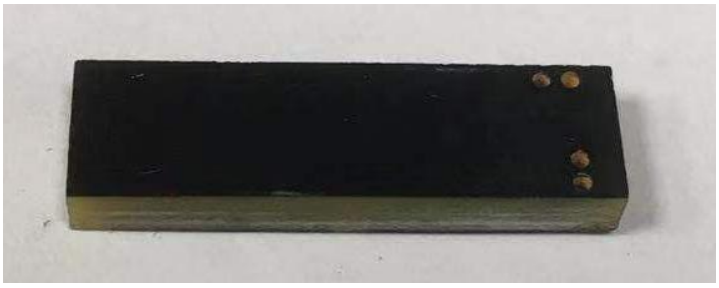
SUNNYWAY

SWD011

PN: SW20017IB66



Sunnyway Technology

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Email: sales@sunny-way.com Web: www.sunny-way.com

1. Electrical Specifications

Frequency range	1176 MHz	1575.42MHz	1602 MHz
Peak Gain (dBi)	2dBi	2.3dBi	1.35dBi
Average Gain (dB)	-2.83dB	-1.17dB	-1.55dB
Polarization mode	Linear	Linear	Linear
VSWR	1.39	1.92	1.89
Return Loss	-15.72	-9.97	-10.18
Efficiency (%)	52.13%	76.41%	69.98%
Radiation pattern	Omni-Directional	Omni-Directional	Omni-Directional
Output impedance (Ω)	50	50	50
Max. Input Power(W)	3	3	3

2. Mechanical and Environmental Specification

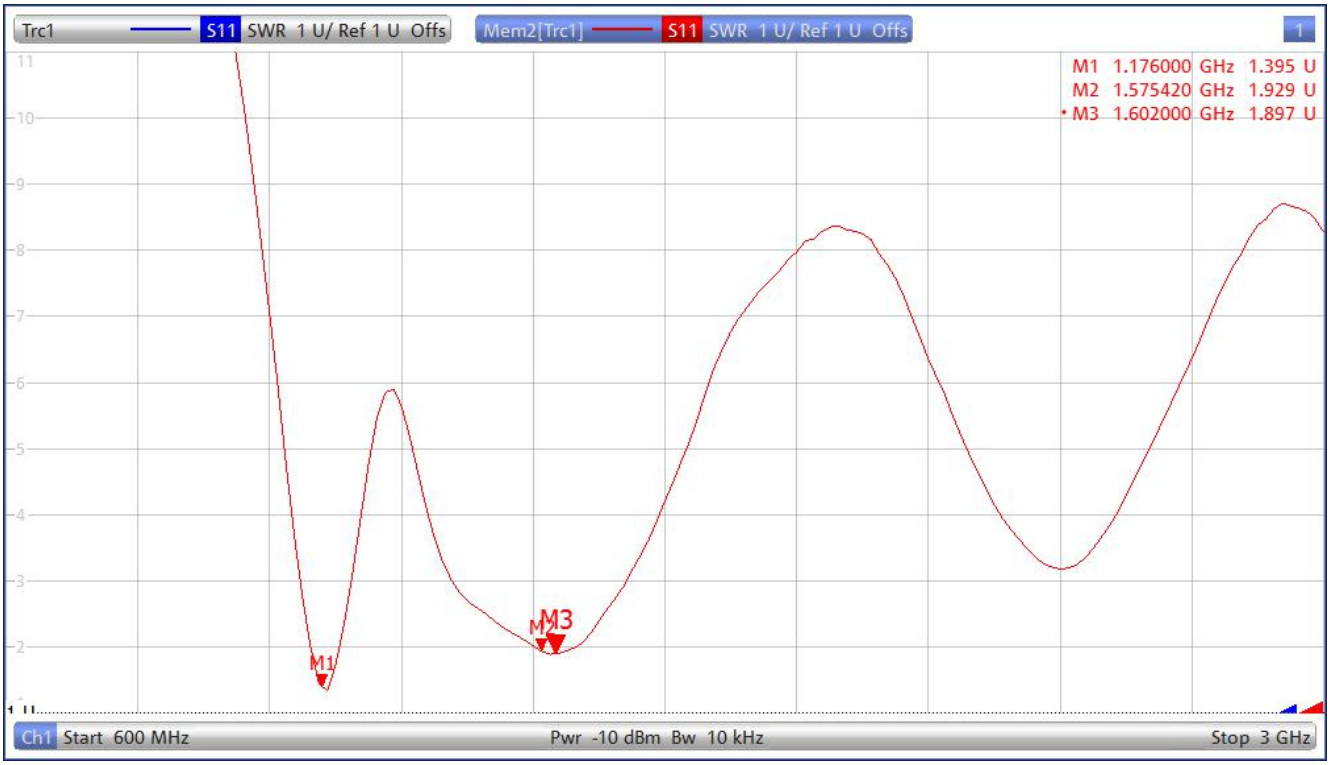
Mounting Type	SMD
Adhesive Type	/
Connector Type	/
Antenna size(mm)	26.0 (L) x 7.65 (W) x 3.0 (H)
Material	PCB
Cable length(mm)	/
Operating Temperature (˚C)	- 40 ˚C ~ + 85 ˚C

