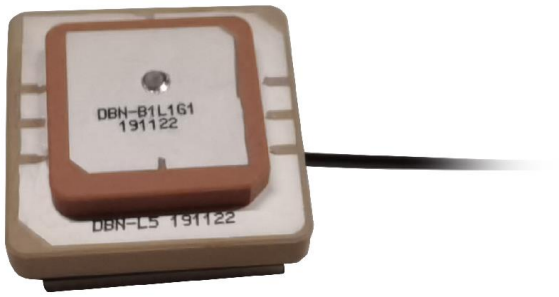
SUNNYWAY

SWG020

PN: SW20285IB93



Features

- Antenna for 1176 MHz、1575.42MHz、1602MHz
- High gain
- Impedance 50 Ohm.

Applications:

- Antenna for GPS/GLONASS/GALILEO/IRNSS

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1. Electrical Specifications

Standards	GPS/GLONASS/GALILEO/IRNSS		
Frequency range (MHz)	1176	1575.42	1602
Peak Gain (dBi)	2.7	4.4	5.8
Average Gain (dB)	-1.4	-1.8	-1.5
VSWR	1.2	1.1	1.1
Return Loss	-20.1	-24.1	-25.3
Efficiency (%)	72.8	65.8	71.6
Polarization mode	Circular polarization	Circular polarization	Circular polarization
Radiation pattern	Hemispherical	Hemispherical	Hemispherical
Voltage Range (V)	3.0-4.2		
Active Gain (dB)	30±1dB		
Noise Figure (dB)	2.5	2.2	
Current Consumption (mA)	55mA@3.3V		
Power Consumption (mW)	181.5mW@3.3V		

Note:

Test based on 200 mm wire length

2. Mechanical and Environmental Specification

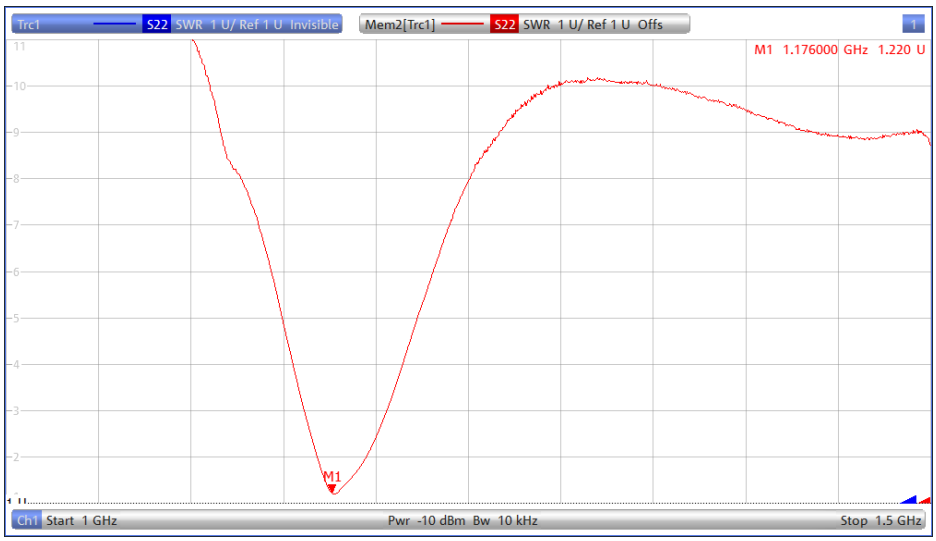
Mounting Type	Adhesive 3M9448A
Cable &Connector Type	RG113+ IPEX 1
Antenna size(mm)	35.00x35.00x14.35
Material	Ceramics
Cable length(mm)	100mm (can be customized)
Operating Temperature (˚C)	- 40 ˚C ~ + 85 ˚C
Storage Temperature(˚C)	- 40 ˚C ~ + 85 ˚C

