

# PAS2333MZ50H4G-005-16S

## Engineering Specification

### 1. Typical Electrical Properties

Symbol	Parameter	Test Condition		Limits			Unit
				Min	Fc	Max	
$f_i$	Input Frequency	Note: (1)		2320	2332.5	2345	MHz
$G_{AE}$	Antenna Passive Gain ( $G_{AE}$ is measured over the entire 12.5 MHz BW)	Elevation angle 90°	Average	5.78	5.97	6.10	dBic
			Max	6.18	6.63	6.8	
			Min	5.49	5.78	5.84	
			Ripl	0.69	0.85	0.96	
		Elevation angle 80°	Average	5.75	6.01	6.10	
			Max	6.1	6.51	6.67	
			Min	5.52	5.84	5.79	
			Ripl	0.58	0.67	0.88	
		Elevation angle 70°	Average	5.45	5.80	5.92	
			Max	5.77	6.23	6.43	
			Min	5.06	5.41	5.55	
			Ripl	0.71	0.82	0.88	
		Elevation angle 60°	Average	4.71	5.05	5.18	
			Max	5.16	5.44	5.62	
			Min	4.33	4.66	4.75	
			Ripl	0.83	0.78	0.87	
		Elevation angle 50°	Average	4.11	4.32	4.43	
			Max	4.56	4.7	4.93	
			Min	3.57	3.84	3.95	
			Ripl	0.99	0.86	0.98	
		Elevation angle 40°	Average	3.18	3.46	3.52	
			Max	3.77	4.1	4.17	
			Min	2.75	2.88	2.78	
			Ripl	1.02	1.22	1.39	
		Elevation angle 30°	Average	2.05	2.30	2.35	
			Max	2.66	2.92	2.98	
			Min	1.3	1.58	1.64	
			Ripl	1.36	1.34	1.34	
		Elevation angle 25°	Average	1.47	1.73	1.79	
			Max	2.09	2.36	2.55	
			Min	0.94	1.09	1.04	
			Ripl	1.15	1.27	1.51	
		Elevation angle 20°	Average	0.89	1.15	1.23	
			Max	1.67	1.95	2.11	
			Min	0.26	0.3	0.28	
			Ripl	1.41	1.65	1.83	

Note: (1) Patch Antenna is Located on 50\*50 mm Ground

PAS2333MZ50H4G-005-16S, G : Green parts (RoHS compliance)

-005 are the code of project number, -16S show of appendix

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=±      X.X=±      X.XX=±

ANGLES=±      HOLEDIA=±



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SCALE :      UNIT : mm

DRAWN BY : 楊奇峰      CHECKED BY : 黃月碧

DESIGNED BY : 鄭大福      APPROVED BY : 曾源標

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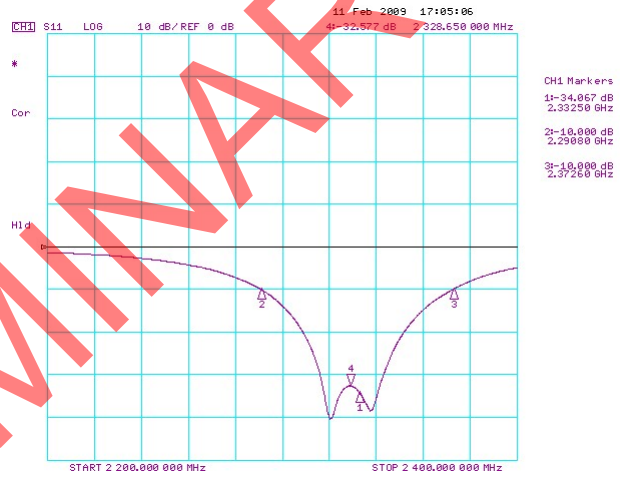
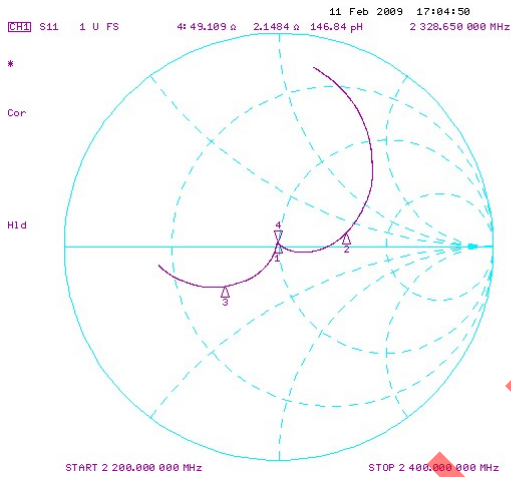
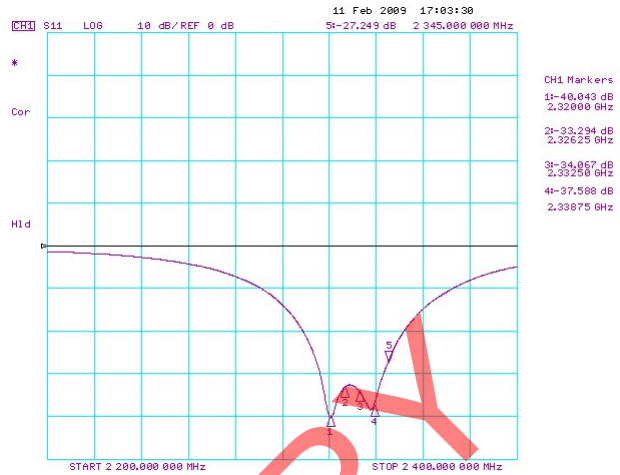
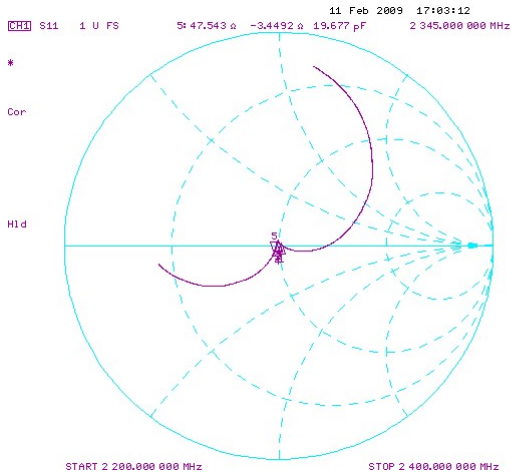
TITLE : PAS2333MZ50H4G-005-16S  
Engineering Specification