Storage Temperature(˚C)	- 40 ˚C ~ + 85 ˚C

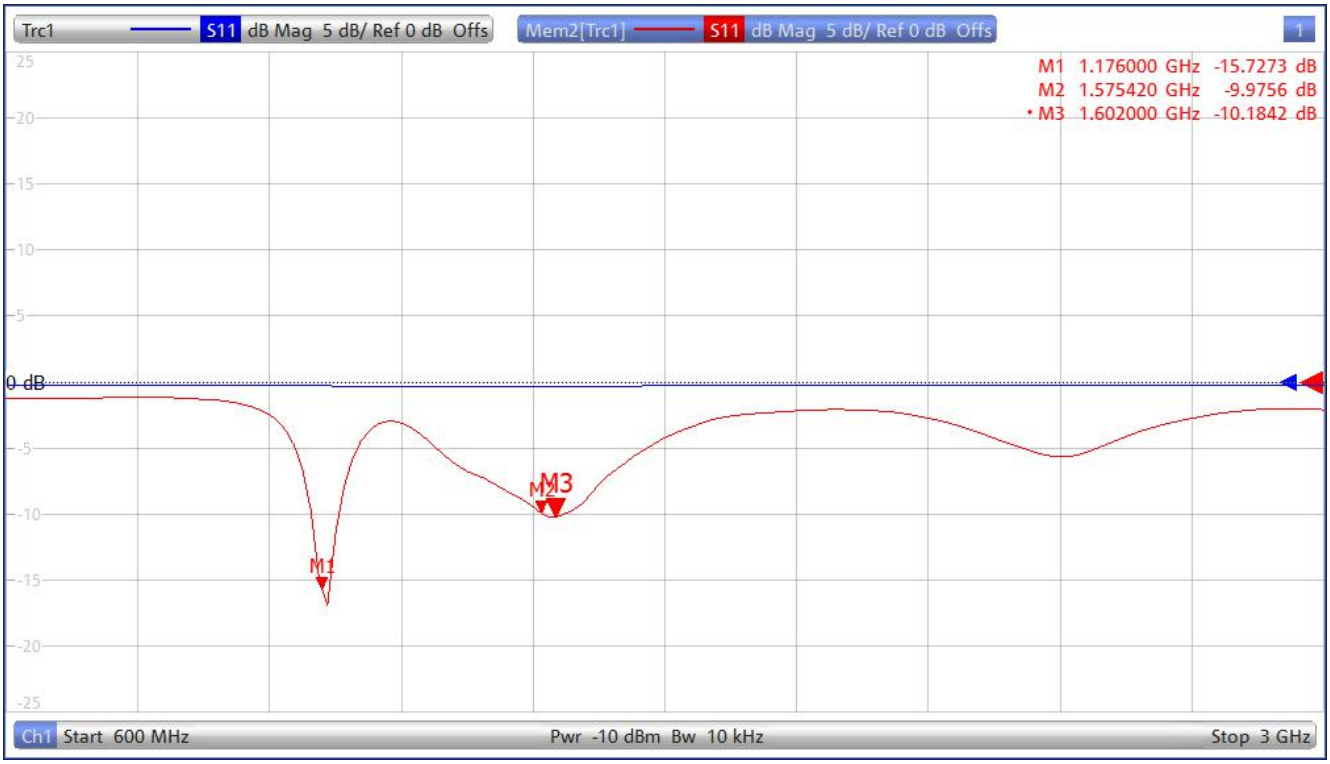
3. Antenna parameters

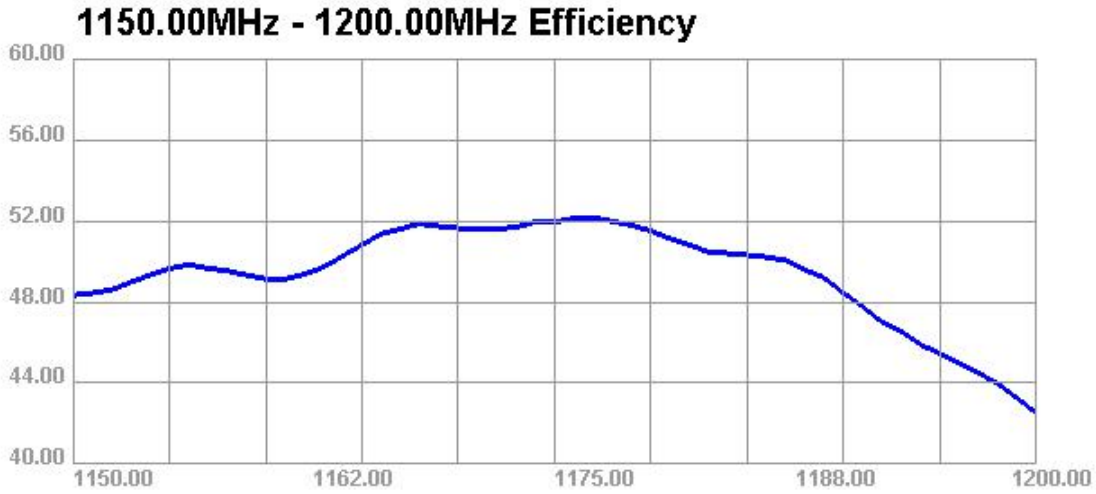
FRE（MHz）	1176	1575.42	1602
VSWR	1.39	1.92	1.89
Return Loss	-15.72	-9.97	-10.18
Eff (%)	52.13	76.41	69.98
Average Gain(dB)	-2.83	-1.17	-1.55

