +85°C

GPS L2 :

Characteristics	Specification	Unit	Conditions
Frequency	1202-1252	MHz	Note : (1)
Zenith Gain	3.1 typ.	dBic	
S ₁₁	≤-10	dB	
Polarization	RHCP		
Frequency Temperature Coefficient	0±20	ppm/°C	-40°C to +85°C

Note : (1) Patch Antenna is located on 70x70 mm Ground
PATGPS-I6H10G-102-1ZM, G : Green parts (RoHS compliance)
-102 are the code of project number, -1ZM show of appendix

UNLESS OTHER SPECIFIED TOLERANCES ON :
X=±0.25 X.X=±0.2 X.XX=±0.05
ANGLES=±1 HOLEDIA=±0.1



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SCALE : UNIT : mm
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DESIGNED BY: 李守仁 APPROVED BY: 黃月碧

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ENGINEERING SPECIFICATION

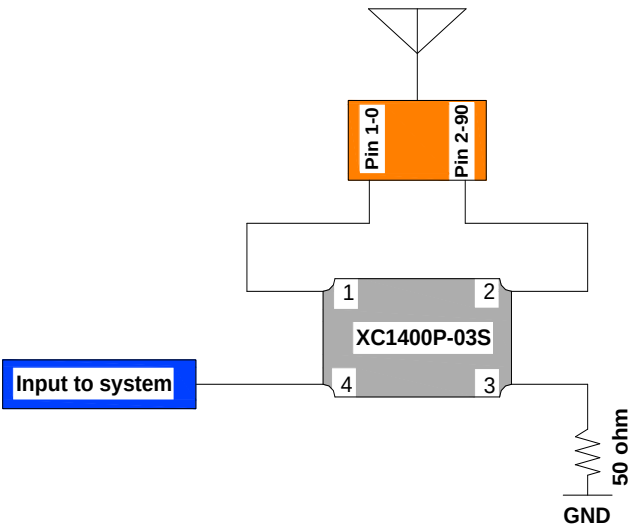
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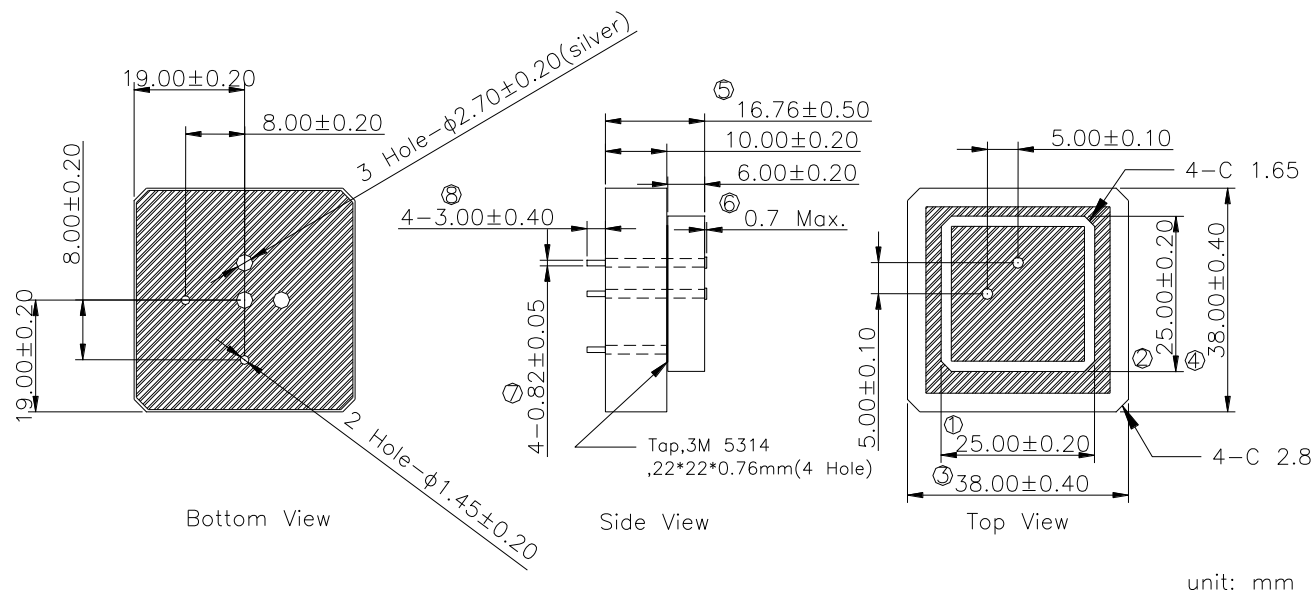
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A2