DOCUMENT NO.      ENS000032200

SPEC REV.      P0


## 2. Patch Antenna Performance and Characteristic Data on 50\*50 mm Ground

### 2.1 Smith Chart/S<sub>11</sub>

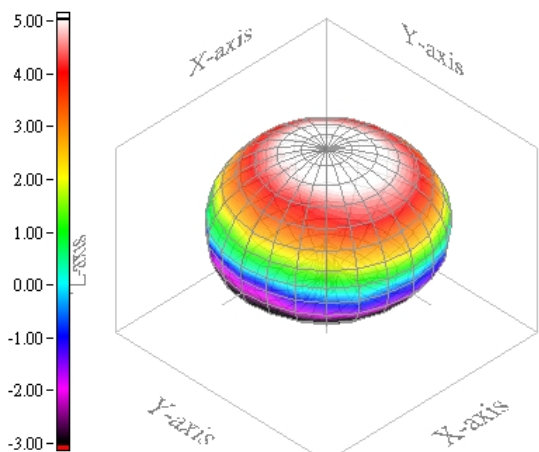


PRELIMINARY

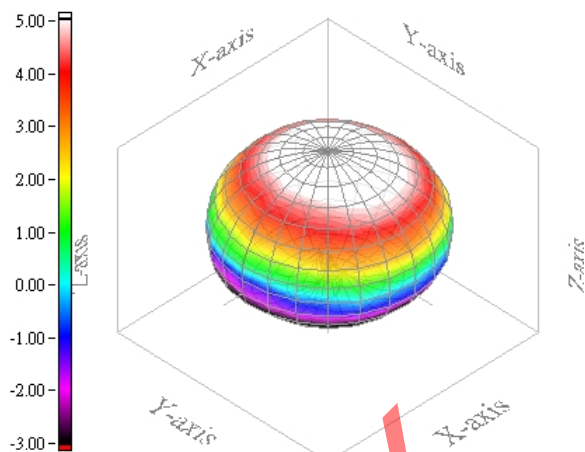
UNLESS OTHER SPECIFIED TOLERANCES ON :	
X=±	X.X=±
ANGLES=±	HOLEDIA=±
SCALE :	UNIT : mm
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DESIGNED BY : 鄭大福	APPROVED BY : 曾源標
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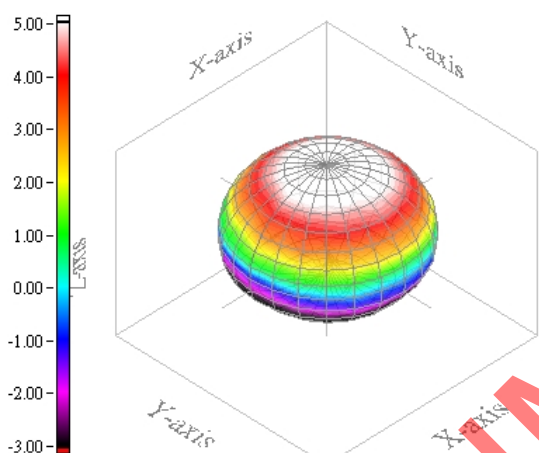
2.2 3D Circular Polarization Gain Pattern: LHCP (Unit : dBic)



