TAOGLAS®

Datasheet

Part No:
GP.1575.15.4.B.02

Features:

Dimensions: 15mm*15mm*4mm

Mounted with pin and adhesive tape

1575.42MHz GPS/Galileo Patch Antenna

RoHS & REACH Compliant

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1. Introduction

The GP.1575.15.4.B.02 is a miniaturized ceramic GPS/GALILEO patch antenna is based on smart XtremeGain™ technology. It has been designed and tuned by Taoglas' expert team to work at the GPS/Galileo L1 frequency 1575.42MHz. It is an ideal solution for customers who require a miniature antenna for an application where antenna size is crucial

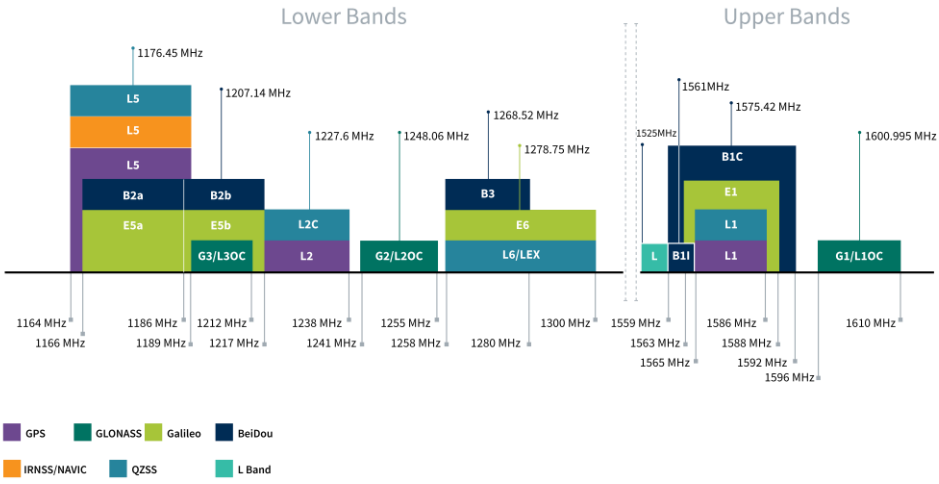
Typical applications include:

- Commercial & Hobbyist UAVs
- Compact IoT Sensors
- Asset Trackers
- Telematics & OBDs

It is mounted via pin and double-sided adhesive and has been selected as optimal solution for the customer device environment. The GP.1575.15.4.B.02 can be tuned for customer devices, subject to NRE and MOQ, please contact your regional Taoglas customer support team for further information.

2. Specification

GNSS Frequency Bands					
GPS	L1 1575.42 MHz	L2 1227.6 MHz	L5 1176.45 MHz		
	■	□	□		
GLONASS	G1 1602 MHz	G2 1248 MHz	G3 1207 MHz		
	□	□	□		
Galileo	E1 1575.24 MHz	E5a 1176.45 MHz	E5b 1201.5 MHz	E6 1278.75 MHz	
	■	□	□	□	
BeiDou	B1C 1575.42 MHz	B1I 1561 MHz	B2a 1176.45 MHz	B2b 1207.14 MHz	B3 1268.52 MHz
	■	□	□	□	□
L-Band	L-Band 1542 MHz				
	□				
QZSS (Regional)	L1 1575.42 MHz	L2C 1227.6 MHz	L5 1176.45 MHz	L6 1278.75e6	
	■	□	□	□	
IRNSS (Regional)	L5 1176.45 MHz				
	□				
SBAS	L1/E1/B1 1575.42 MHz	L5/B2a/E5a 1176.45 MHz	G1 1602 MHz	G2 1248 MHz	G3 1207 MHz
	■	□	□	□	□



GNSS Bands and Constellations

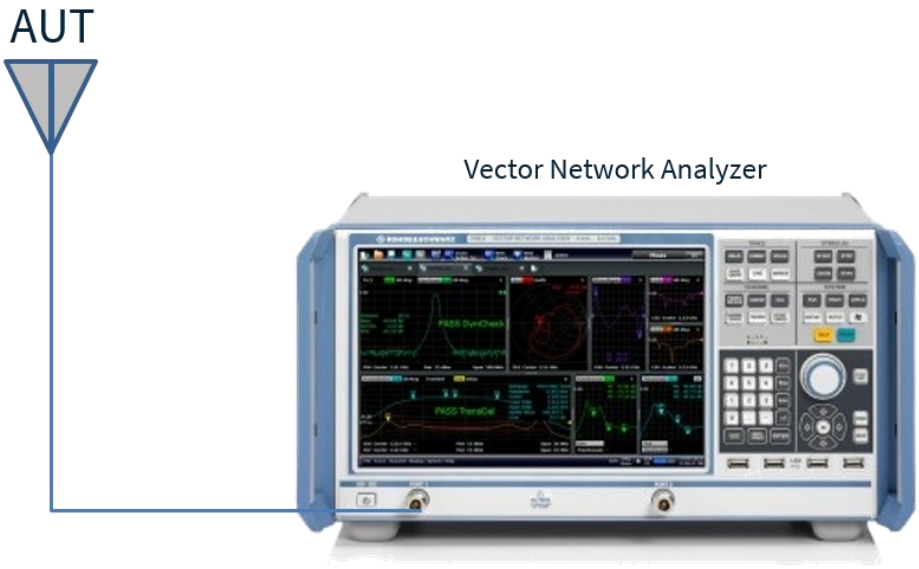
GNSS Electrical	
Frequency (MHz)	**1575.42**
Passive Antenna Efficiency (%)	36.1
Passive Antenna Gain at Zenith (dBi)	1.69
Polarization	RHCP
Impedance	50 Ω

