



# MPA-258-L1-L5

GPS L1 L5 MICROSTRIP PATCH ANTENNA  
Part #: 189-00057-01

## Description

The MPA-258-L1-L5 is a high gain antenna customized for GPS L1 L5 frequencies. The MPA-258-L1-L5 is a multiband high-performance antenna for high precision GPS and L1 L5 accuracy and positioning. MPA-258-L1-L5 designed for embedded applications which feature GPS L1+L5 such as asset tracking and IOT solutions. The MPA-258-L1-L5 utilizes a special advanced wide-band dual-stacked ceramic patch antenna which leads to higher upper hemisphere efficiency and a lower axial ratio as compared to regular patch antennas. This allows the antenna to be superior and a top choice for demanding GPS L1+L5 multiband/multifrequency antenna requirements.



## Electrical Specifications

Parameter	Specification	
Range Of Receiving Frequency	1575.42 ± 12 MHz	1176.45 ± 12 MHz
Center Frequency	1575 ± 3 MHz	1175 ± 3 MHz
Bandwidth	≥ 22 MHz	≥ 24 MHz
Gain at Zenith	1.8 dB i typ.	0.5 dB i typ.
Return Loss	-6 dB	
VSWR	≤ 2.8	
Polarization	RHCP	
Impedance	50 Ω	

## Mechanical Specification

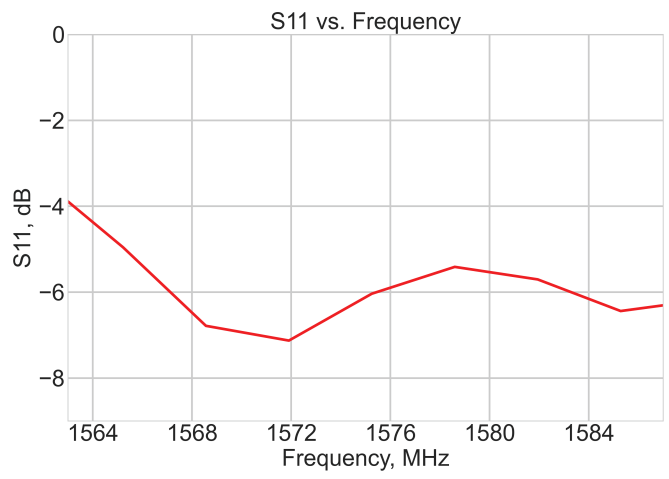
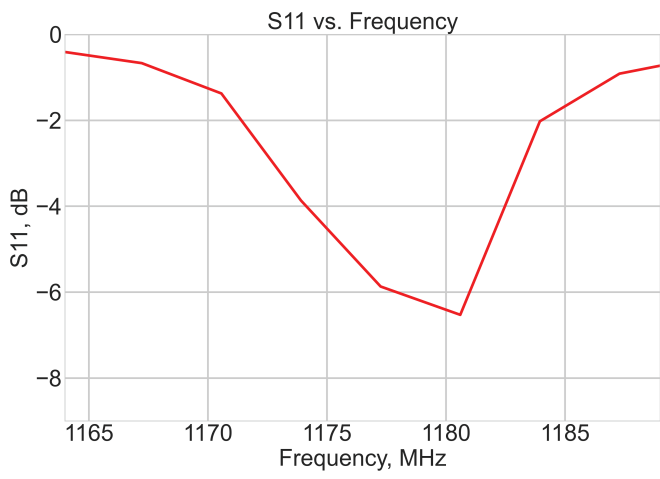
Parameter	Specification
Antenna Dimensions	25 x 25 x 8 mm
Operating Temperature	-40°C to 105°C

