

20 x 6.0 x 4.0 LP Ceramic Patch Antenna (AA027B)


1. Explanation of Product Number

H	2	P	1	3	Q	H	C	A	S	0	1	0	0
				(1)	(2)	(3)	(4)	(5)	(6)				



Product Code:

- (1) Product Categories:
3: ceramic patch antenna
- (2) Dimensions and Polarization:
QH: 20 x 6.0 x 4.0(mm)/ linear polarization
- (3) Material:
C: MA-FL
- (4) Working Frequency:
A: 1575.42MHz
- (5) Ground Plane Dimensions:
S: 20 x 6.0(mm)
- (6) Antenna Series:
01 : serial number

Tolerances (Unless otherwise specified) X : ± 1 X.X : ± 0.1 X.XX : ± 0.01 Angle : ± Hole Dia. : ±		 Unictron Technologies Corporation Website: www.unictron.com		
Scale :	Unit : mm	THIS SPECIFICATION IS THE PROPERTY OF UNICTRON TECHNOLOGIES CORPORATION AND SHALL NOT BE REPRODUCED OR USED IN ALL CIRCUMSTANCES WITHOUT WRITTEN PERMISSION		
Prepared By : Meiping	Checked By : Chinling			
Designed By : Chinling	Approved By : Herbert			
TITLE : 20 x 6.0 x 4.0 LP Ceramic Patch Antenna (AA027B)		DOCUMENT NO.	H2P13QHCAS0100	REV. C

2. Features

- *Stable and reliable in performances
- *Low temperature coefficient of frequency
- *Compact size
- *RoHS compliance

3. Applications

- *Navigation systems or position tracking systems
- *Hand-held devices when GPS function is needed, e.g., PDA, Smart phone, PND.

4. Description

Unictron's patch antenna series are ceramic antennas specially designed for GPS application. This ceramic patch antenna has excellent stability and sensitivity through the use of high performance proprietary ceramic materials and processes.

5. Electrical Specifications (20x6.0(mm) ground plane)

5-1.

Characteristics		Specifications	Unit
Outline Dimensions		20x6.0x4.0	mm
Ground Plane		20x6.0	mm
Center Frequency*		1575.42±2	MHz
Bandwidth (under -10dB return loss)		7 min.	MHz
VSWR		2 max.	
Impedance		50	Ω
Polarization		LP	
Gain	Peak	1.5 (typical)	dBi
	Efficiency	62 (typical)	%
Temperature Coefficient of Frequency		0±20 max (@ -40°C ~85°C)	ppm/°C

*Center frequency will be offset to working frequency according to the conditions of user's ground plane and radome.

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DOCUMENT NO.

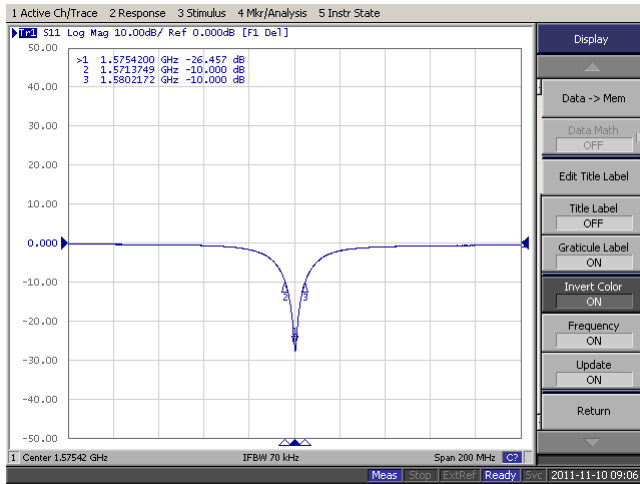
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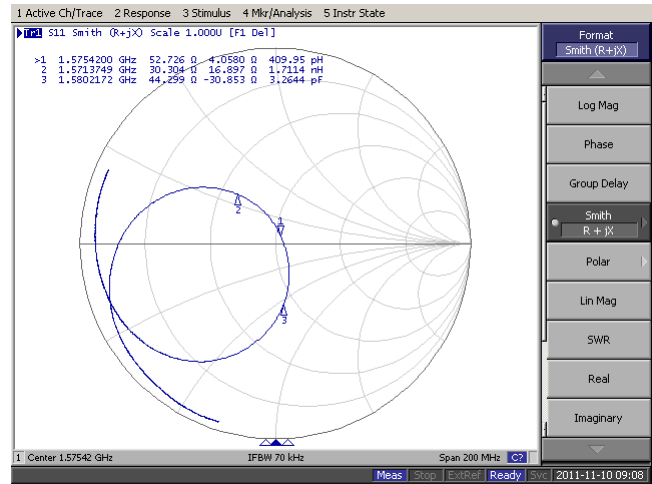
C

