



SUNNYWAY

SWD019

PN: SW20005IB66



Features:

- Frequency bands: 1176.45 MHz 1575.42MHz 1602.56 MHz
- SMD Compliant
- Impedance 50 Ohm
- Size: 26.0 x 7.65 x 3.0mm

Applications:

- GPS L1+L5 & Glonass &Galileo

Sunnyway Technology

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1. Electrical Specification

Standards	GPS L1+L5 & GLONASS & Galileo		
Frequency range(MHz)	1176.45MHz	1575.42MHz	1602.56MHz
Peak Gain (dBi)	2.7	2.5	2.8
Average Gain (dB)	-1.8	-1.4	-1.2
VSWR	1.29	1.19	1.18
Return Loss	-17.87	-21.10	-21.73
Efficiency (%)	65.5	72.1	75.5
Polarization mode	Linear	Linear	Linear
Radiation pattern	Omni-Directional	Omni-Directional	Omni-Directional
Output impedance (Ω)	50	50	50
Max. Input Power(W)	5	5	5

Note: All parameters are measured with Sunnyway's EVK which size is 110*50mm

2. Mechanical and Environmental Specification

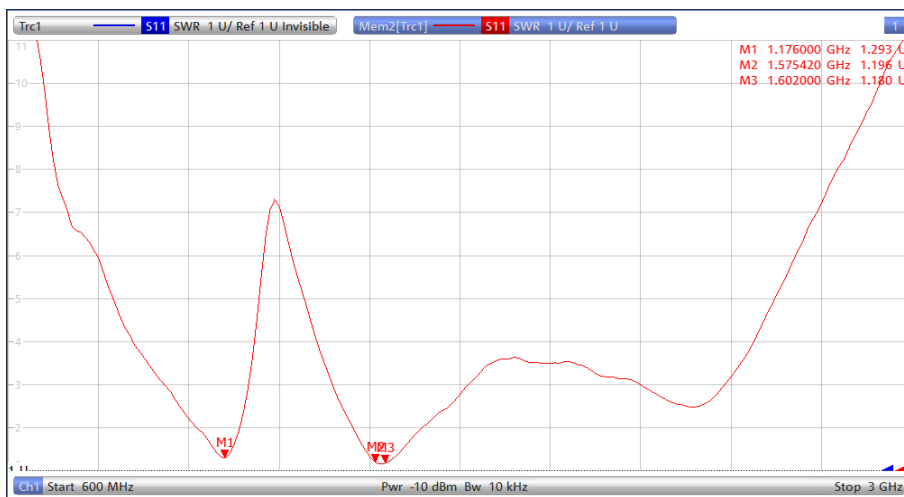
Mounting Type	SMD
Antenna size(mm)	26.0 (L) x 7.65 (W) x 3.0 (H)
Material	PCB
Operating Temperature (°C)	- 40 °C ~ + 85 °C
Storage Temperature(°C)	- 40 °C ~ + 85 °C

3. Antenna parameters

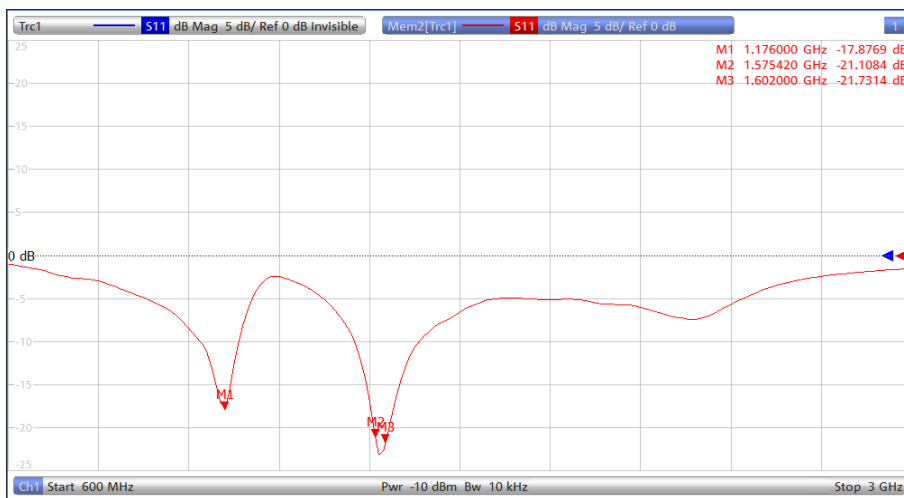
3.1 General Data

FRE (MHz)	1176	1575.42	1602
VSWR	1.29	1.19	1.18
Return Loss	-17.87	-21.10	-21.73
Eff (%)	65.5	72.1	75.5
Average Gain(dB)	-1.8	-1.4	-1.2

