

# Monarch Series: Satellite Navigation System

## Antenna GPS/GLONASS/Beidou/Galileo

Part# W3010

(Ground cleared under antenna, clearance area 10.80 x 6.25mm)



### Features

- Omni directional radiation
- Low profile
- Compact size W x L x H (3.2 x 10.0 x 2.0 mm)
- Low weight (310 mg)
- Fully SMD compatible
- Lead free soldering compatible
- Tape and reel packaging
- RoHS Compliant Product

### Applications

- Systems: GPS/GLONASS/Beidou/Galileo
- 1560 - 1610 MHz
- Global Navigation
- Asset and Fleet Tracking
- Mobile Devices
- Industrial, Internet of Things

### Electrical specifications @ +25 °C

*Note: Electrical characteristics depend on test board (GP) size and antenna positioning on GP and Ground Clearance area size.*

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# Monarch Series: Satellite Navigation System

Antenna GPS/GLONASS/Beidou/Galileo

Part# W3010



Covered positioning systems: GPS, GLONASS, Beidou, Galileo

Typical performance (test board size 80x37 mm, PWB ground clearance area 10.80 x 6.25 mm)

ELECTRICAL SPECIFICATIONS	
FREQUENCY (MHz)	1560-1610 MHz
NOMINAL IMPEDANCE ( $\Omega$ )	50
RETURN LOSS	<-12dB
VSWR min	1.6:1
EFFICIENCY	-1.2 dB
EFFICIENCY	75%
GAIN MAX	3 dBi $\pm$ 1 dBi
GAIN MAX RHCP	1 dBic $\pm$ 1 dBic
POWER WITHSTANDING	2 watts
CONNECTOR TYPE	SMD

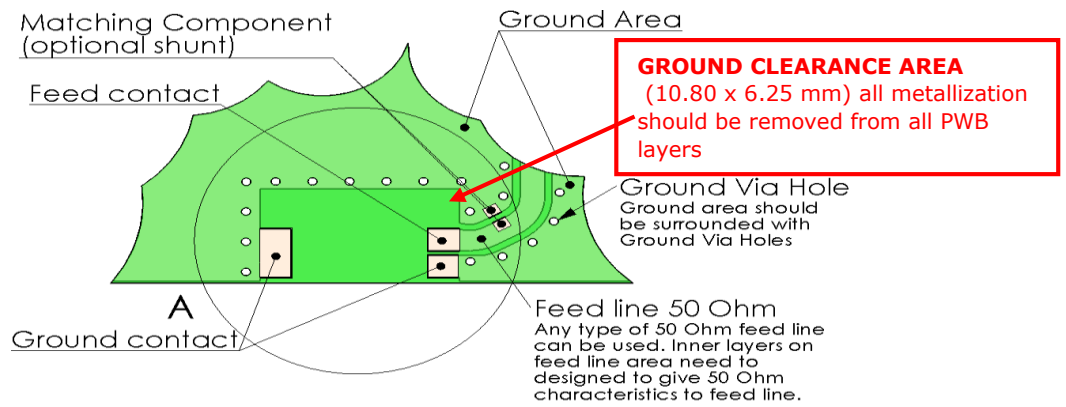
ENVIRONMENTAL SPECIFICATIONS	
OPERATING TEMPERATURE	-40 to +85 °C

MECHANICAL SPECIFICATIONS	
SIZE	3.2 x 10.0 x 2.0 mm
WEIGHT	0.310g

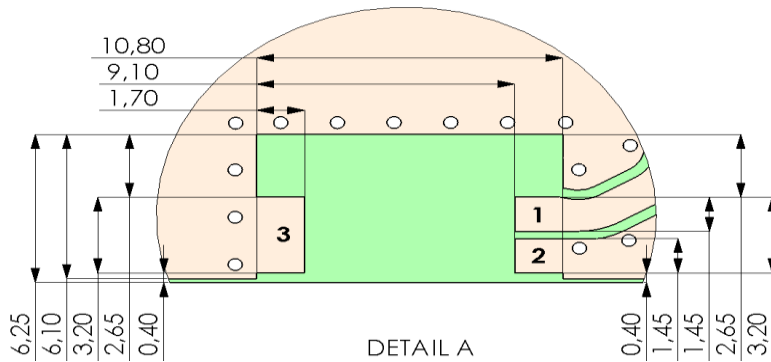
Ceramic Chip Antenna (Ground cleared under antenna, clearance area 10.80 x 6.25 mm)