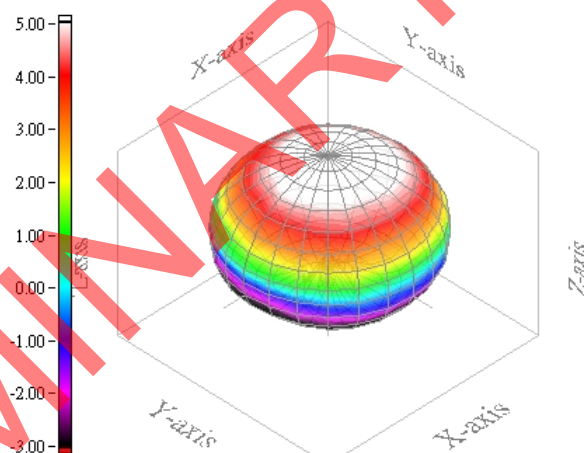
2320 MHz



2326.25 MHz

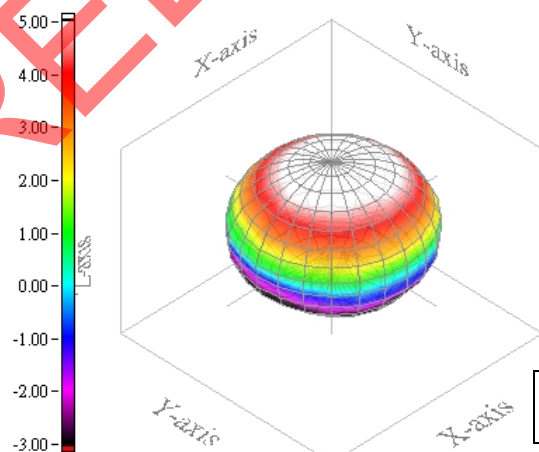


2332.5 MHz

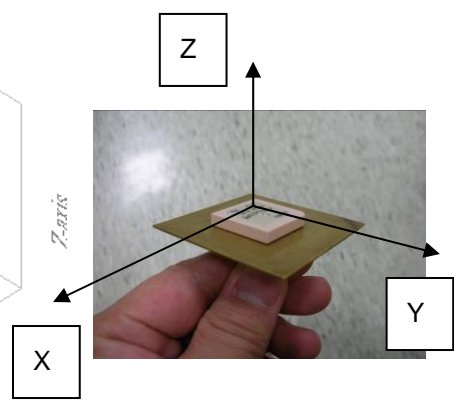


2338.75 MHz

PRELIMINARY



2345 MHz



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 X=±      X.X=±      X.XX=±  
 ANGLES=±      HOLEDIA=±



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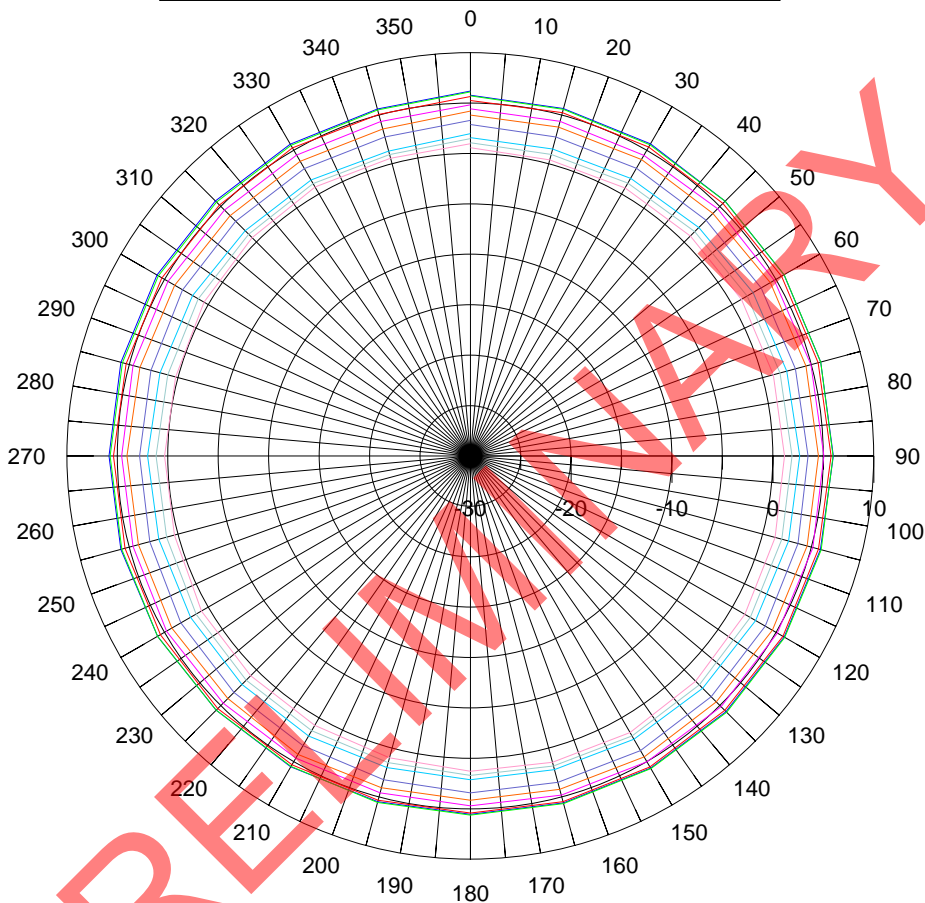
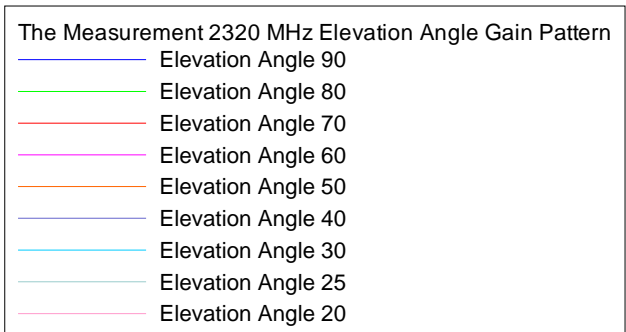
SCALE :      UNIT : mm  
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 Engineering Specification