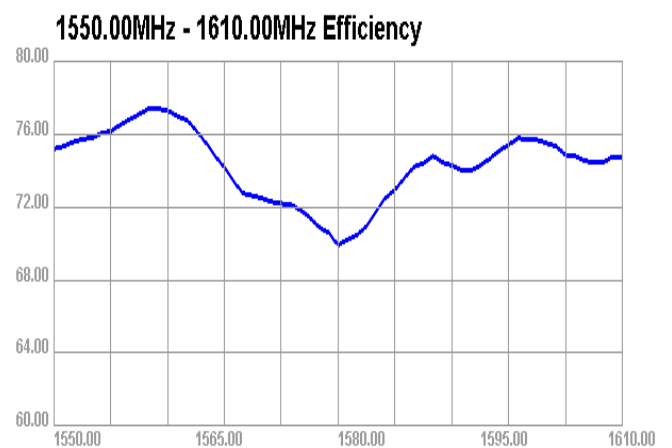
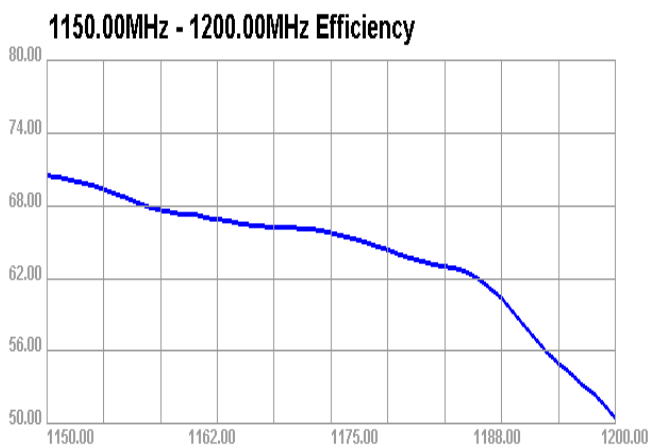
3.2 VSWR



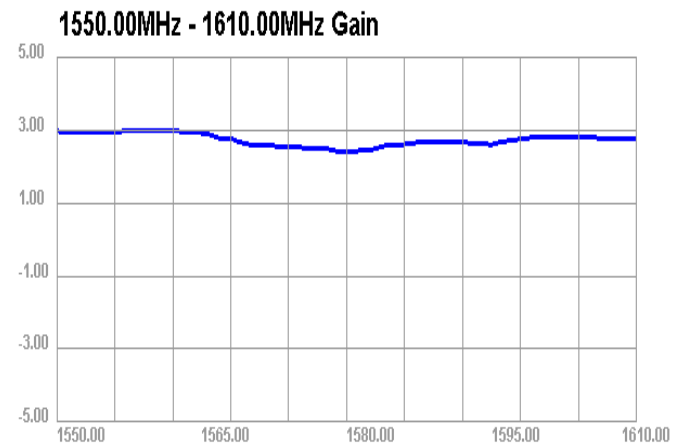
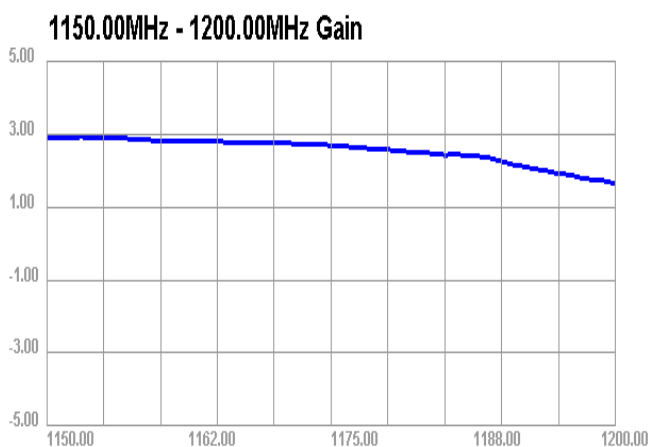
3.3 Return Loss