**Terminal Configuration**

**Layout**



**Pad dimensions on PWB layout**



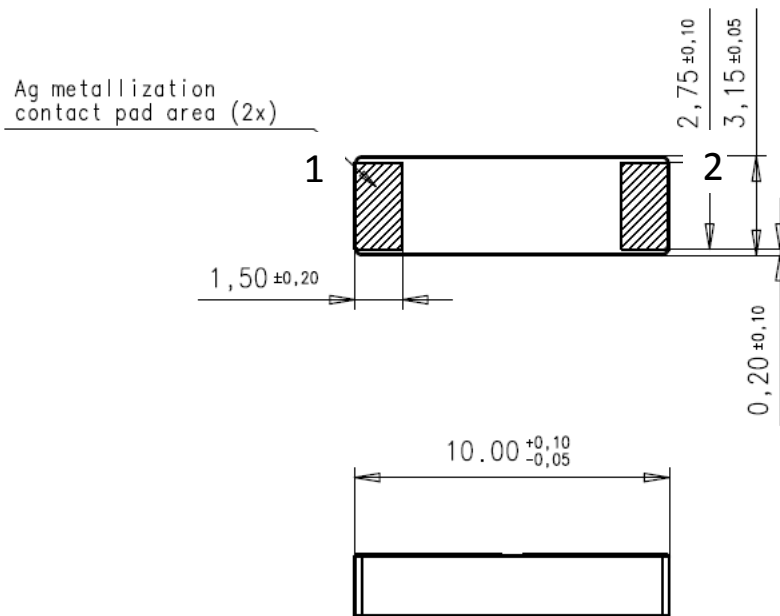
PWB features		
No.	Terminal Name	Terminal Dimensions
1	Feed	1,70 x 1,45 mm
2	GND	1,70 x 1,45 mm
3	GND	1,70 x 3,20 mm

## Ceramic Chip Antenna

Ceramic Chip Antenna (Ground cleared under antenna, clearance area 10.80 x 6.25 mm)

### Terminal Configuration

#### Antenna



No.	Terminal Name	Terminal Dimensions
1	Feed / GND	1.50 x 2.75 mm
2	Feed / GND	1.50 x 2.75 mm
Antenna is symmetrical. Either of terminals 1 or 2 can be Feed / GND		

**Monarch Series: Satellite Navigation System**  
**Antenna GPS/GLONASS/Beidou/Galileo**  
**Part# W3010**

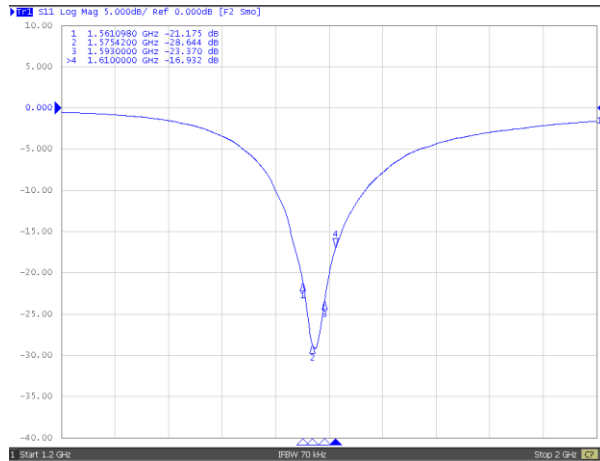


(Ground cleared under antenna, clearance area 10.80 x 6.25 mm)

**Typical Electrical Characteristics (T=25 °C)**

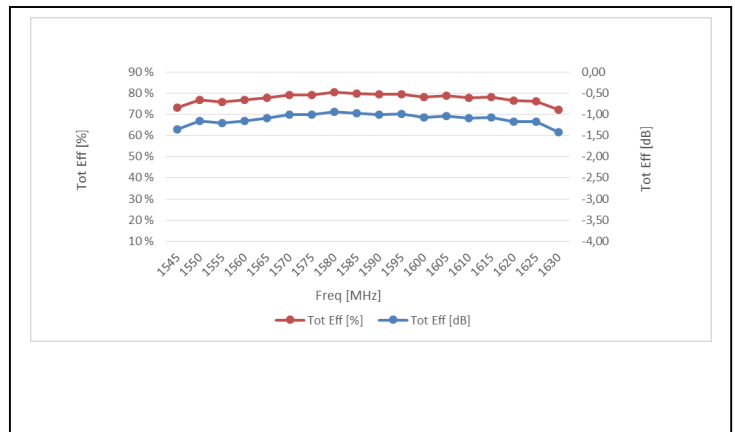
Measured on the 80 x 37 mm test board without matching circuit