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2.3 Elevation Angle Gain Pattern (Unit : dBic)



2320 MHz	Average	Max	Min	Ripl
Elevation Angle 90°	5.78	6.18	5.49	0.69
Elevation Angle 80°	5.75	6.1	5.52	0.58
Elevation Angle 70°	5.45	5.77	5.06	0.71
Elevation Angle 60°	4.71	5.16	4.33	0.83
Elevation Angle 50°	4.11	4.56	3.57	0.99
Elevation Angle 40°	3.18	3.77	2.75	1.02
Elevation Angle 30°	2.05	2.66	1.3	1.36
Elevation Angle 25°	1.47	2.09	0.94	1.15
Elevation Angle 20°	0.89	1.67	0.26	1.41

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



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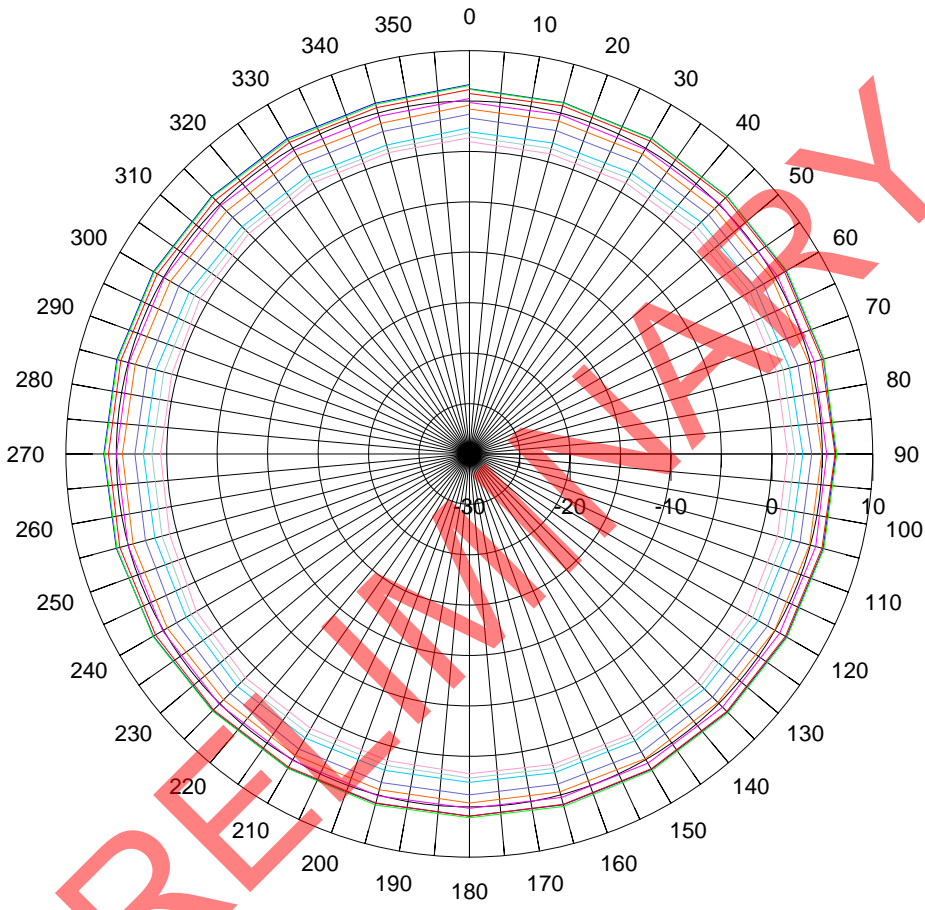
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TITLE : PAS2333MZ50H4G-005-16S  
 Engineering Specification