## Features

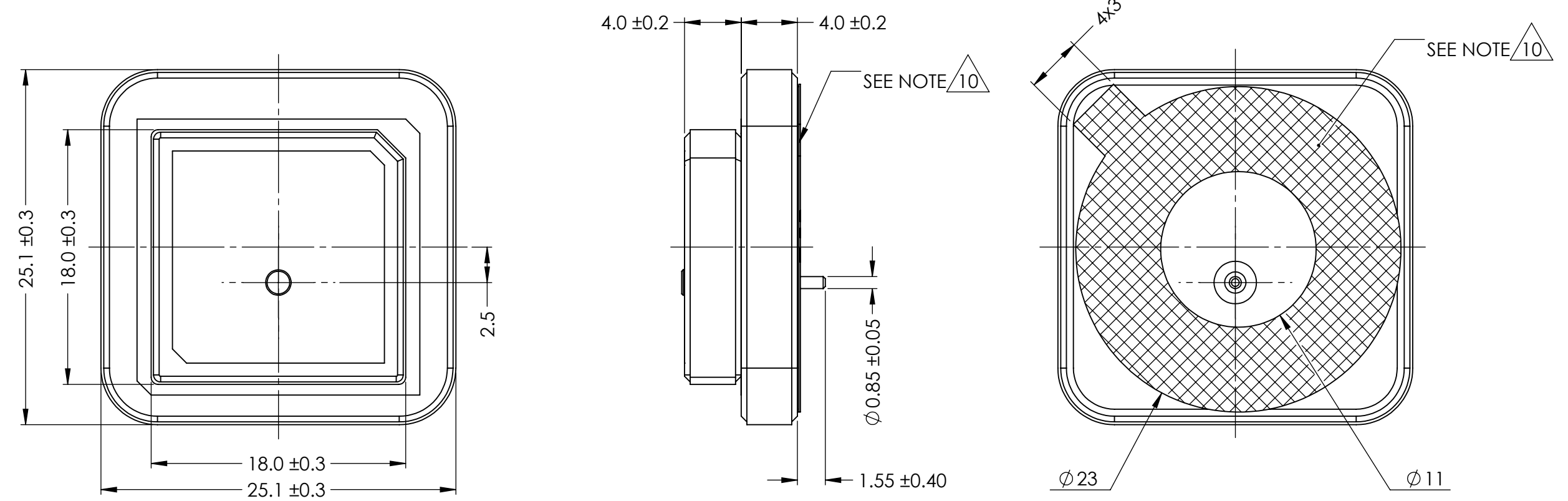
- GPS L1 L5 frequency
- Dual stacked patch
- Thru-Hole Mount
- Compact size
- Ceramic Material
- Advanced Ceramic Materials
- High Performance
- Dimensions 25 x 25 x 8 mm

## Applications

- IoT applications
- RTK
- Agriculture
- Navigation
- Security
- Autonomous Vehicles
- Transportation



DRAWING REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
A	INITIAL RELEASE	2021-03-03	QZ



NOTES:

1. CENTER FREQUENCY:  
L1: 1575MHz ± 3MHz; L5: 1176MHz ± 3MHz (WITH 75X75MM GND PLANE)
2. BANDWIDTH:  
L1: 20MHz MIN; L5: 24MHz MIN(RETURN LOSS@-6dB)
3. VSWR: 2.8MAX(CENTER FREQUENCY)
4. GAIN AT ZENITH:  
L1: 1.8 dBi TYP. L5: 0.5dBi TYP.
5. POLARIZATION: RHCP
6. IMPEDANCE: 50OHM
7. OPERATING TEMPERATURE: -40°C TO +105°C
8. STORAGE TEMPERATURE: -40°C TO +105°C
9. DOUBLE-SIDE ADHESIVE ON THIS SURFACE FOR INDUSTRIAL USE

ITEM 189-00057-01 REVISION HISTORY			
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UNLESS OTHERWISE SPECIFIED:	NAME	DATE
DIMENSIONS ARE IN MM	DRAWN	QZ 2021-03-03
TOLERANCES:	CHECKED	PL 2021-05-21
FRACTIONAL ±	ENG APPR.	NPC 2021-05-27
ANGULAR: MACH ± .5° BEND ±	MFG APPR.	
INTEGER ± 2	Q.A.	
ONE PLACE DECIMAL ± 1.0		
TWO PLACE DECIMAL ± .50		
INTERPRET GEOMETRIC TOLERANCING PER:		
	CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY.	
THIRD ANGLE PROJECTION		
DO NOT SCALE DRAWING		

MAXTENA, INC		
TITLE: 189-00057-01 MPA-258-GPS (L1+L5)		
SIZE	DWG. NO.	REV
<b>B</b>	<b>117-00406-01</b>	<b>A</b>
CAGE CODE: 5KQH7	SCALE: NONE	SHEET 1 OF 1