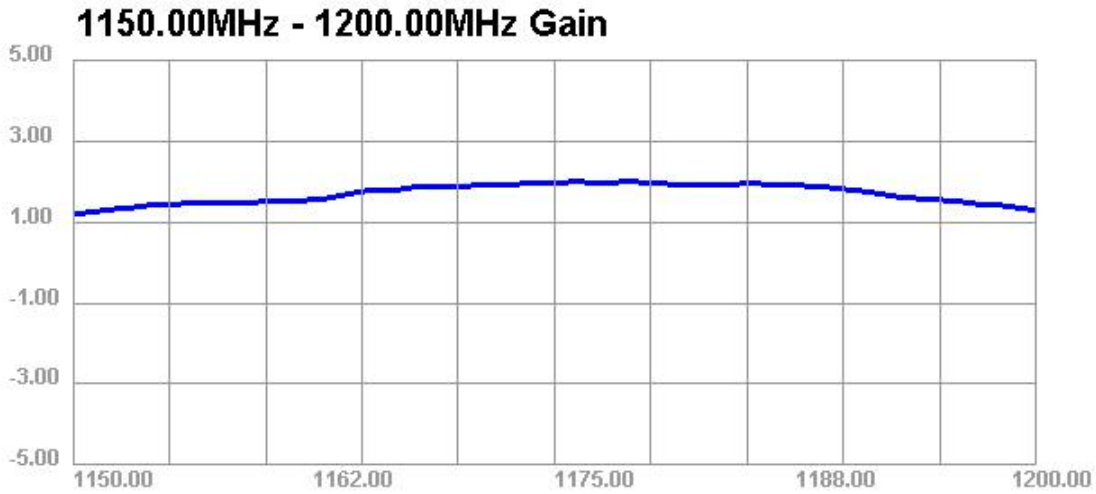
VSWR

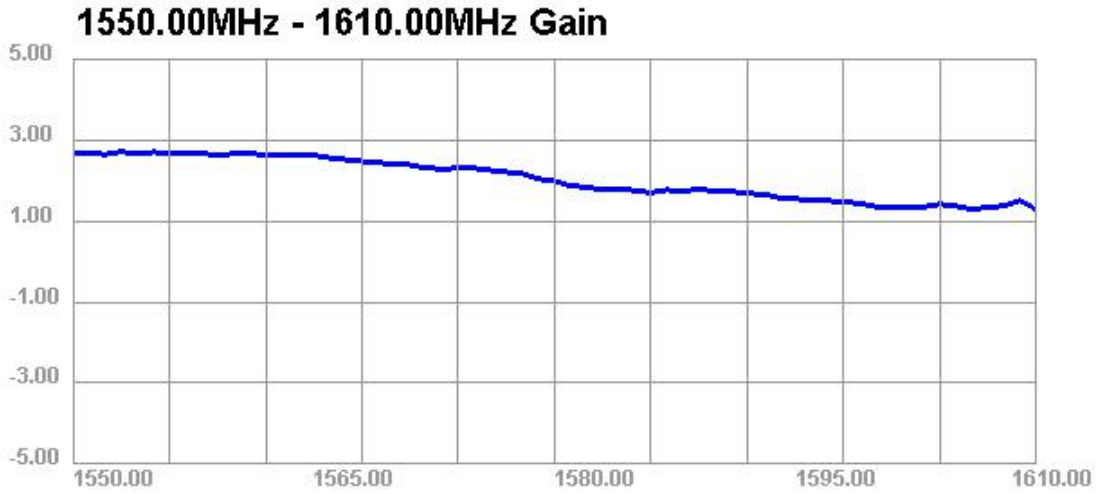


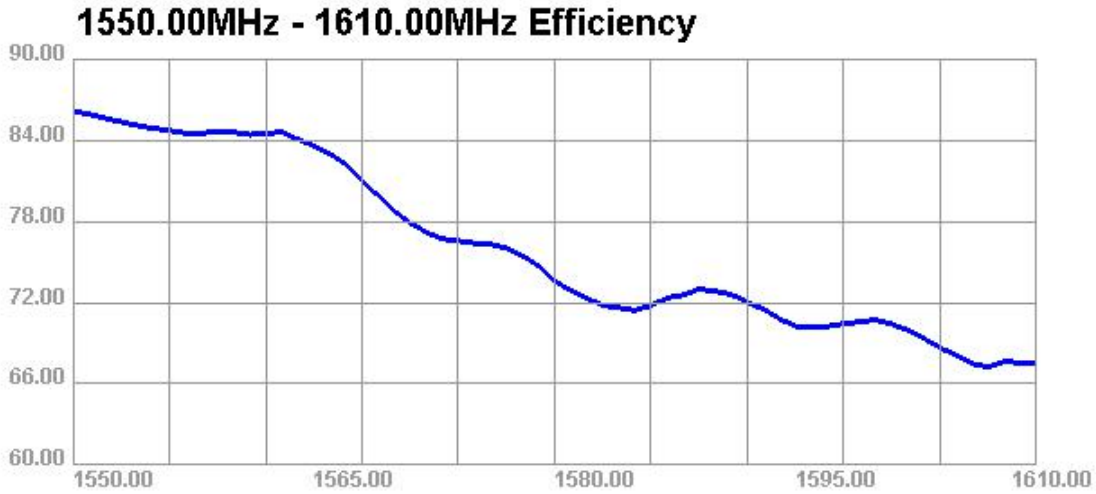
Return Loss



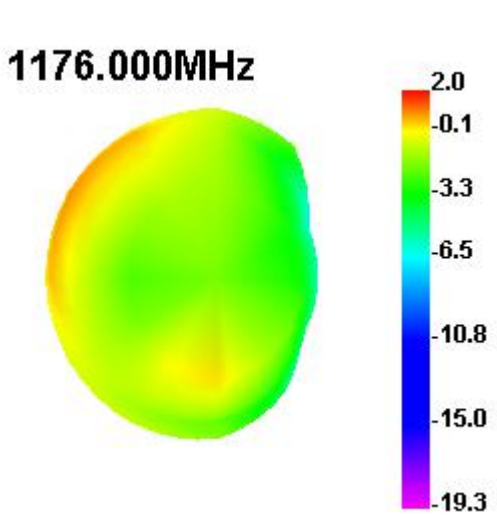

1150.00MHz - 1200.00MHz Efficiency
60.00
56.00
52.00
48.00
44.00
40.00
1150.00
1162.00
1175.00
1188.00
1200.00

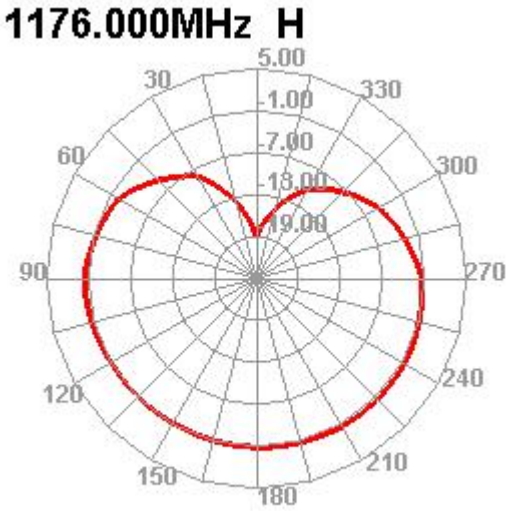

1150.00MHz - 1200.00MHz Gain
5.00
3.00
1.00
-1.00
-3.00
-5.00
1150.00
1162.00
1175.00
1188.00
1200.00