DOCUMENT NO.                      ENS000032200                      SPEC REV. P0

The Measurement 2326.25 MHz Elevation Angle Gain Pattern

- Elevation Angle 90
- Elevation Angle 80
- Elevation Angle 70
- Elevation Angle 60
- Elevation Angle 50
- Elevation Angle 40
- Elevation Angle 30
- Elevation Angle 25
- Elevation Angle 20



2326.25 MHz	Average	Max	Min	Ripl
Elevation Angle 90°	6.16	6.62	5.87	0.75
Elevation Angle 80°	6.17	6.56	5.9	0.66
Elevation Angle 70°	5.91	6.24	5.55	0.69
Elevation Angle 60°	5.12	5.55	4.68	0.87
Elevation Angle 50°	4.51	4.97	3.94	1.03
Elevation Angle 40°	3.58	4.13	3.09	1.04
Elevation Angle 30°	2.44	3.07	1.71	1.36
Elevation Angle 25°	1.87	2.47	1.32	1.15
Elevation Angle 20°	1.29	2.07	0.56	1.51

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



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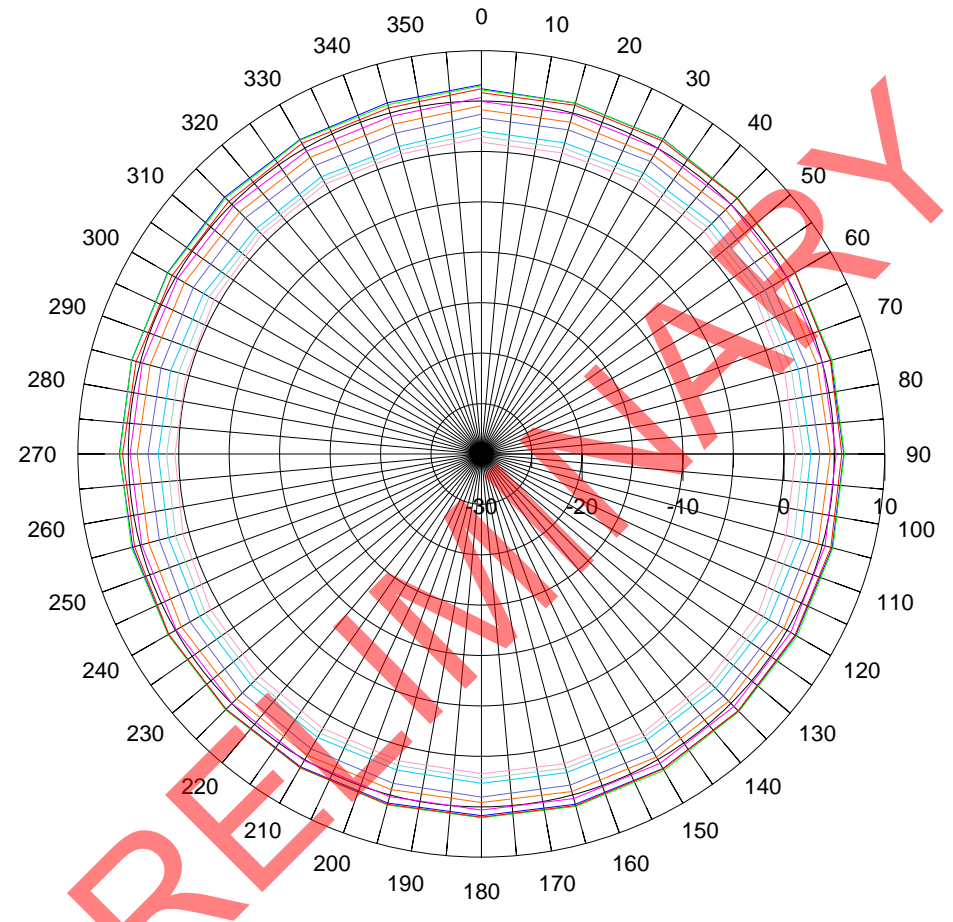
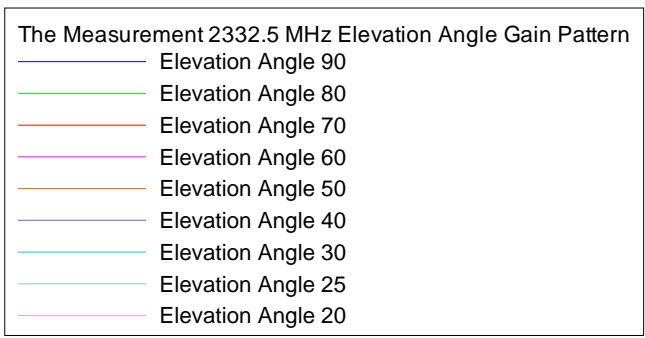
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 DRAWN BY : 楊奇峰            CHECKED BY : 黃月碧  
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 Engineering Specification