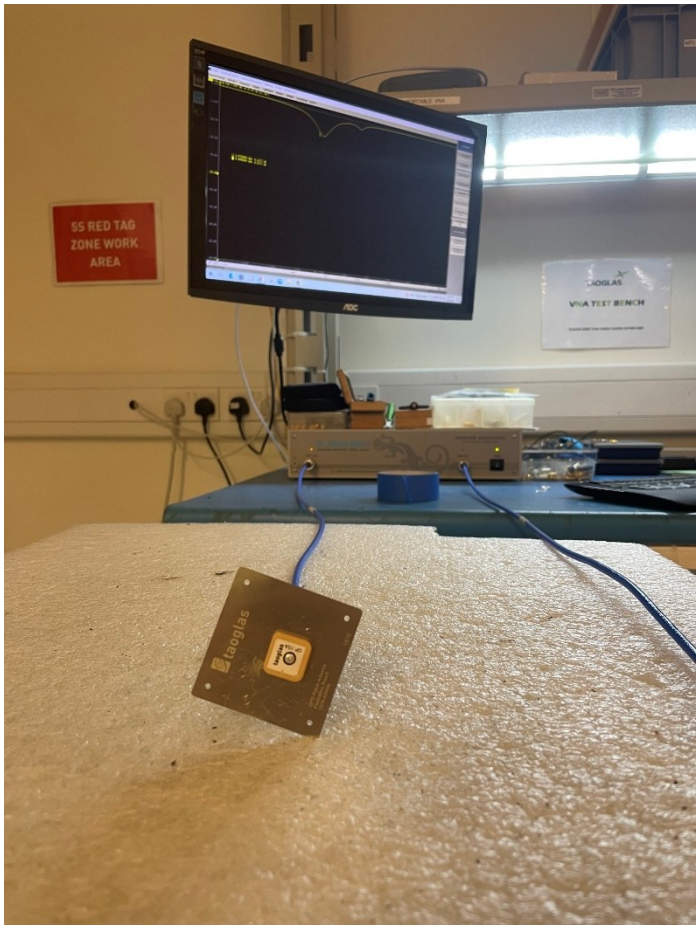
Mechanical	
Dimensions	15*15*4mm
Weight	5g
Material	Ceramic

Environmental	
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C
RoHs Compliant	Yes