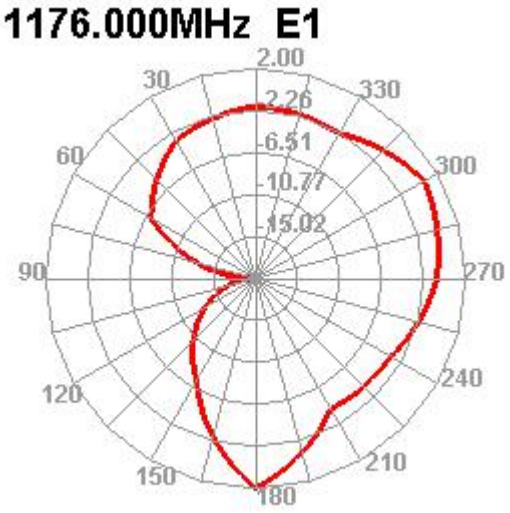

1550.00MHz - 1610.00MHz Gain
5.00
3.00
1.00
-1.00
-3.00
-5.00
1550.00
1565.00
1580.00
1595.00
1610.00

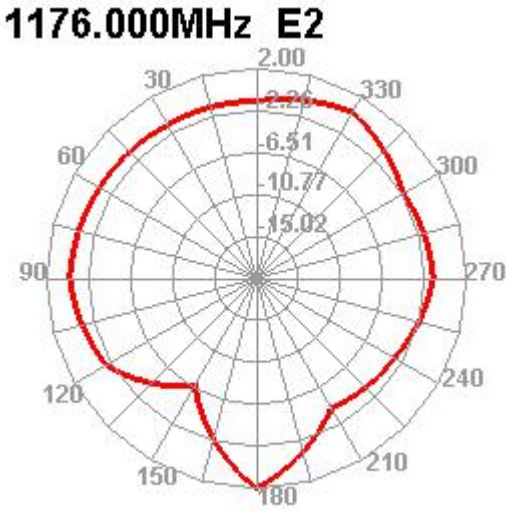

1550.00MHz - 1610.00MHz Efficiency
90.00
84.00
78.00
72.00
66.00
60.00
1550.00
1565.00
1580.00
1595.00
1610.00