2. Coupler Electrical Specifications and Circuit :

Hybrid Coupler XC1400P-03S	Frequency	Isolation	Insertion Loss	VSWR
	1563-1588 MHz	23 dB	0.32 dB	1.20
	1215-1240 MHz	23 dB	0.23 dB	1.17



3. Dimension



unit: mm

Note: These balloons are important dimension. The others are reference dimension.
For the electrical characteristics adjustment, silver electrode might be trimmed.
This will not affect antenna performance.

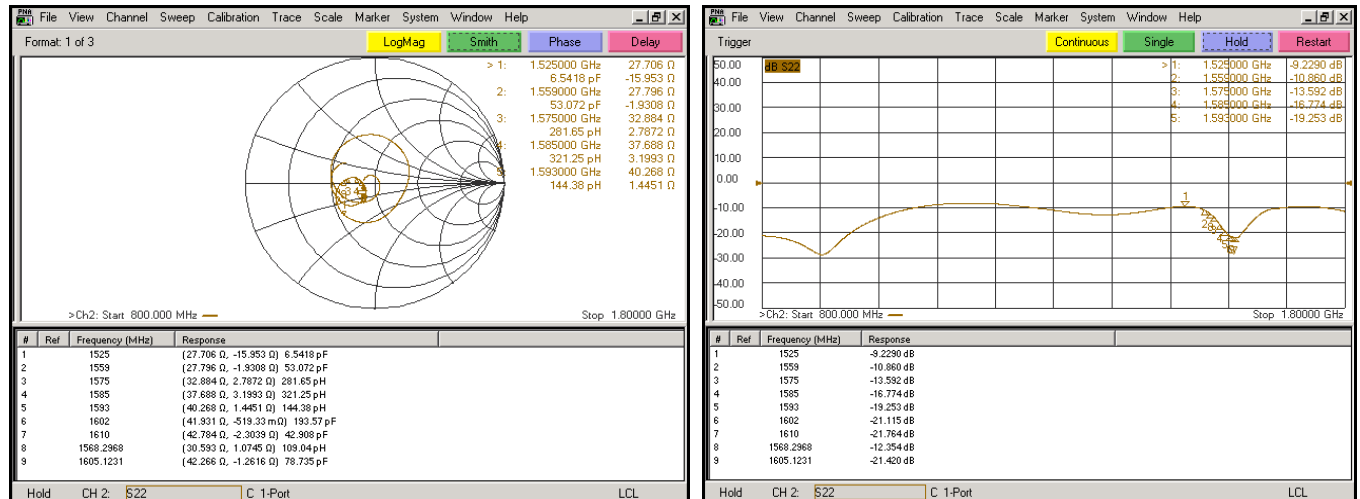
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4. Patch Antenna Performance and Characteristic Data on 70x70 mm