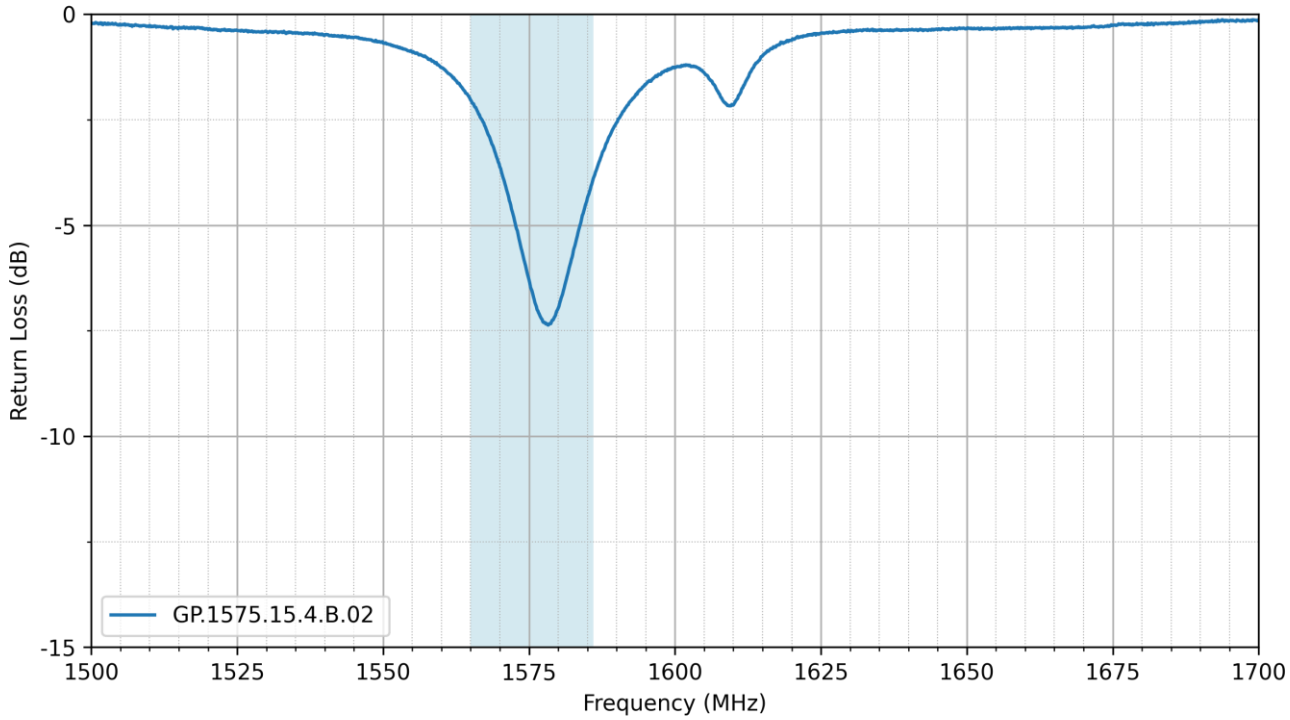
3. Antenna Characteristics

3.1 Test Setup

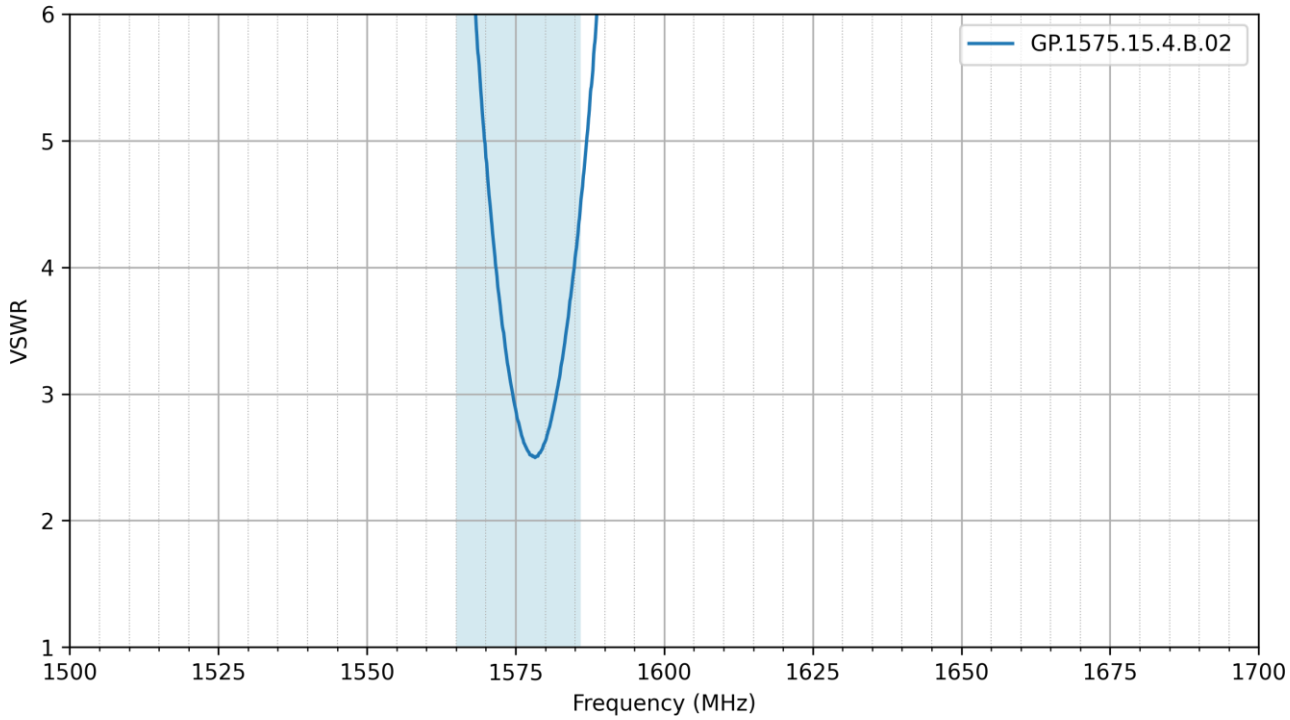




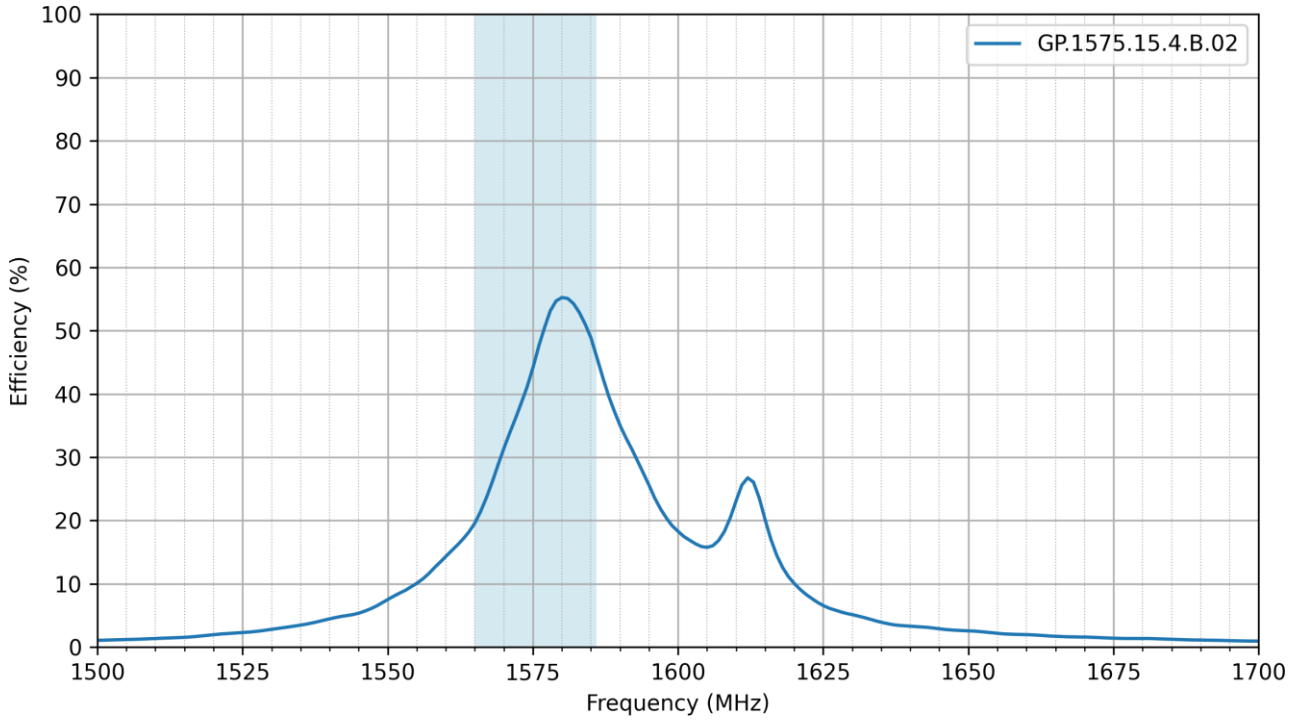
3.2 Return Loss