DOCUMENT NO.	ENS000032200	SPEC REV.
		P0





2332.5 MHz	Average	Max	Min	Ripl
Elevation Angle 90°	5.97	6.63	5.78	0.85
Elevation Angle 80°	6.01	6.51	5.84	0.67
Elevation Angle 70°	5.80	6.23	5.41	0.82
Elevation Angle 60°	5.05	5.44	4.66	0.78
Elevation Angle 50°	4.32	4.7	3.84	0.86
Elevation Angle 40°	3.46	4.1	2.88	1.22
Elevation Angle 30°	2.30	2.92	1.58	1.34
Elevation Angle 25°	1.73	2.36	1.09	1.27
Elevation Angle 20°	1.15	1.95	0.3	1.65

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



**SCALE :**          **UNIT : mm**  
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**DESIGNED BY : 鄭大福**          **APPROVED BY : 曾源標**

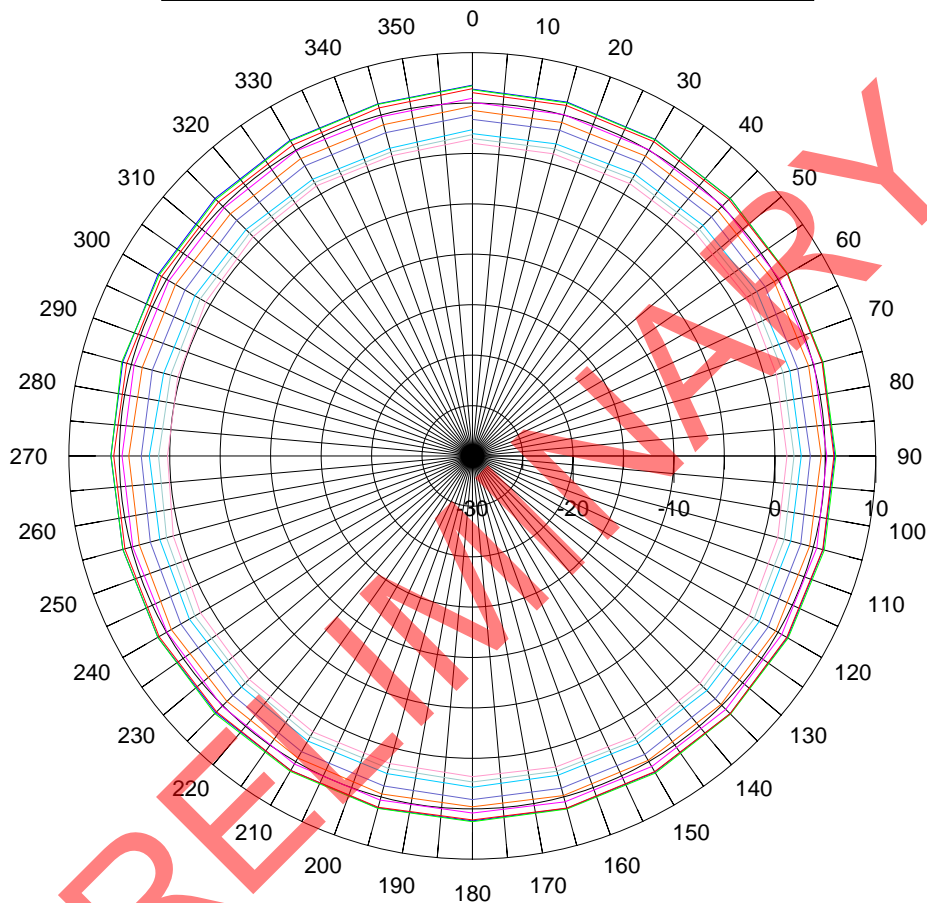
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**TITLE : PAS2333MZ50H4G-005-16S**  
**Engineering Specification**

**DOCUMENT NO.**          **ENS000032200**          **SPEC REV. P0**

The Measurement 2338.75 MHz Elevation Angle Gain Pattern

- Elevation Angle 90
- Elevation Angle 80
- Elevation Angle 70
- Elevation Angle 60
- Elevation Angle 50
- Elevation Angle 40
- Elevation Angle 30
- Elevation Angle 25
- Elevation Angle 20