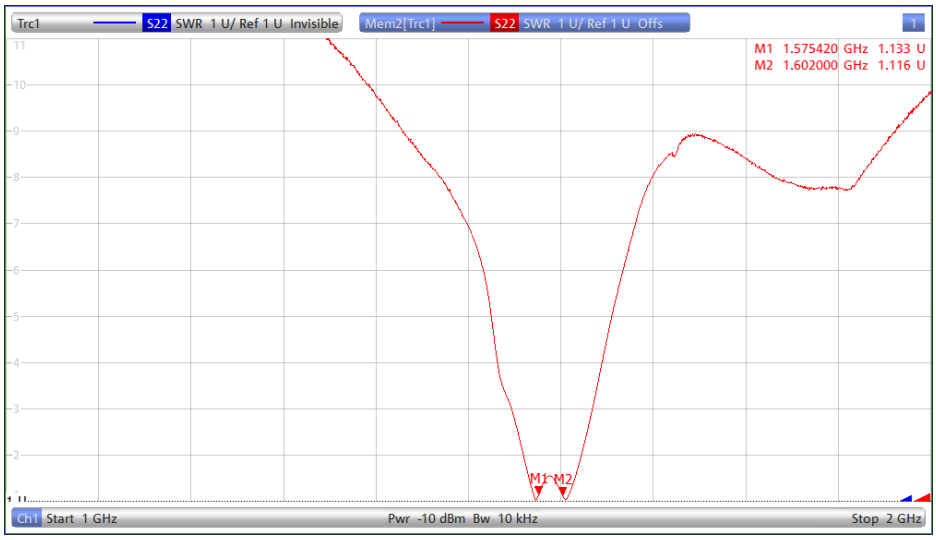
3. Antenna parameters

3.1 General Data

FRE (MHz)	**1176**	**1575.42**	**1602**
VSWR	1.2	1.1	1.1
Return Loss	-20.1	-24.1	-25.3
Eff (%)	72.8	65.8	71.6
Average Gain(dB)	-1.4	-1.8	-1.5