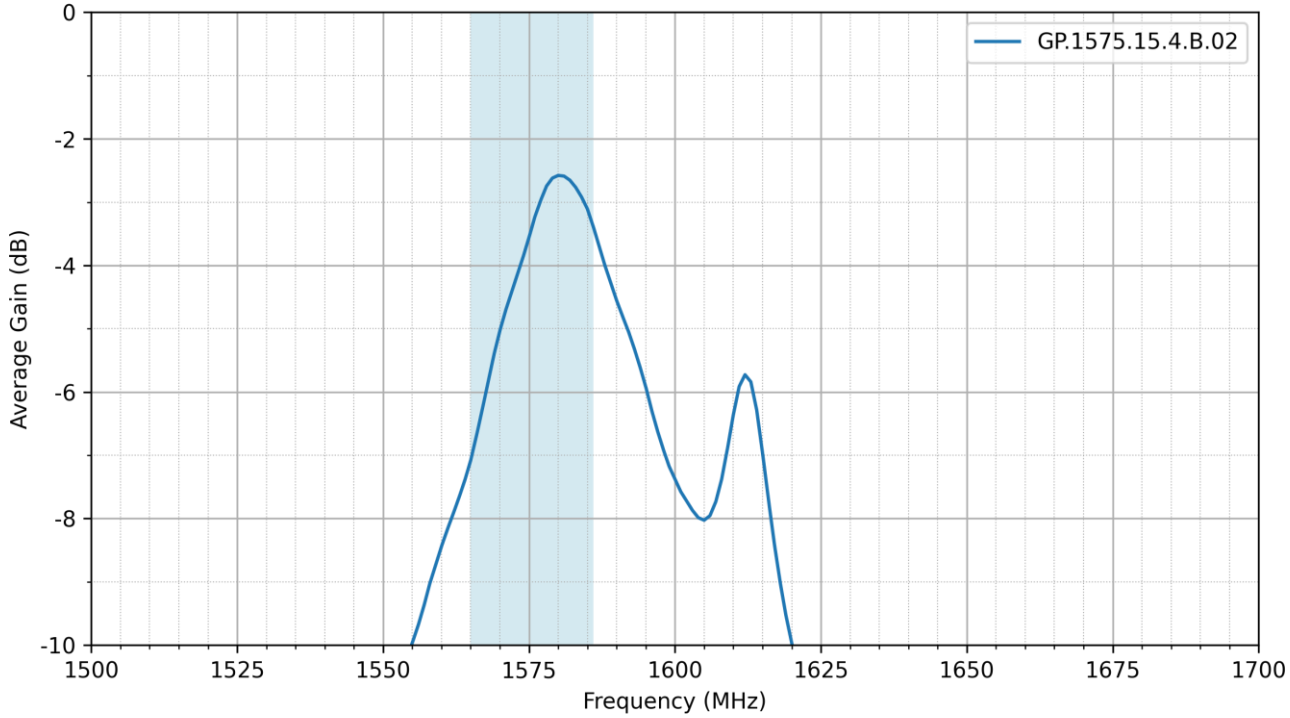
3.3 VSWR



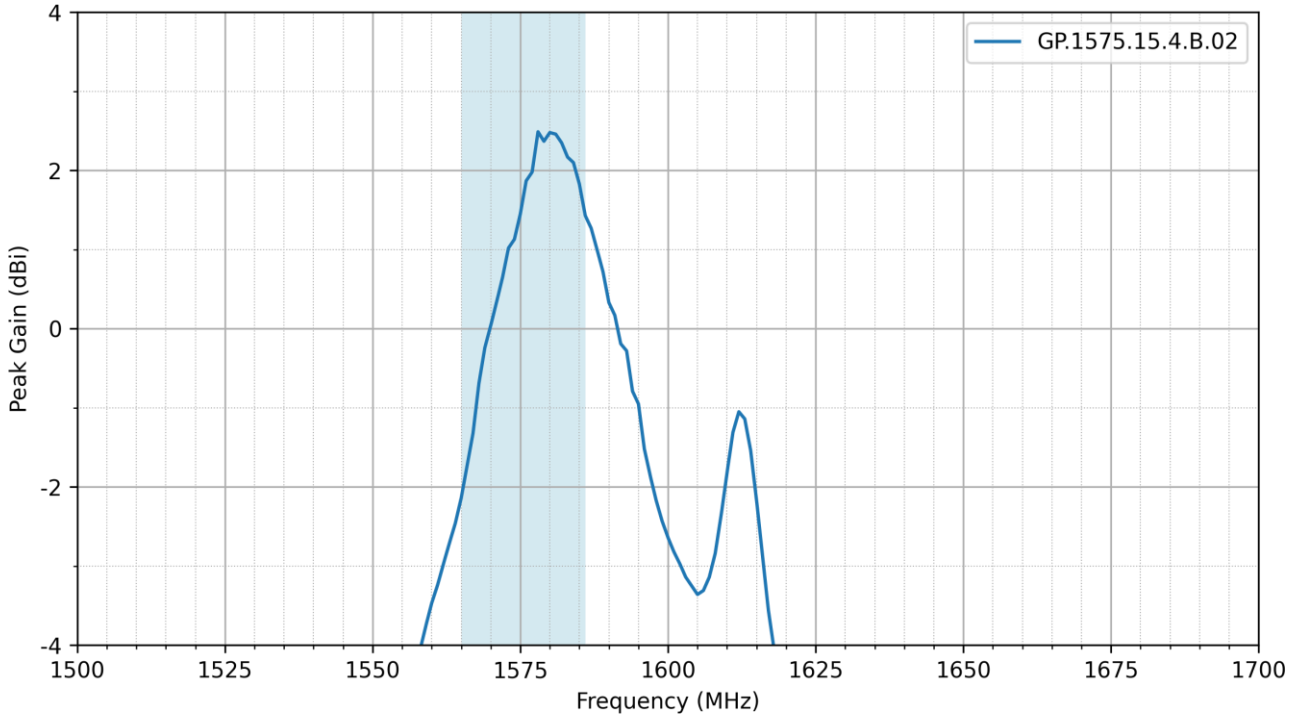
3.4 Efficiency



3.5 Average Gain

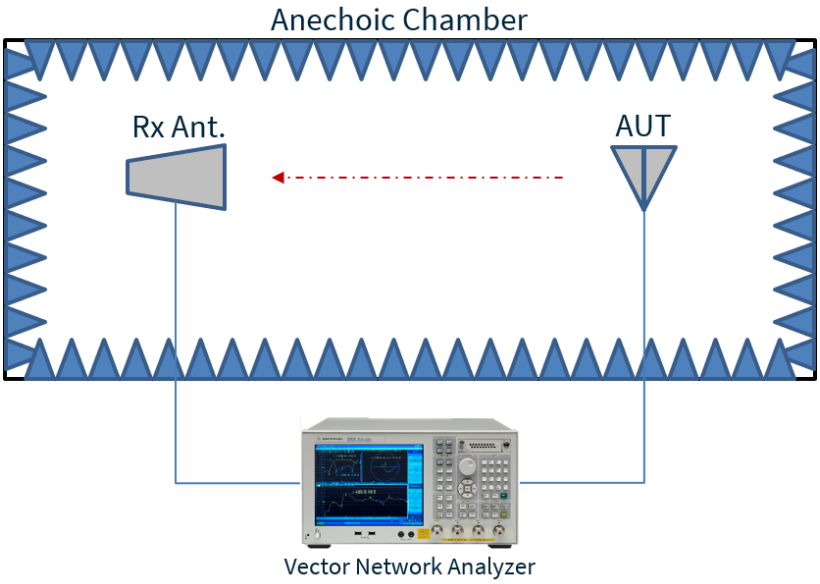