2338.75 MHz	Average	Max	Min	Ripl
Elevation Angle 90°	6.11	6.78	5.85	0.93
Elevation Angle 80°	6.12	6.71	5.83	0.88
Elevation Angle 70°	5.91	6.42	5.48	0.94
Elevation Angle 60°	5.13	5.56	4.73	0.83
Elevation Angle 50°	4.42	4.87	3.9	0.97
Elevation Angle 40°	3.51	4.17	2.82	1.35
Elevation Angle 30°	2.33	2.89	1.6	1.29
Elevation Angle 25°	1.77	2.51	0.98	1.54
Elevation Angle 20°	1.21	2.13	0.23	1.9

UNLESS OTHER SPECIFIED TOLERANCES ON :

X=±      X.X=±      X.XX=±  
 ANGLES=±      HOLEDIA=±



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SCALE :      UNIT : mm

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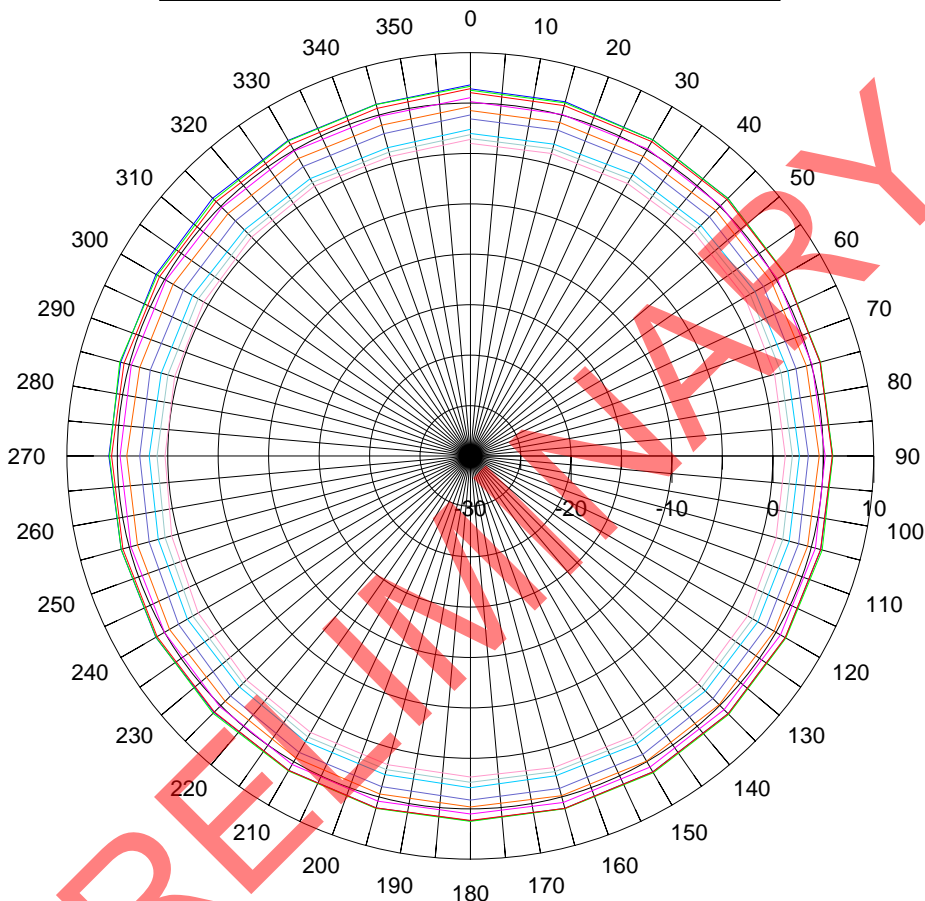
TITLE : PAS2333MZ50H4G-005-16S  
 Engineering Specification

DOCUMENT NO.      ENS000032200

SPEC REV.  
 P0

The Measurement 2345 MHz Elevation Angle Gain Pattern

- Elevation Angle 90
- Elevation Angle 80
- Elevation Angle 70
- Elevation Angle 60
- Elevation Angle 50
- Elevation Angle 40
- Elevation Angle 30
- Elevation Angle 25
- Elevation Angle 20



2345 MHz	Average	Max	Min	Ripl
Elevation Angle 90°	6.10	6.8	5.84	0.96
Elevation Angle 80°	6.10	6.67	5.79	0.88
Elevation Angle 70°	5.92	6.43	5.55	0.88
Elevation Angle 60°	5.18	5.62	4.75	0.87
Elevation Angle 50°	4.43	4.93	3.95	0.98
Elevation Angle 40°	3.52	4.17	2.78	1.39
Elevation Angle 30°	2.35	2.98	1.64	1.34
Elevation Angle 25°	1.79	2.55	1.04	1.51
Elevation Angle 20°	1.23	2.11	0.28	1.83

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



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 DESIGNED BY : 鄭大福                      APPROVED BY : 曾源標

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**Engineering Specification**