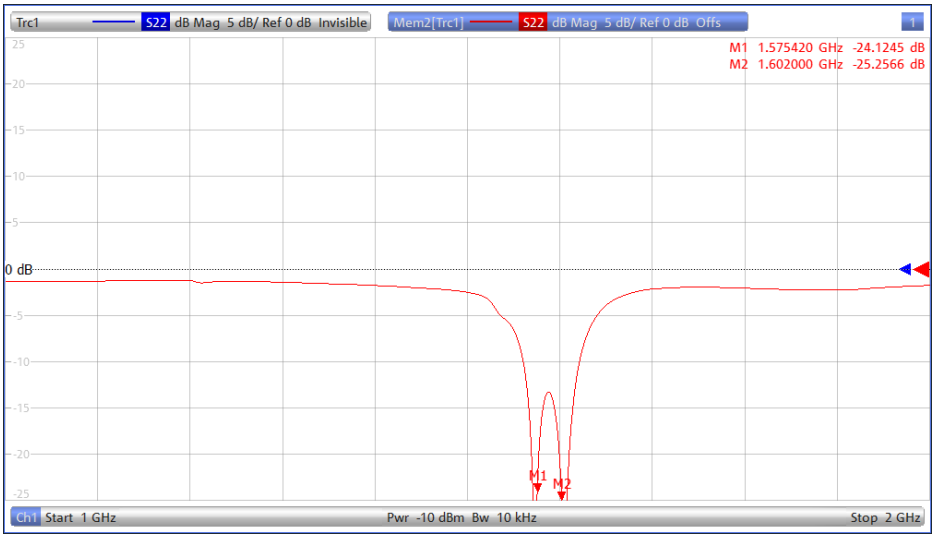
3.2 VSWR



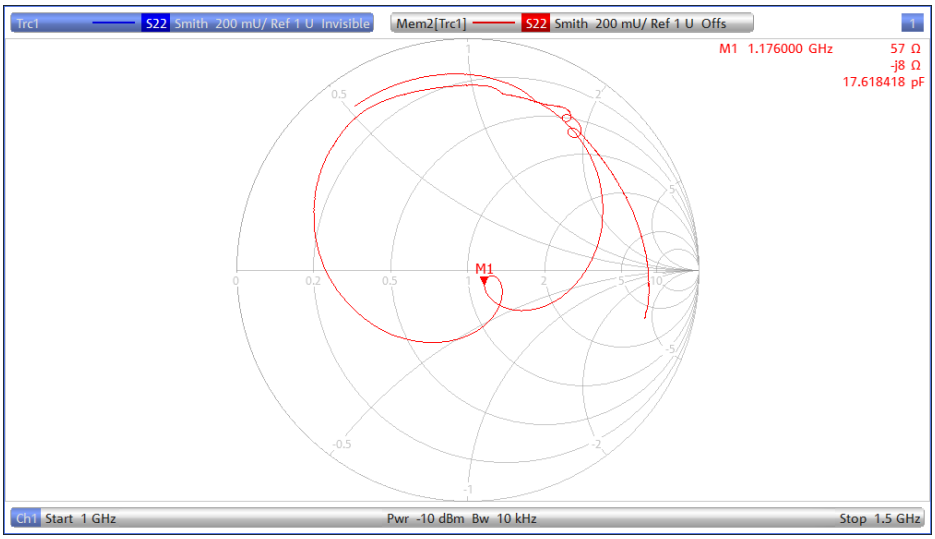


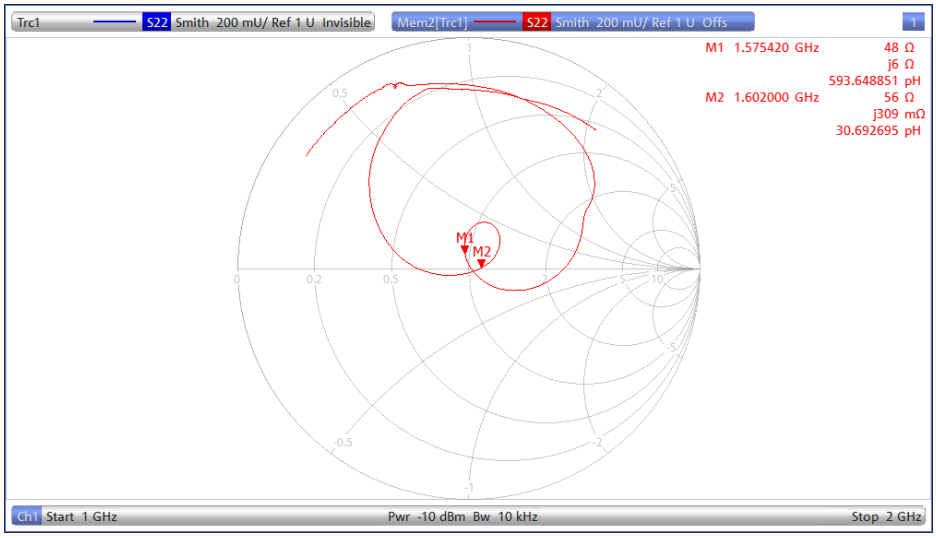
3.3 Return Loss



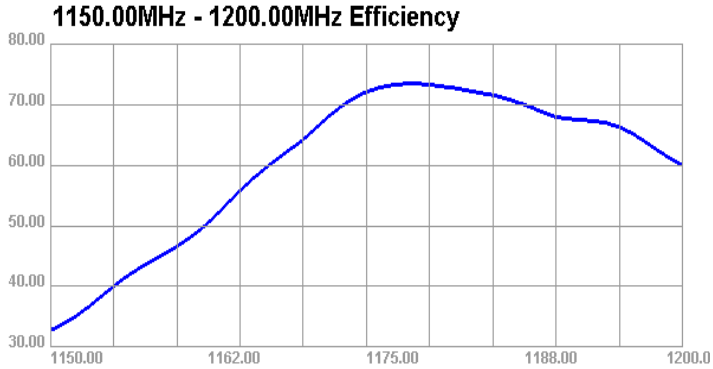


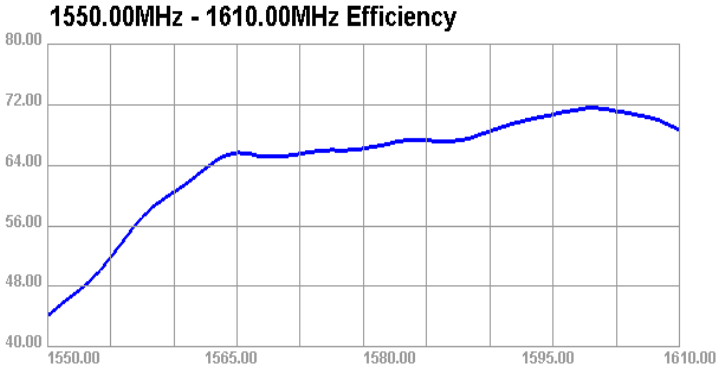
3.4 Smith


Trc1 S22 Smith 200 mU/ Ref 1 U Invisible
Mem2[Trc1] S22 Smith 200 mU/ Ref 1 U Offs
M1 1.176000 GHz
57 Ω
-j8 Ω
17.618418 pF
M1
Ch1 Start 1 GHz
Pwr -10 dBm Bw 10 kHz
Stop 1.5 GHz