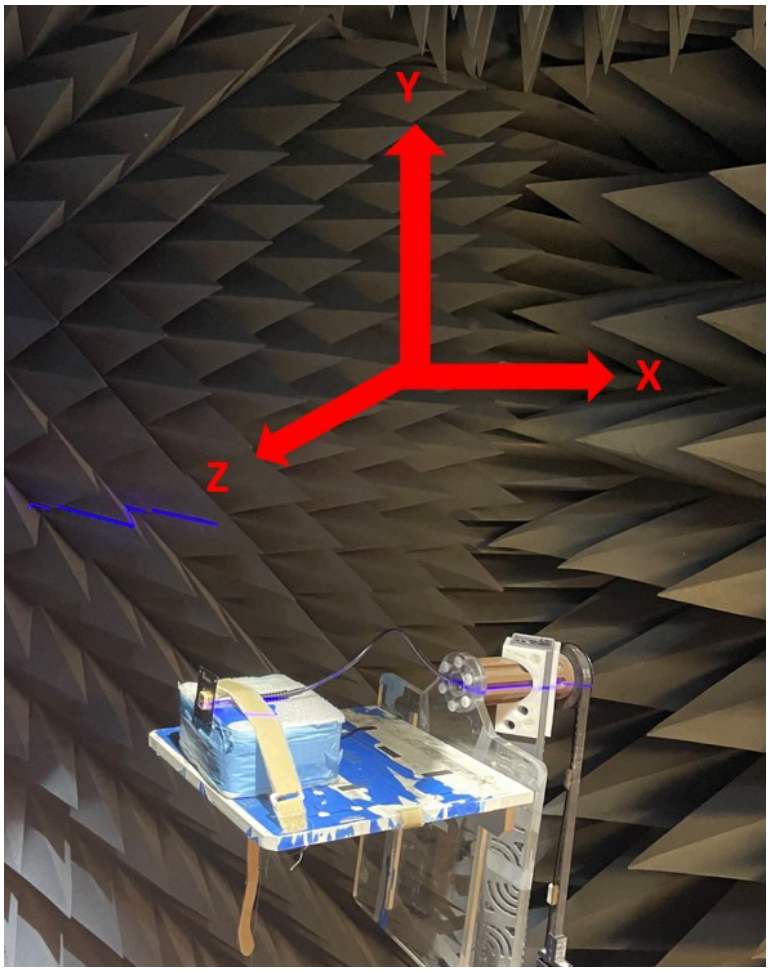
3.6 Peak Gain


GP.1575.15.4.B.02
Peak Gain (dBi)
4
2
0
-2
-4
1500
1525
1550
1575
1600
1625
1650
1675
1700
Frequency (MHz)

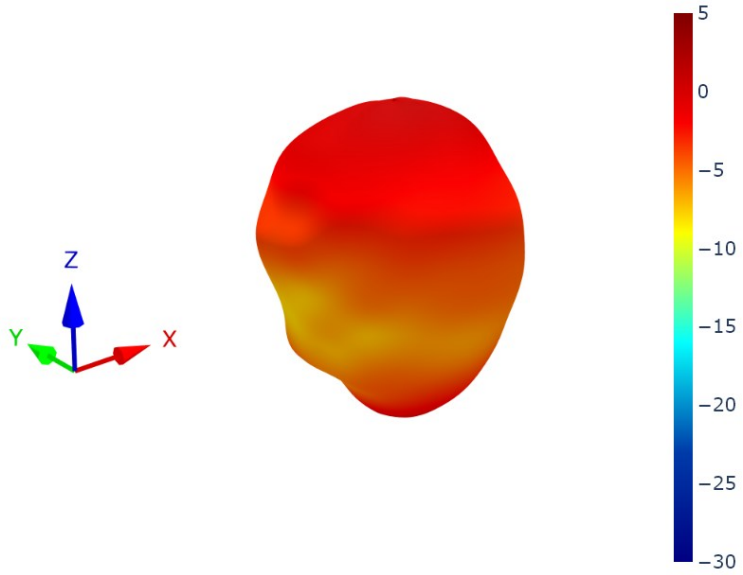