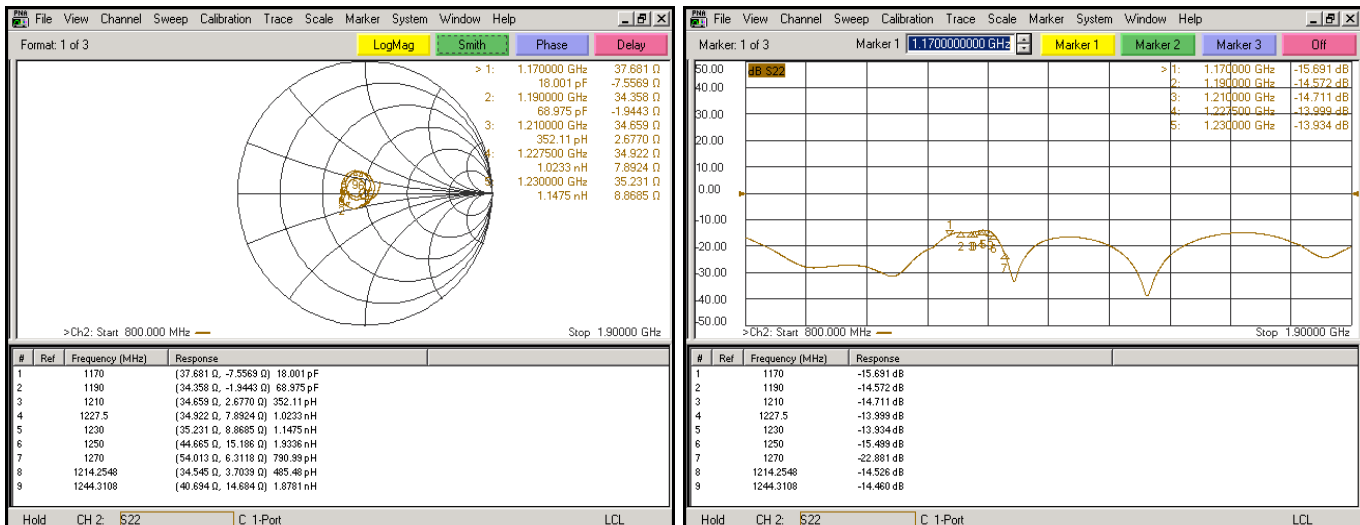
Ground :

4.1 Smith Chart/S₁₁ (Include Coupler)

GPS L1 :



GPS L2 :



UNLESS OTHER SPECIFIED TOLERANCES ON :

X=±0.25 X.X=±0.2 X.XX=±0.05

ANGLES=±1 HOLEDIA=±0.1

SCALE :

UNIT : mm

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TITLE : PATGPS-16H10G-102-1ZM
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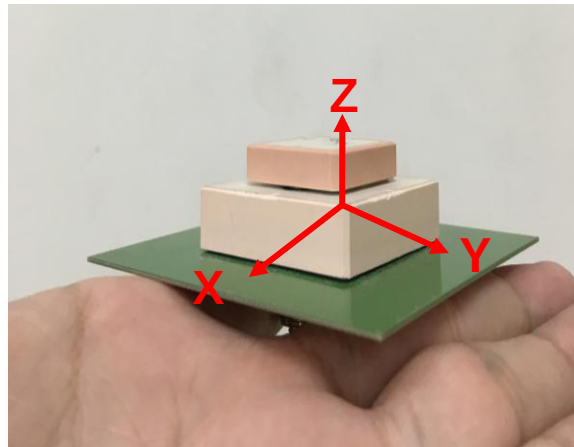
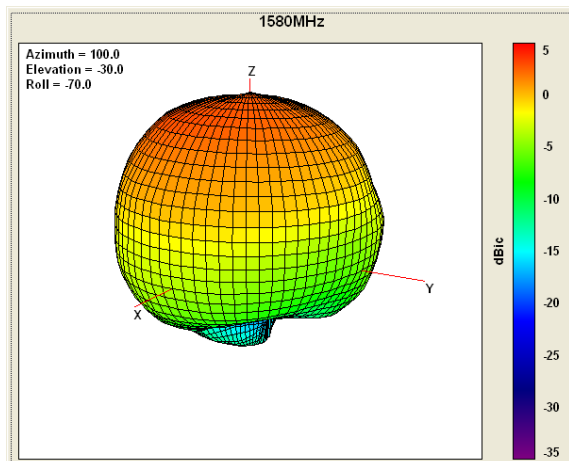
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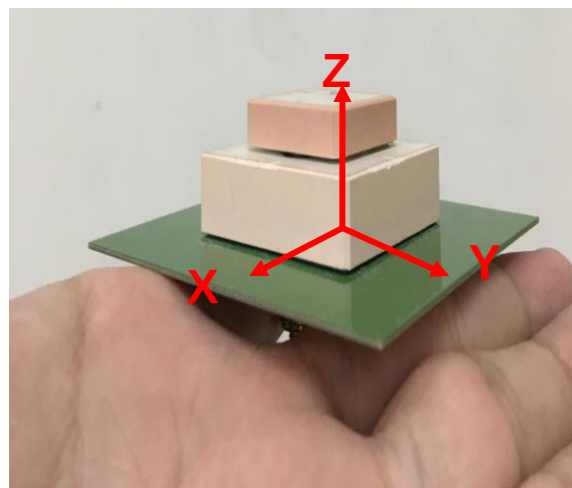
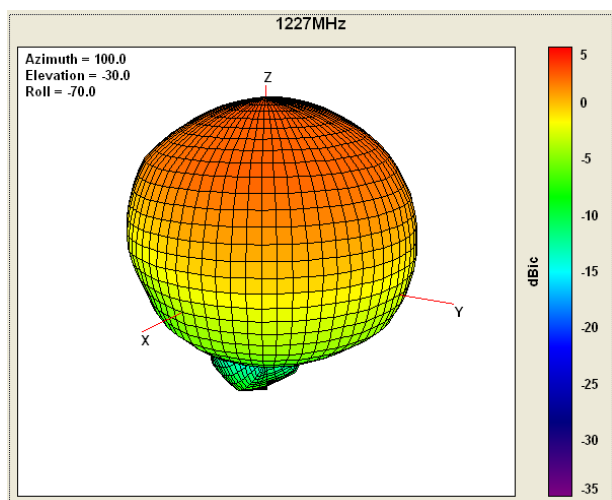
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4.2 3D Circular Polarization Gain Pattern : (Unit : dBic)