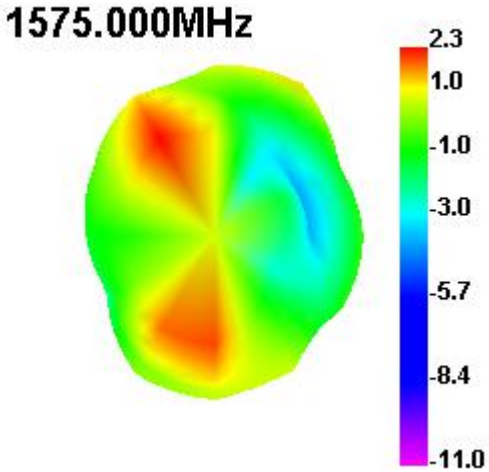
Directional pattern

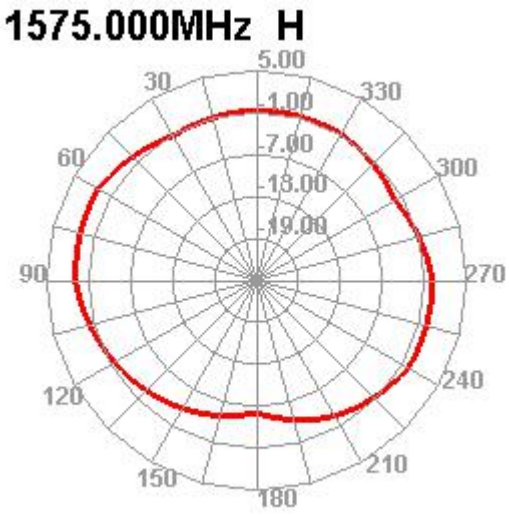


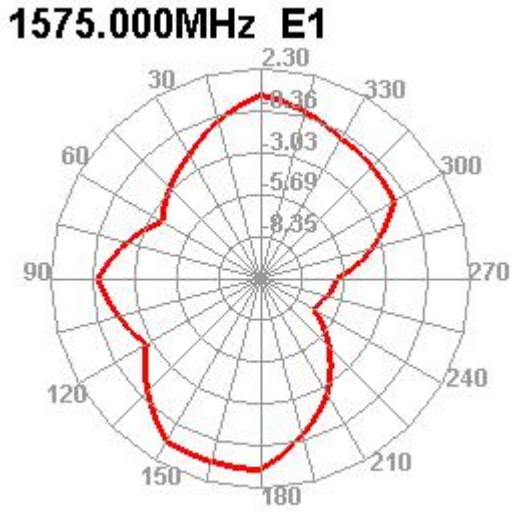


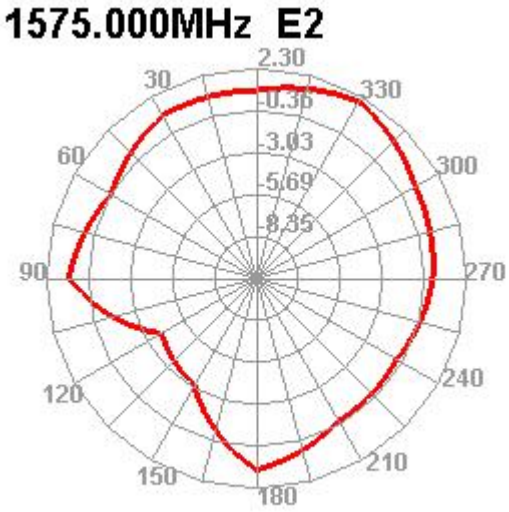


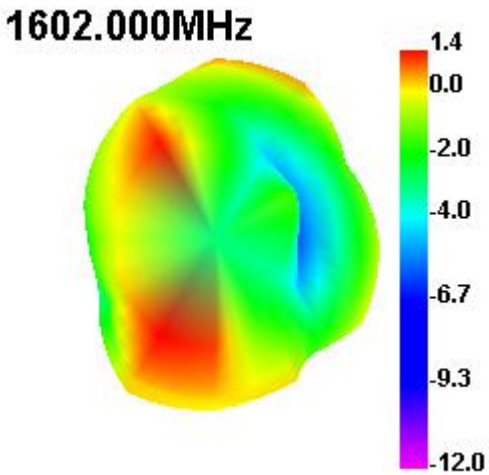


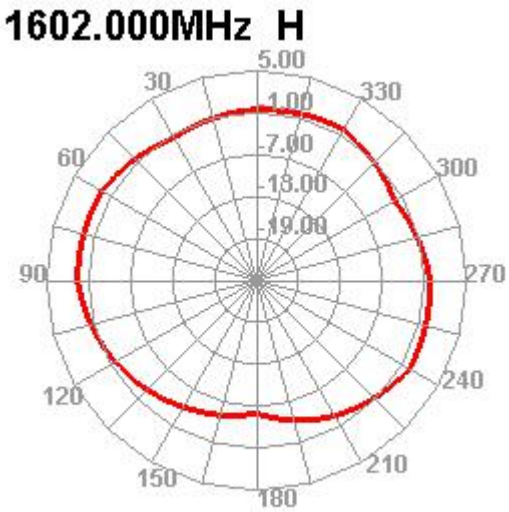

1575.000MHz
2.3
1.0
-1.0
-3.0
-5.7
-8.4
-11.0

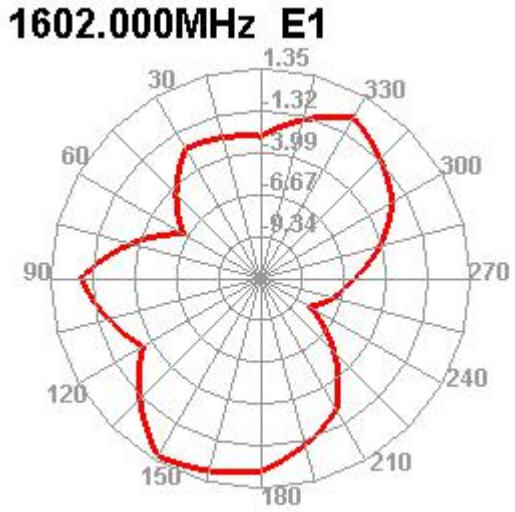

1575.000MHz H
5.00
-1.00
-7.00
-13.00
-19.00
30
330
60
300
90
270
120
240
150
210
180

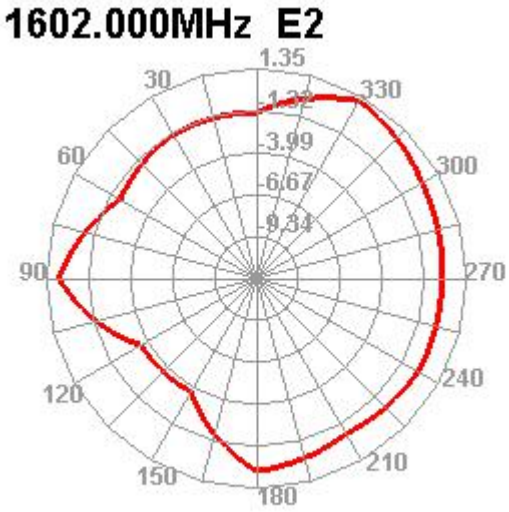

1575.000MHz E1
2.30
-0.36
-3.03
-5.69
-8.35
30
330
60
300
90
270
120
240
150
210
180