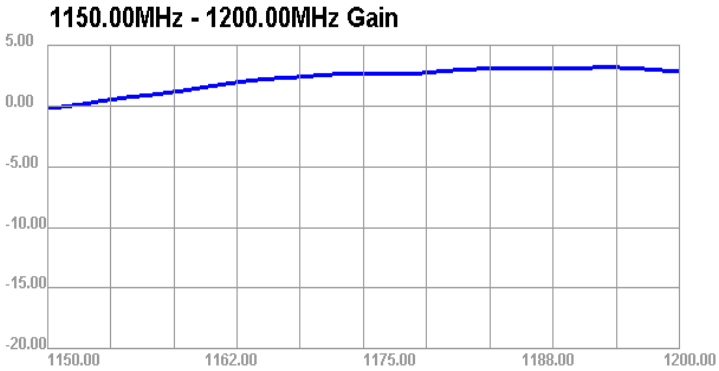

Trc1 S22 Smith 200 mU/ Ref 1 U Invisible
Mem2[Trc1] S22 Smith 200 mU/ Ref 1 U Offs
M1 1.575420 GHz
48 Ω
j6 Ω
593.648851 pH
M2 1.602000 GHz
56 Ω
j309 mΩ
30.692695 pH
M1
M2
Ch1 Start 1 GHz
Pwr -10 dBm Bw 10 kHz
Stop 2 GHz