4. Radiation Patterns

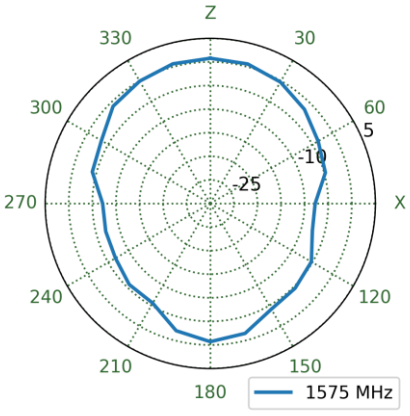
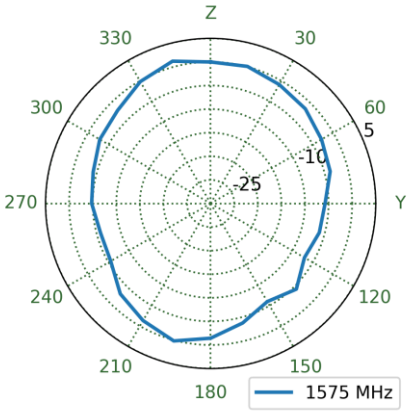
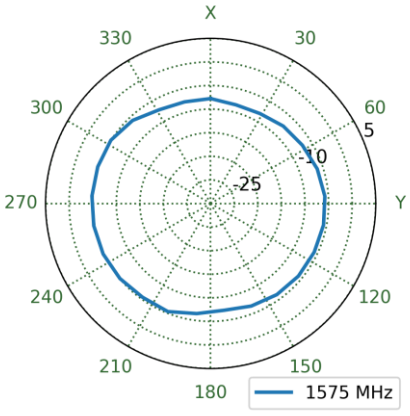
4.1 Test Setup