Typical Return Loss S11/ impedance

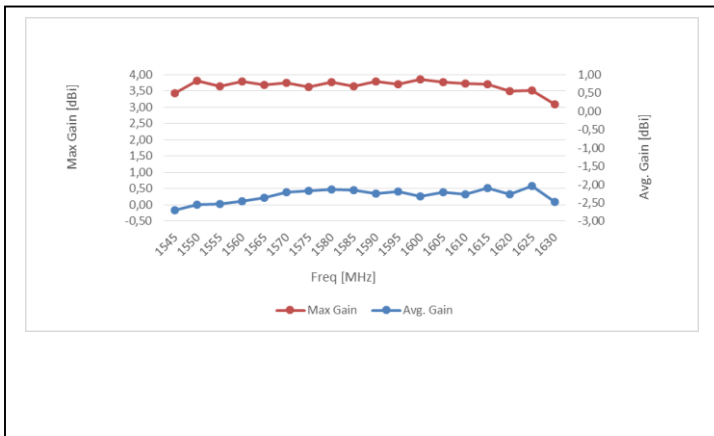


Free space efficiency and maximum gain

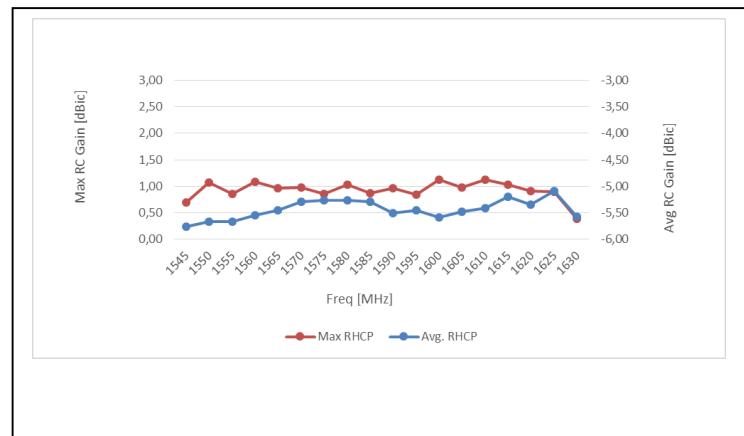
**Total Efficiency**



**Gain**

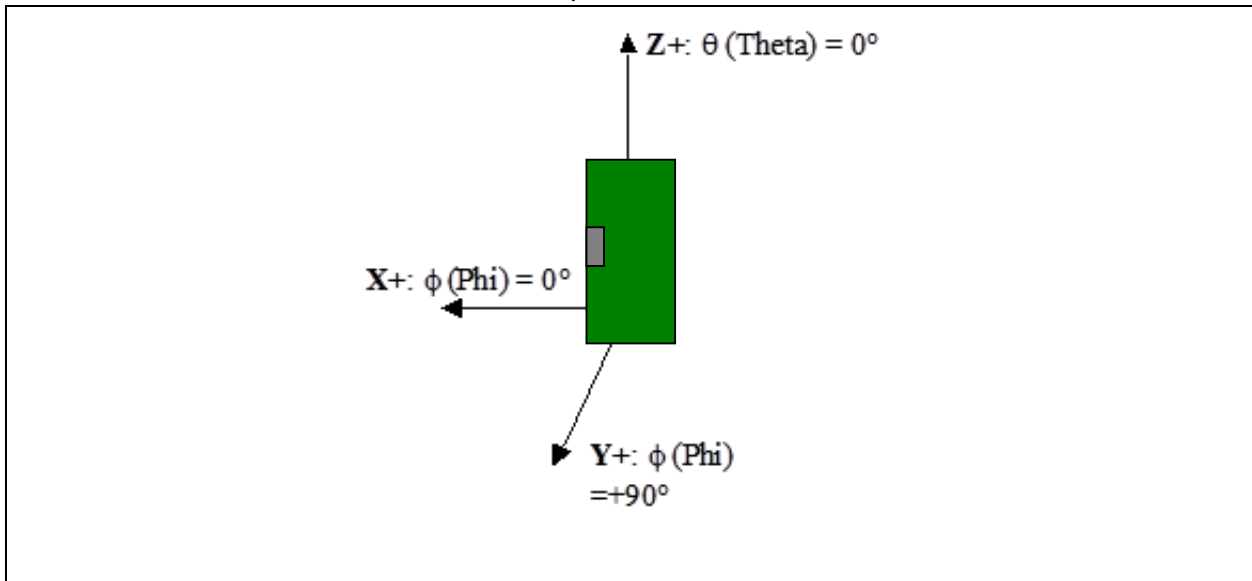


**RHCP Gain**

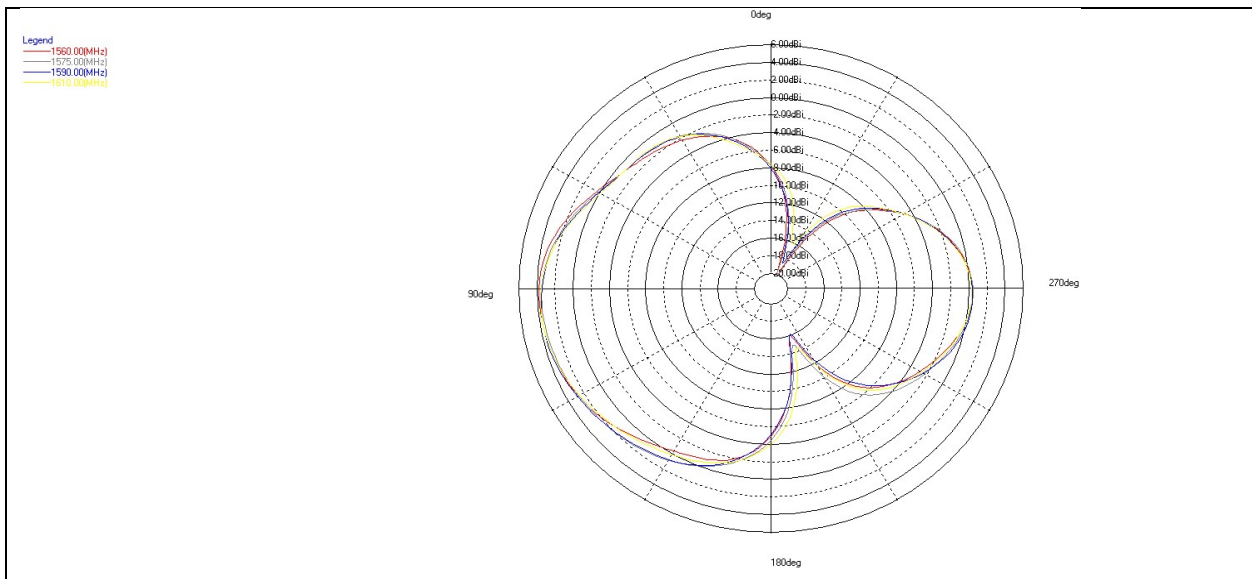


### Typical Free space Radiation Patterns

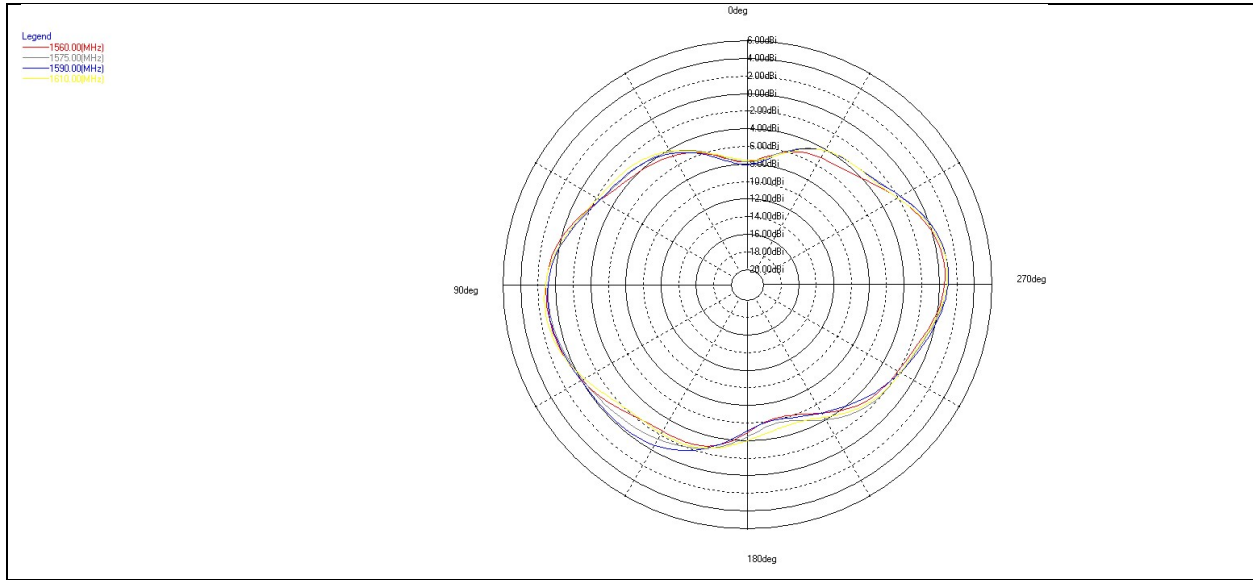
Radiation pattern coordinates



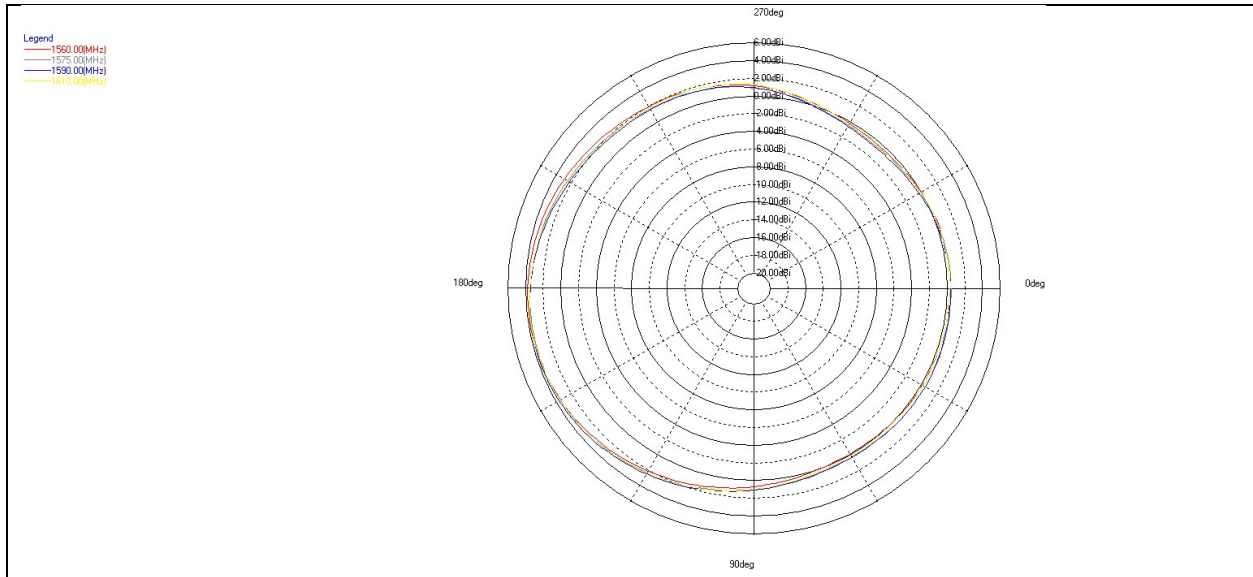