5-2.

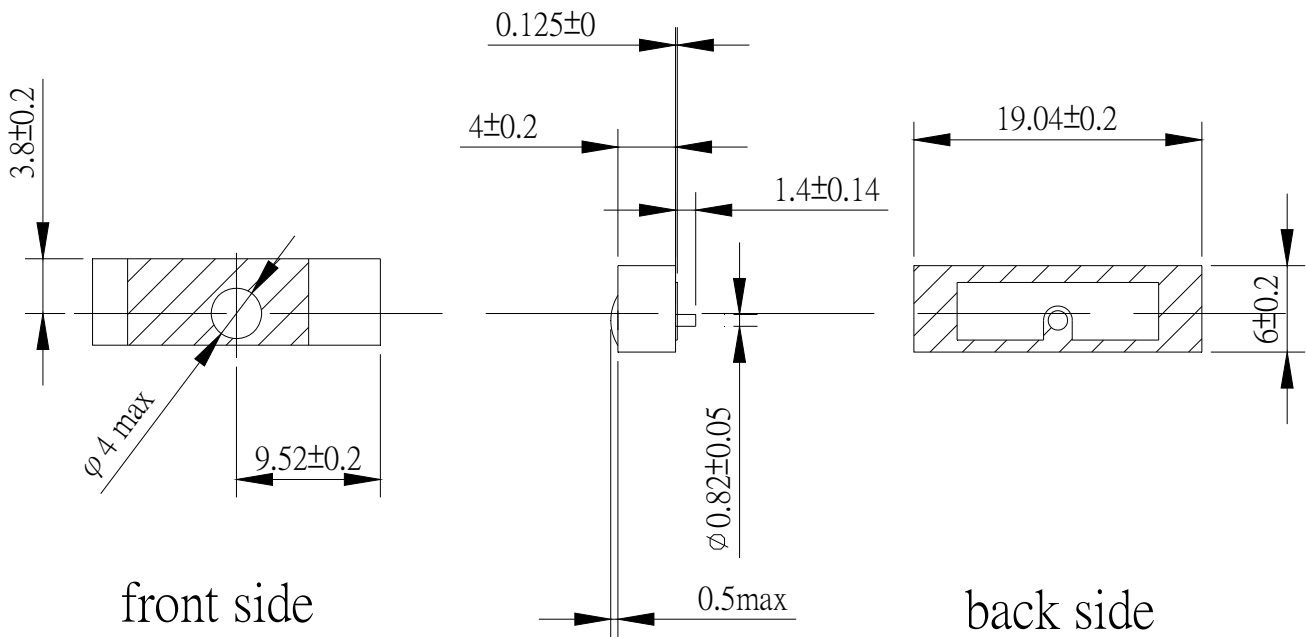
Return Loss(S₁₁)



Smith Chart(S₁₁)