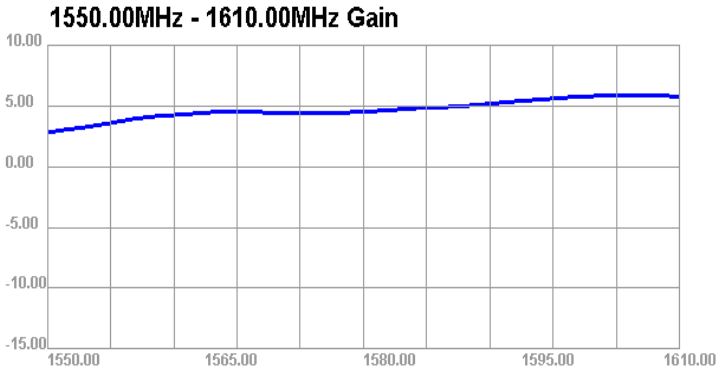
3.5 Efficiency



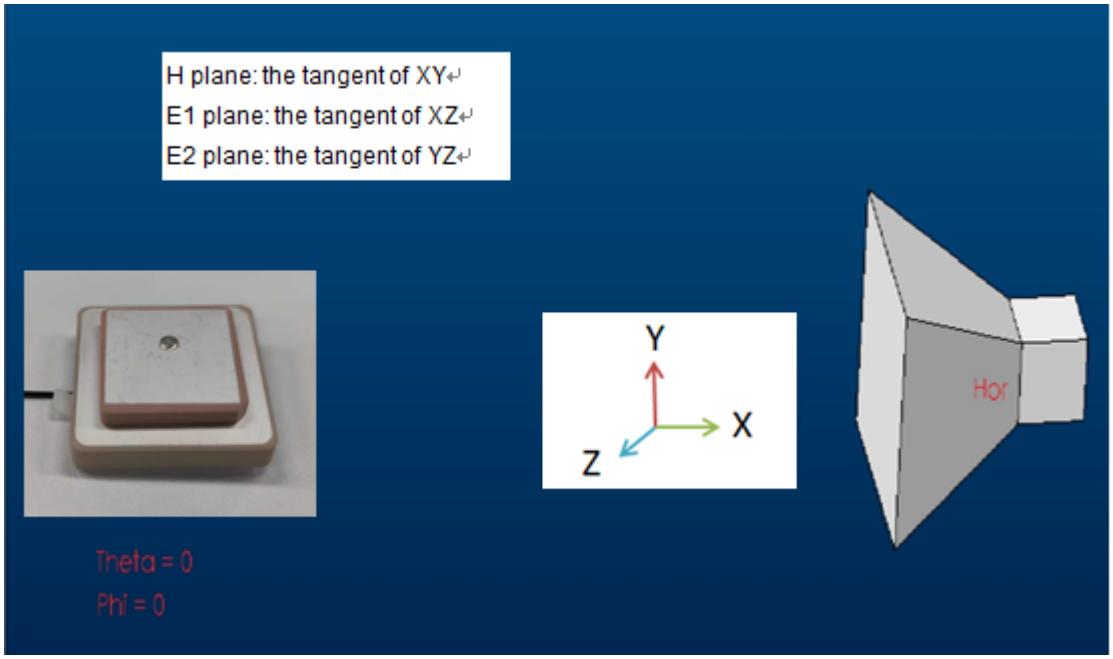


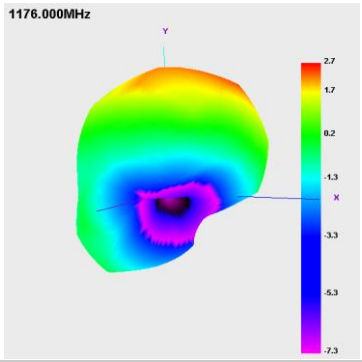
3.6 Gain

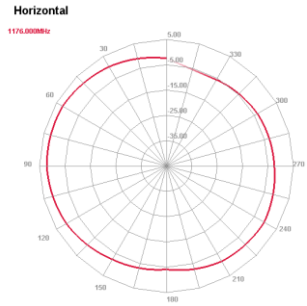


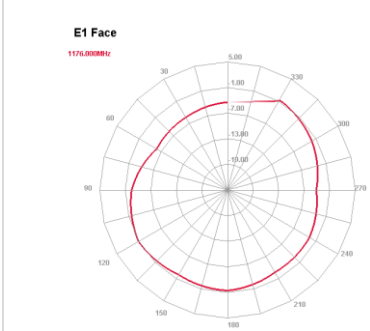


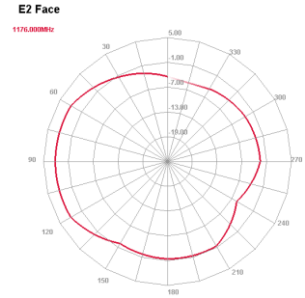
3.7 Directional Pattern

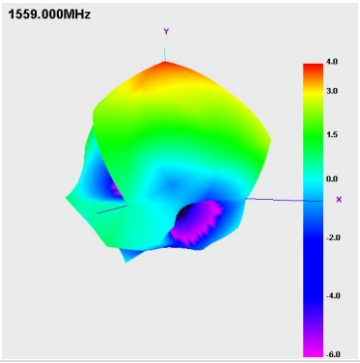


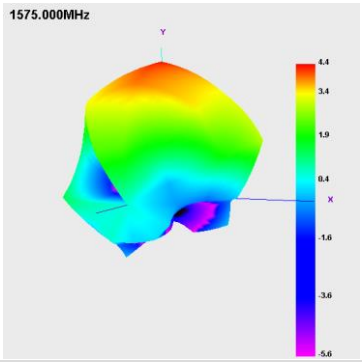

1176.000MHz
Y
2.7
1.7
0.2
-1.3
X
-3.3
-5.3
-7.3

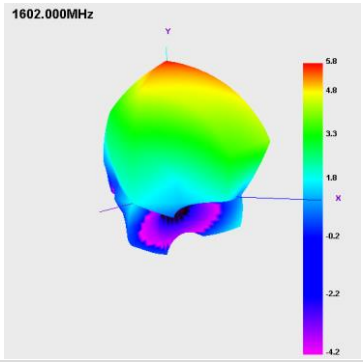

Horizontal
1176.000MHz

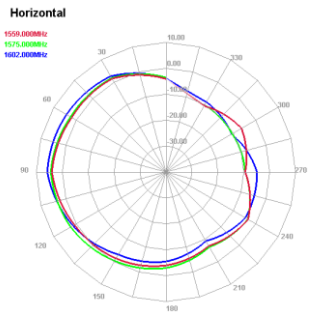

E1 Face
1176.000MHz

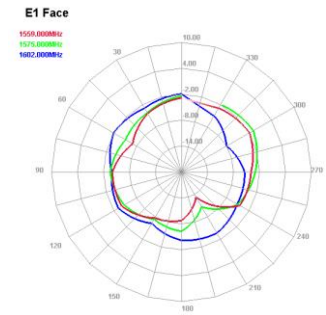

E2 Face
1176.000MHz

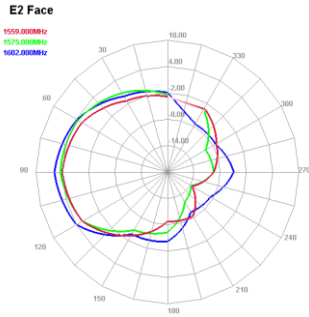

1559.000MHz
Y
4.0
3.0
1.5
0.0
X
-2.0
-4.0
-6.0


1575.000MHz
Y
4.4
3.4
1.9
0.4
X
-1.6
-3.6
-5.6


1602.000MHz
Y
5.8
4.8
3.3
1.8
X
-0.2
-2.2
-4.2


Horizontal
1559.000MHz
1575.000MHz
1602.000MHz


E1 Face
1559.000MHz
1575.000MHz
1602.000MHz


E2 Face
1559.000MHz
1575.000MHz
1602.000MHz

4. Antenna Drawing