1575.000MHz E2
2.30
-0.36
-3.03
-5.69
-8.35
30
330
60
300
90
270
120
240
150
210
180

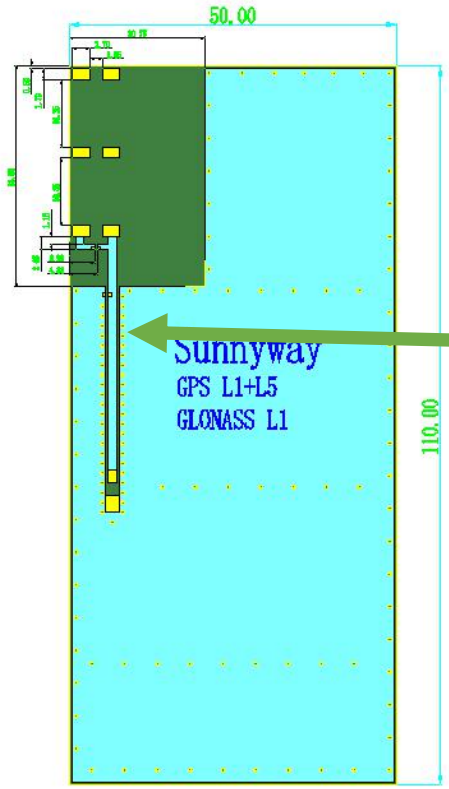

1602.000MHz
1.4
0.0
-2.0
-4.0
-6.7
-9.3
-12.0


1602.000MHz H
5.00
1.00
-7.00
-13.00
-19.00
30
330
60
300
90
270
120
240
150
210
180


1602.000MHz E1
1.35
-1.32
-3.99
-6.67
-9.34
30
330
60
300
90
270
120
240
150
210
180