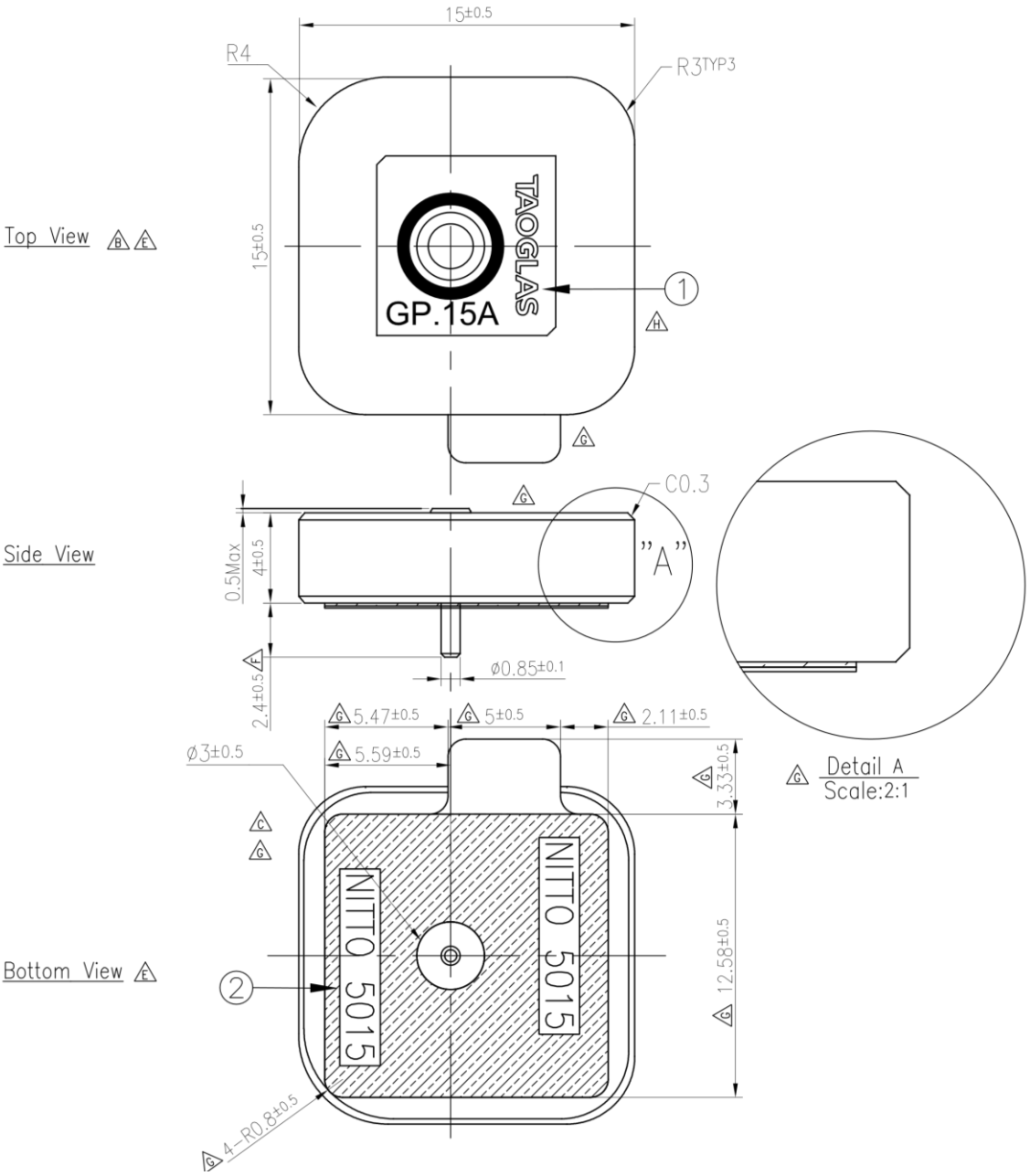
4.2 GP.1575.15.4.B.02 Patterns at 1575 MHz