**DOCUMENT NO.                      ENS000032200**

**SPEC REV.**  
**P0**

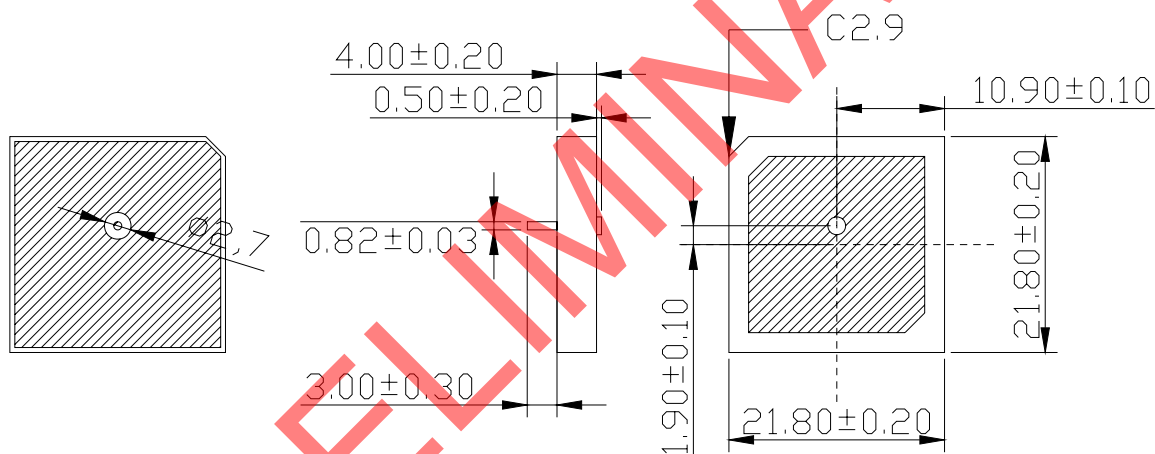



2.4 Antenna on 50\*50 mm Ground:



3. Dimension

Unit : mm



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SCALE :	UNIT : mm	
DRAWN BY : 楊奇峰	CHECKED BY : 黃月碧	
DESIGNED BY : 鄭大福	APPROVED BY : 曾源標	
TITLE : PAS2333MZ50H4G-005-16S Engineering Specification		DOCUMENT NO. <b>ENS000032200</b>
		SPEC REV. <b>P0</b>

### 4. Explanation of Appendix

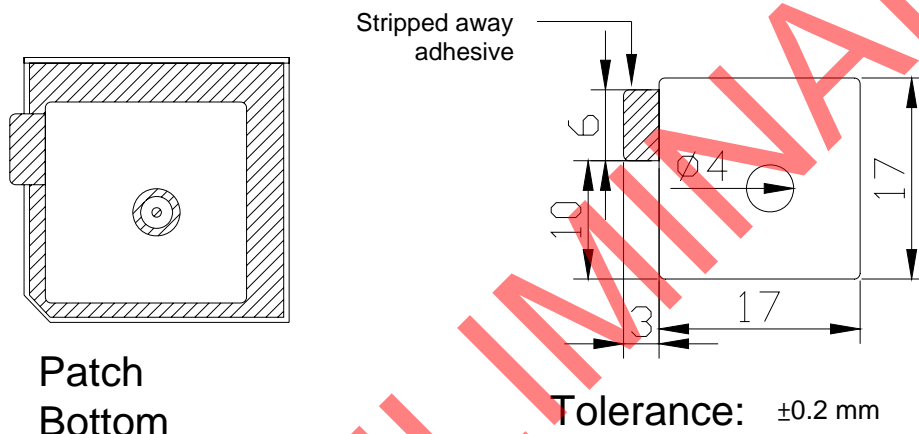
P A S 2 3 3 3 M Z 5 0 H 4 G - 0 0 5 -  $\frac{1}{(1)}$   $\frac{6}{(2)}$   $\frac{S}{(3)}$

(1) Pin = 3 mm

(2) Adhesive Tape 6 17x17mm

Adhesive Transfer Tape Specification

- 2.1 TAPE : Nitto 5000NS 17x17x0.16mm
- 2.2 Thickness : 0.16 mm
- 2.3 Release Liner : 0.1mm (typ.) printed paper or paper
- 2.4 Dimension : mm

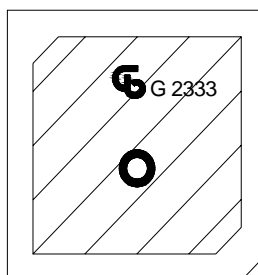


Patch  
Bottom

(3) Option appendix S Marking

Marking configuration

- 3.1 Logo G for INPAQ Logo
- 3.2 Type G for green product antenna
- 3.3 Special print text 2333



UNLESS OTHER SPECIFIED TOLERANCES ON :	
X=±	X.X=±
ANGLES=±	HOLEDIA=±
SCALE :	UNIT : mm
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