GPS L1 (1580MHz) :



GPS L2 (1227MHz) :



UNLESS OTHER SPECIFIED TOLERANCES ON :
 $X = \pm 0.25$ $X.X = \pm 0.2$ $X.XX = \pm 0.05$
 ANGLES = ± 1 HOLEDIA = ± 0.1

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		A2

5. Typical Electrical Properties on INPAQ Test Ground

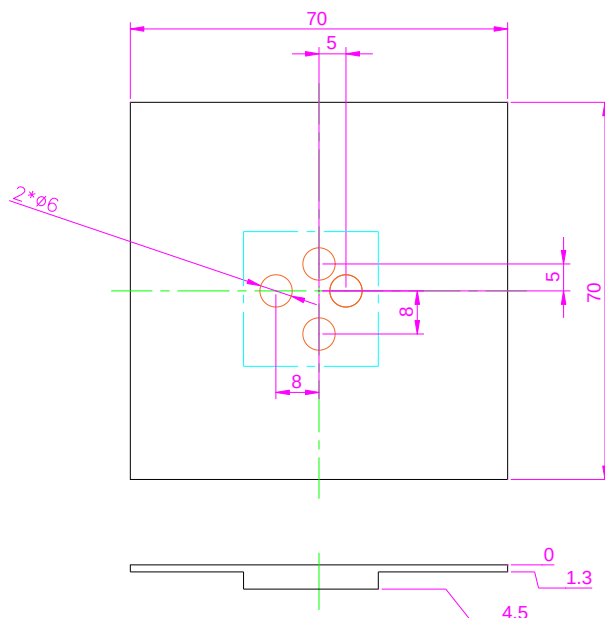
GPS L1 (Stacked):

Characteristics	Specification	Unit	Conditions
Pin 1	1587.2 ± 5	MHz	By Test Ground Plane
Pin 2	1589.2 ± 5	MHz	
S_{11}	< -10	dB	

GPS L2 (Stacked):

Characteristics	Specification	Unit	Conditions
Pin 1	1224.5 ± 5	MHz	By Test Ground Plane
Pin 2	1228.0 ± 5	MHz	
S_{11}	< -6	dB	

6. Test Condition Ground Plane



unit: mm

UNLESS OTHER SPECIFIED TOLERANCES ON :
 $X = \pm 0.25$ $X.X = \pm 0.2$ $X.XX = \pm 0.05$
 ANGLES = ± 1 HOLEDIA = ± 0.1



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SCALE :