1602.000MHz E2
1.35
-3.99
-6.67
-9.34
30
330
60
300
90
270
120
240
150
210
180

4. Matching circuit



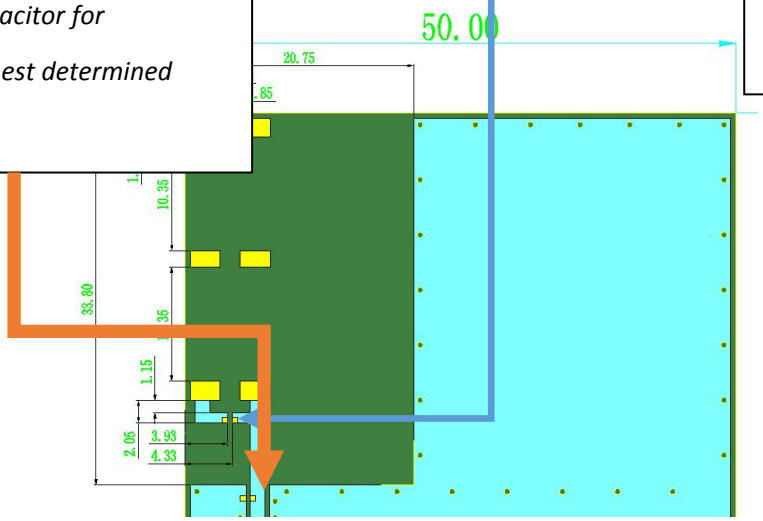
50ohm

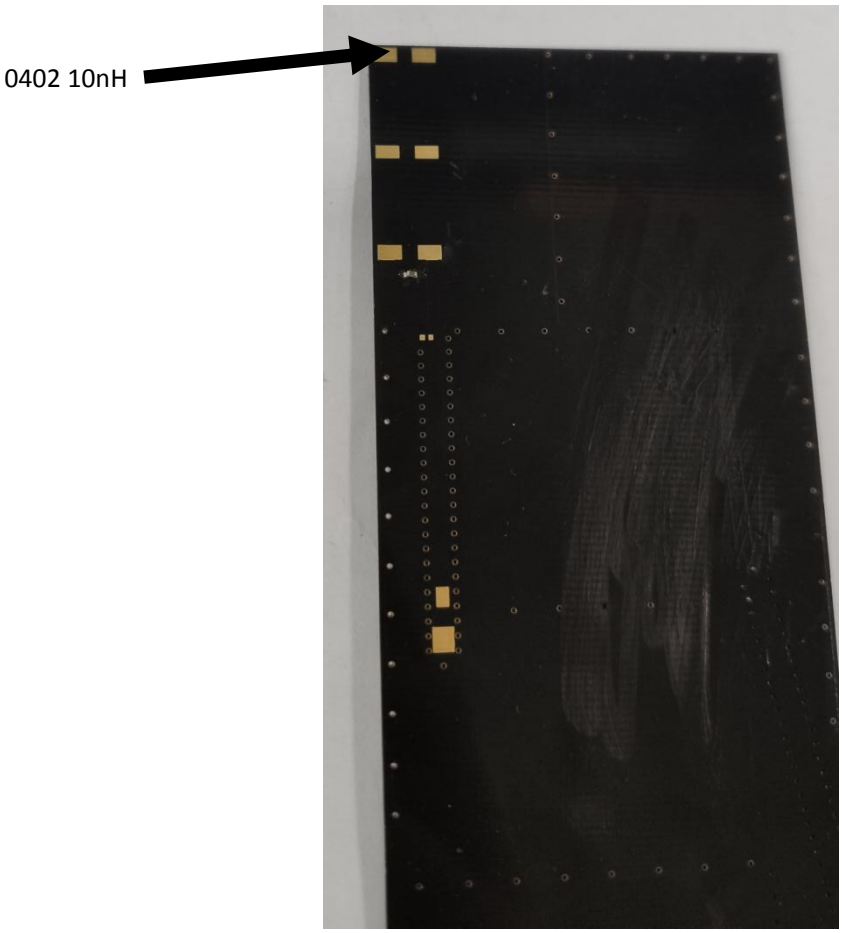
Transmission line

0402 sized series-inductor for frequency tuning . Value: typically 10nH Best determined for each integration

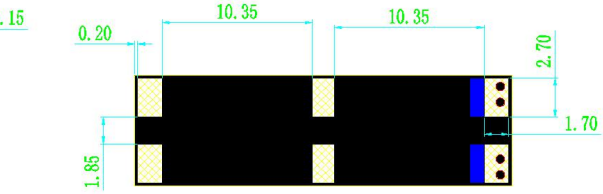
OPTIONAL

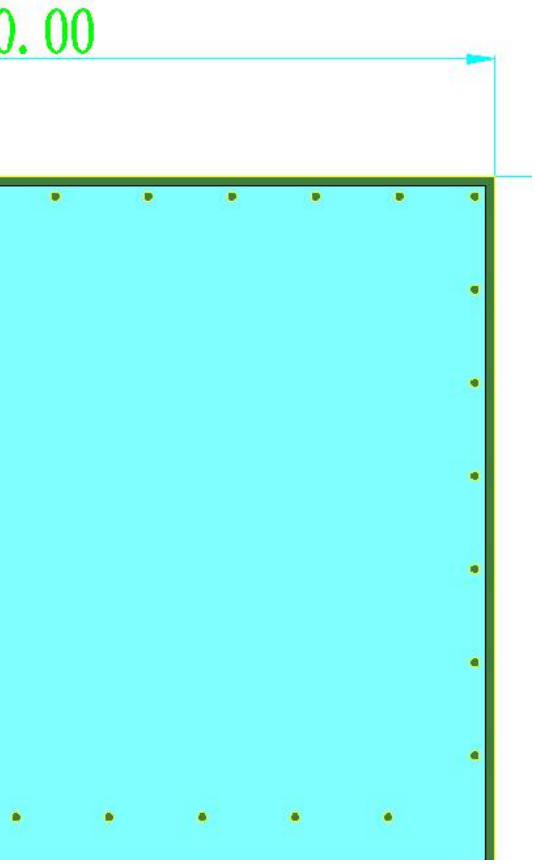
0402 sized shunt inductor/capacitor for impedance matching . Value best determined during integration.




0402 10nH

5.Antenna Drawings







6. Soldering Temperature

PHASE	PROFILE FEATURES	PB-Free Assembly(max.)
RAMP-UP	Avg.Ramp-up Rate(Tsmax to Tp)	3℃/second(max.)
PREHEAT	Temperature Min(Tsmin) Temperature Max(Tsmax) Time(tsmin to tsmax)	150℃ 180℃ 120seconds max
REFLOW	Temperature(TL) Total Time above TL(tl)	210℃ 50seconnds max
PEAK	Temperature(Tp) Time(tp)	260℃ 10seconnds max
RAMP-DOWN	Rate	5℃/second max

7. Reflow Profile