XZ-Plane



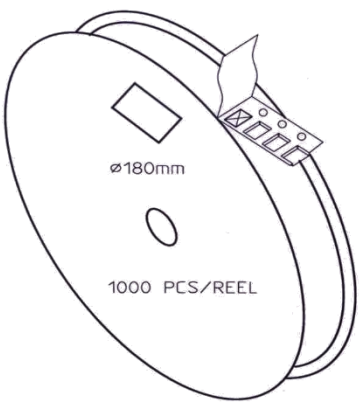
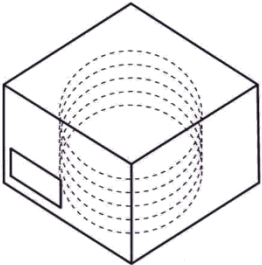
YZ-Plane



XY-Plane



**Antenna Packing**  
**Packing form**


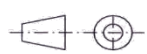
CARRIER TAPE H85-00188  
width=24,00 depth=2.20  
COVER TAPE H85-00159  
width=21.20

LENGTH OF TAPE:

- Leader section: min 350 mm before component section
- Trailer section: min 40 mm after component section.

Empty part cavities at leader and trailer section of the tape must be sealed with top cover tape.

BOX H85-00128 (182x182x125)	1 pcs
- LABEL	1 pcs/BOX
REEL H85-00160 (D180, W28)	4 pcs
- REEL LABEL	1 pcs/REEL

MATERIAL			
HANDLINGS			
		RATIO	DRWN 160107 PeHa H
		DGNER	G
PRODUCT H90-OY113-F01P01		CHKD	F
		APPRD	E
DENOMINATION PACKING FORM		APPRD BY	D
		C	
		B	
		A	
		VERSION	MOD/DATE/NAME



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