UNIT : mm

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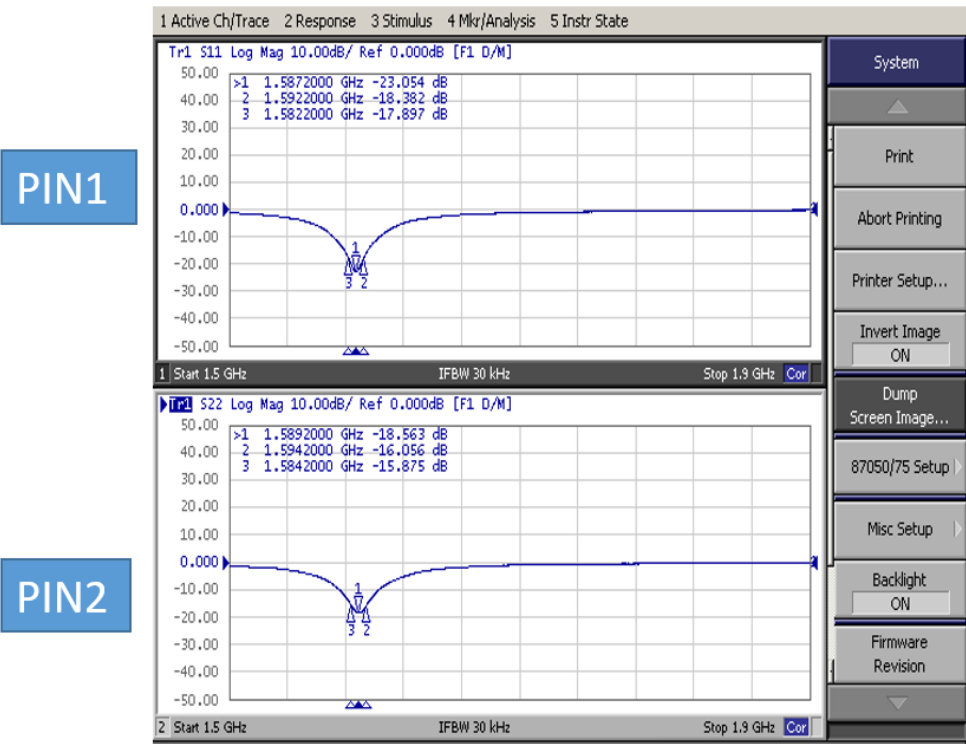
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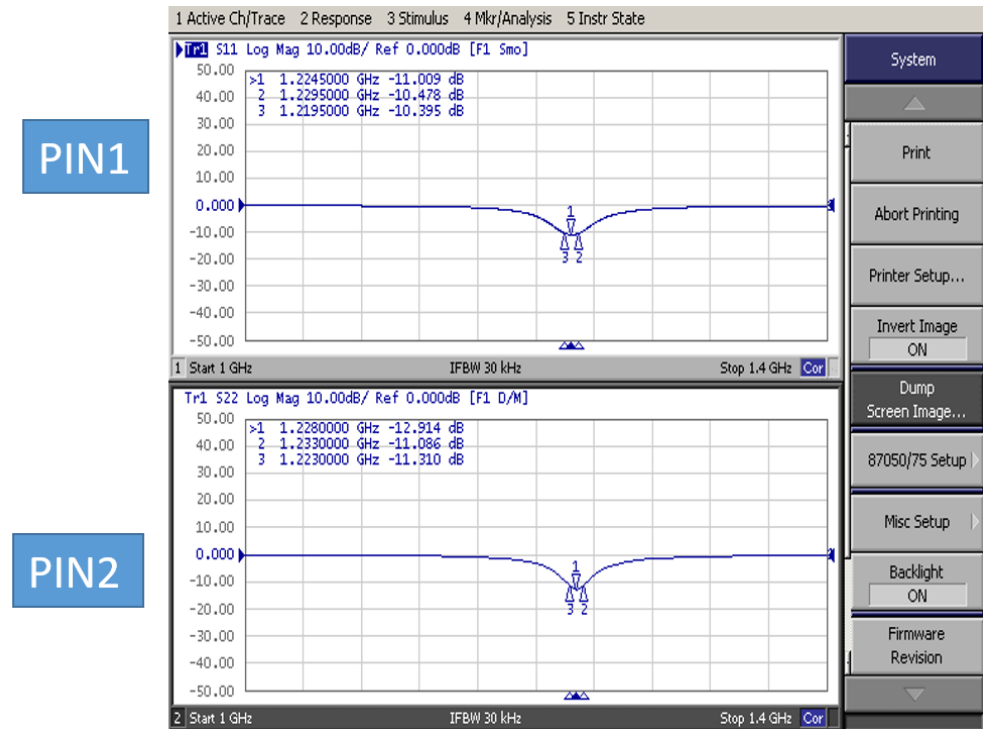
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7. Return Loss Characteristics