6. Antenna Dimensions (unit: mm)



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Angle : ± Hole Dia. : ±



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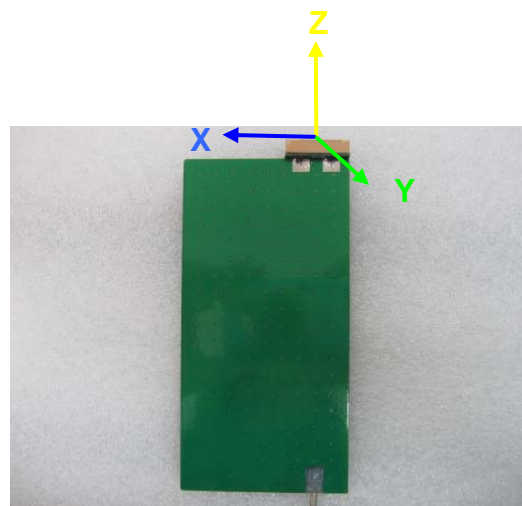
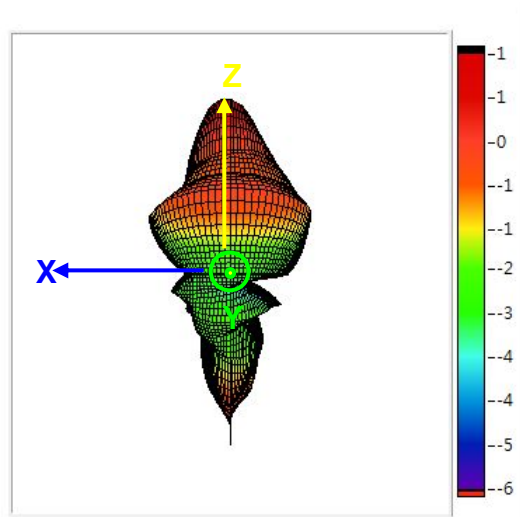
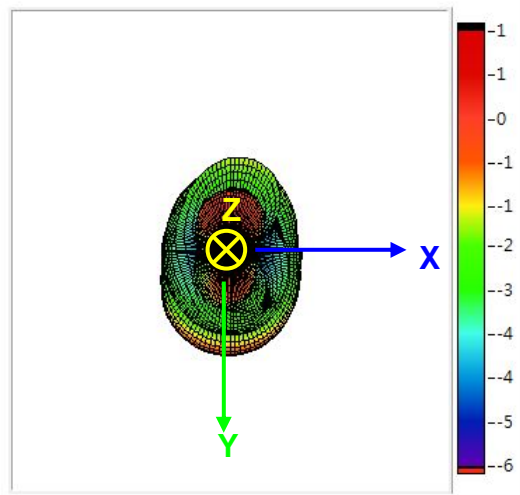
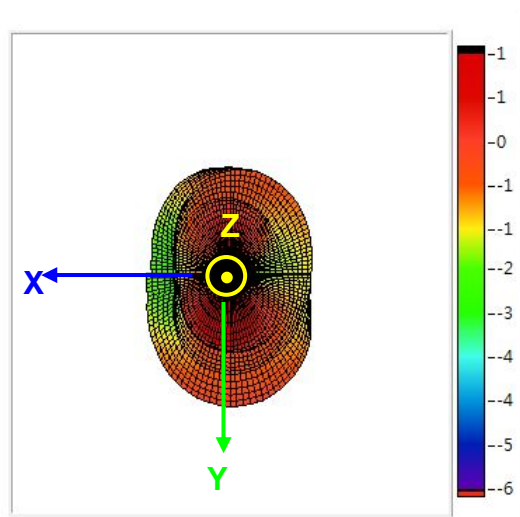
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7. Radiation Pattern (20x6.0(mm) ground plane)

7-1. 3D GPS Gain Pattern (at 1575.42 MHz)