XZ Plane	YZ Plane	XY Plane
		

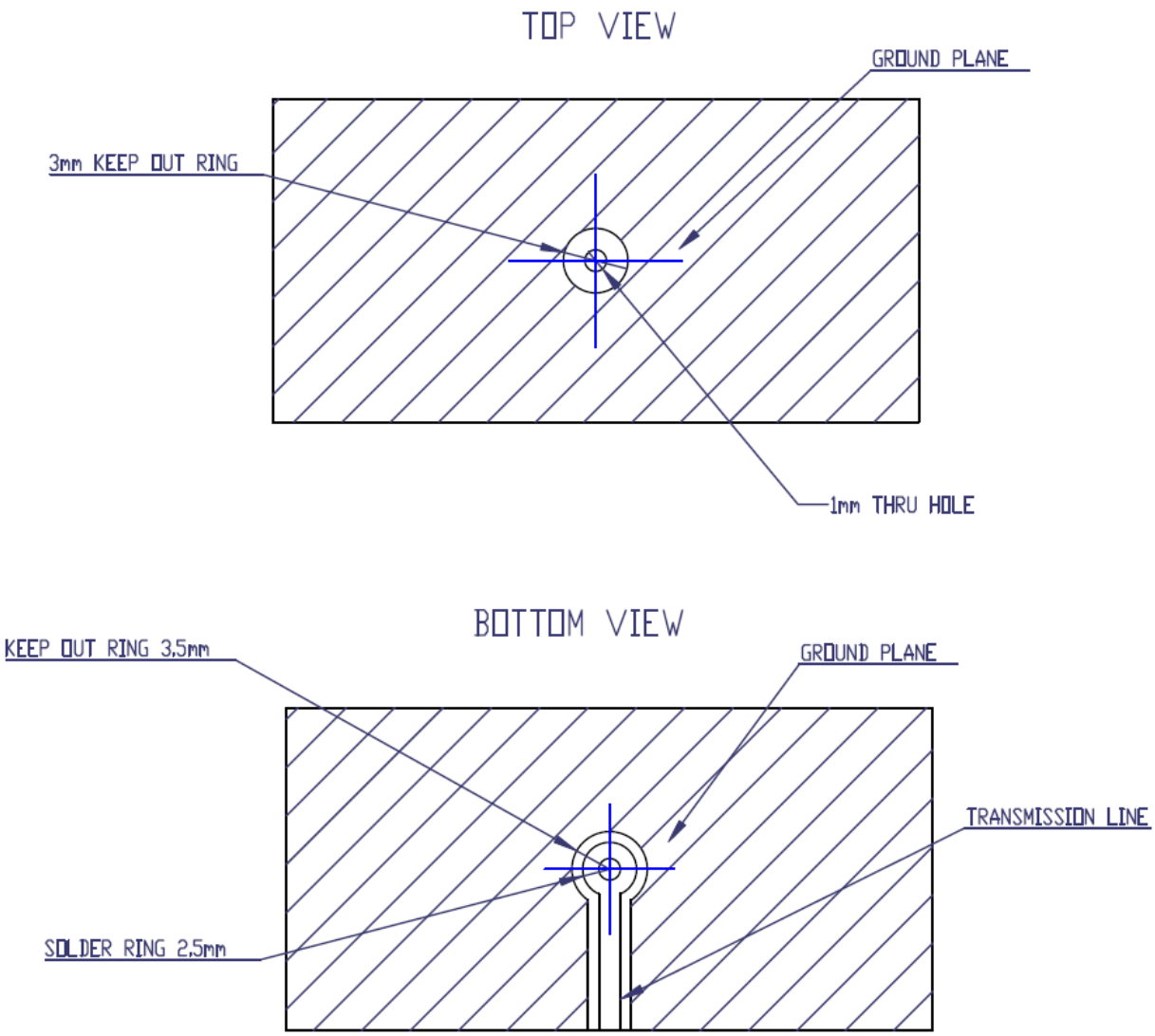
5. Mechanical Drawing

ISO NO.: EDW-11-8-800
STATE: Release
NOTES: 1. Double sided adhesive area.
2. Soldermask area.



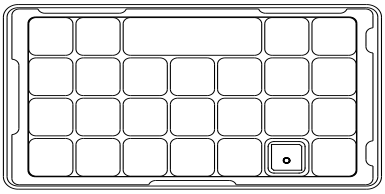
		Name	P/N	Material	Finish	QTY
D	1	GP.1575 Patch	001517F060000A	Ceramic	Brown	1
	2	Double sided Adhesive	001517F060000A	NITTO 5015	White Linter	1

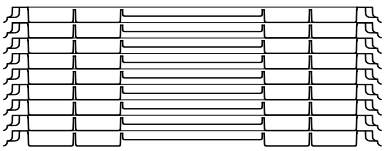
6. Footprint


TOP VIEW
GROUND PLANE
3mm KEEP OUT RING
1mm THRU HOLE
BOTTOM VIEW
KEEP OUT RING 3.5mm
GROUND PLANE
TRANSMISSION LINE
SOLDER RING 2.5mm

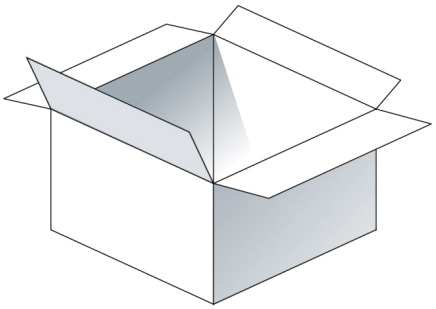
7. Packaging

400pcs per Inner Carton

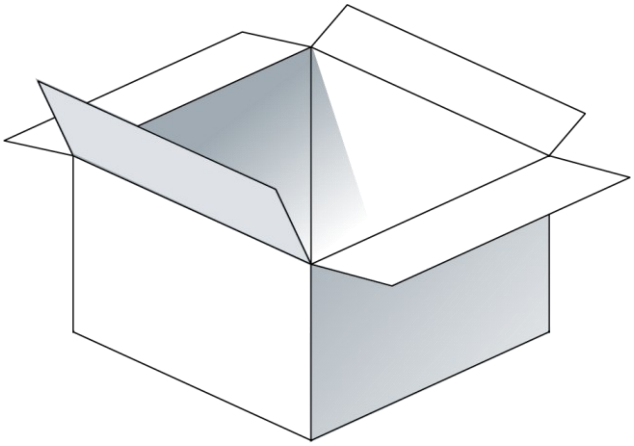




400pcs GP.1575.15.4.B.02 per carton
Dimensions - 263*154*96mm
Weight – 2Kg



1600pcs GP.1575.15.4.B.02 per carton
Dimensions - 327*280*218mm
Weight – 8.2Kg



Changelog for the datasheet

SPE-12-8-094 – GP.1575.15.4.B.02

Revision: F (Current Version)	
Date:	2025-01-14
Changes:	Drawing Update
Changes Made by:	Cesar Sousa

Previous Revisions

Revision: E	
Date:	2023-08-17
Changes:	Full datasheet update
Changes Made by:	Gary West

Revision: D	
Date:	2021-06-21
Changes:	Updated Pin Length to 2.4mm Updated Drawing
Changes Made by:	Dan Cantwell

Revision: C	
Date:	2018-03-15
Changes:	Drawing and Photo updated
Changes Made by:	Jack Conroy

Revision: B	
Date:	2016-04-22
Changes:	
Changes Made by:	Jack Conroy

Revision: A (Original First Release)	
Date:	2012-07-19
Notes:	
Author:	Dan Cantwell

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