GPS L1 (Stacked):



GPS L2 (Stacked):



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ANGLES=±1 HOLEDIA=±0.1

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DOCUMENT NO.	ENS000096240	SPEC REV. A2
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8. Explanation of Appendix

PATGPS-I6H10G-102-1ZM
(1)(2)(3)

(1) “1” denotes 3 mm pin length

(2) Adhesive Tape “Z” denotes 32×32mm Nitto 5000NS

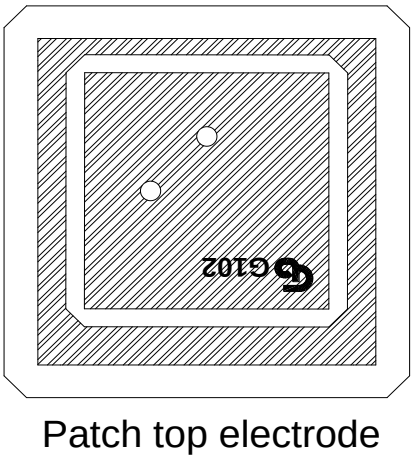
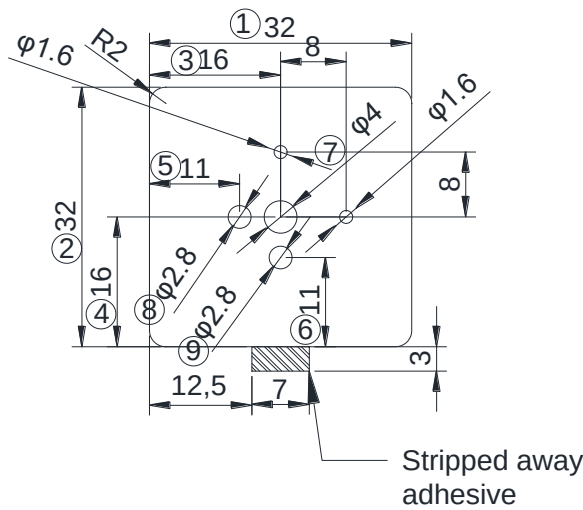
Adhesive Transfer Tape Specification

- 2.1 Thickness : 0.16mm
- 2.2 Release Liner : 0.1mm (typ.) printed paper or paper
- 2.3 Dimension : mm
- 2.4 Marking and color on the tape may change without notice

(3) Option appendix “M” denotes marking needed

Marking configuration

- 3.1 Logo  for INPAQ Logo
- 3.2 Type  for green product antenna
- 3.3 Three digits  are the code of our project number



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ANGLES=±1 HOLEDIA=±0.1



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DOCUMENT NO. ENS000096240 SPEC REV. A2

9. Caution and Warranty

- (1) In order to slow down the oxidation and sulfurization from air onto silver, the products are sealed by vacuum packaging. It is ok to use them within 12 months of delivery.
- (2) Once the package is open, please assemble them as soon as possible. If there are products left for future assembly, please repack and reseal them within 48 hours after opening.
- (3) Please recheck the solderability before using if the products are over 12 months of delivery, no matter they are originally sealed or resealed.
- (4) The silver may eventually become tarnish because of oxidation and sulfurization, however, it won't affect the electrical performance, but only solderability. Thus, please assemble them as early as possible.

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