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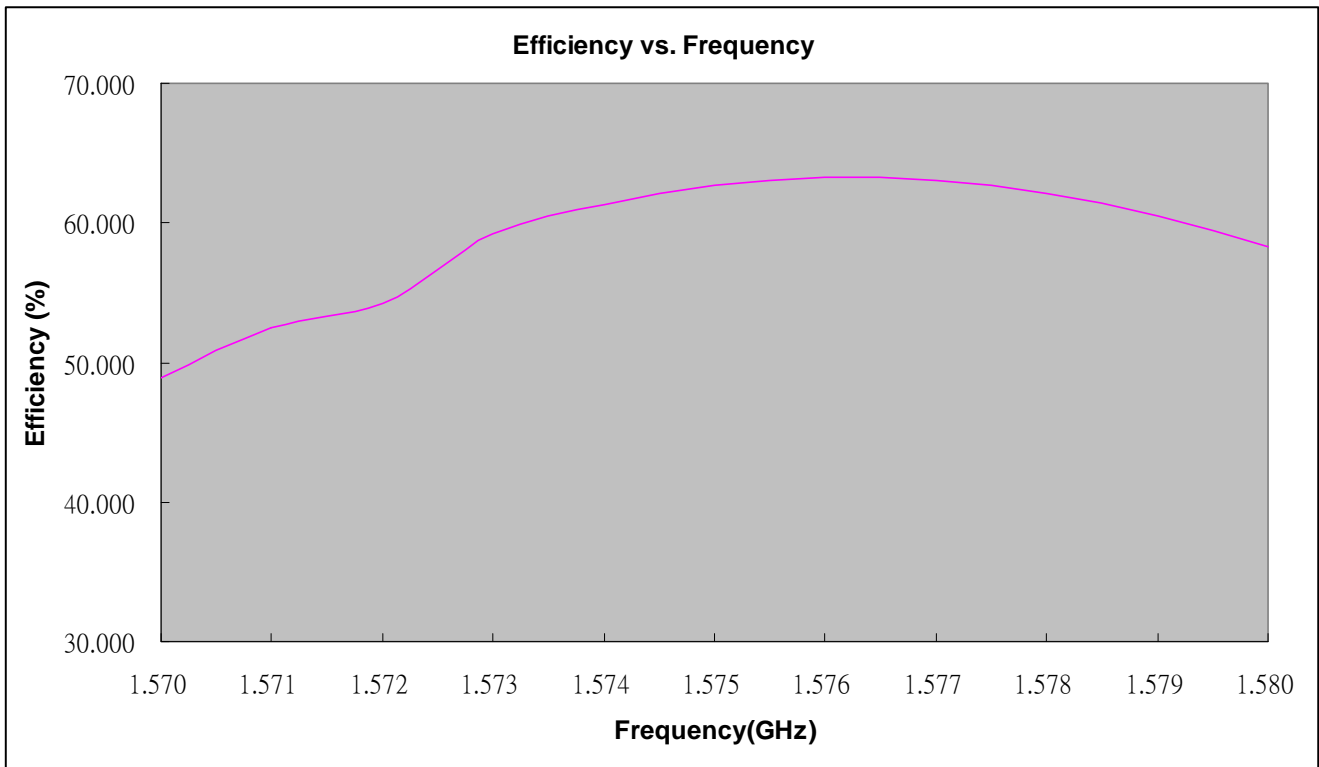
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7-2. Efficiency Table

Frequency(GHz)	1.570	1.571	1.572	1.573	1.574	1.575	1.576	1.577	1.578	1.579	1.580
Efficiency(dB)	-3.11	-2.80	-2.66	-2.28	-2.13	-2.02	-1.99	-2.01	-2.07	-2.18	-2.34
Efficiency (%)	48.87	52.53	54.24	59.21	61.28	62.75	63.29	63.02	62.08	60.49	58.33
Gain (dBi)	0.46	0.78	1.08	1.29	1.43	1.50	1.51	1.48	1.40	1.26	1.06

7-3. Efficiency vs. Frequency



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