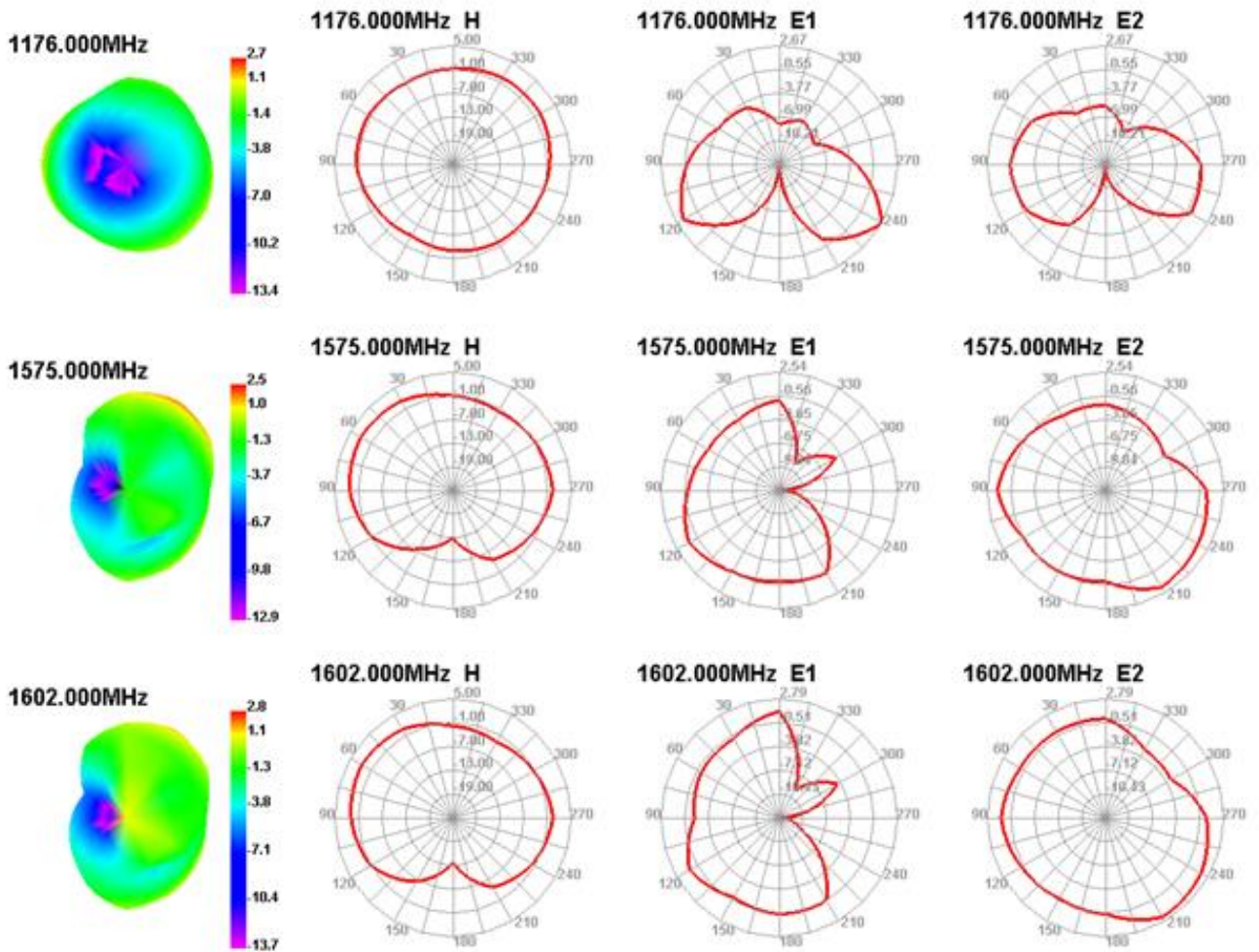
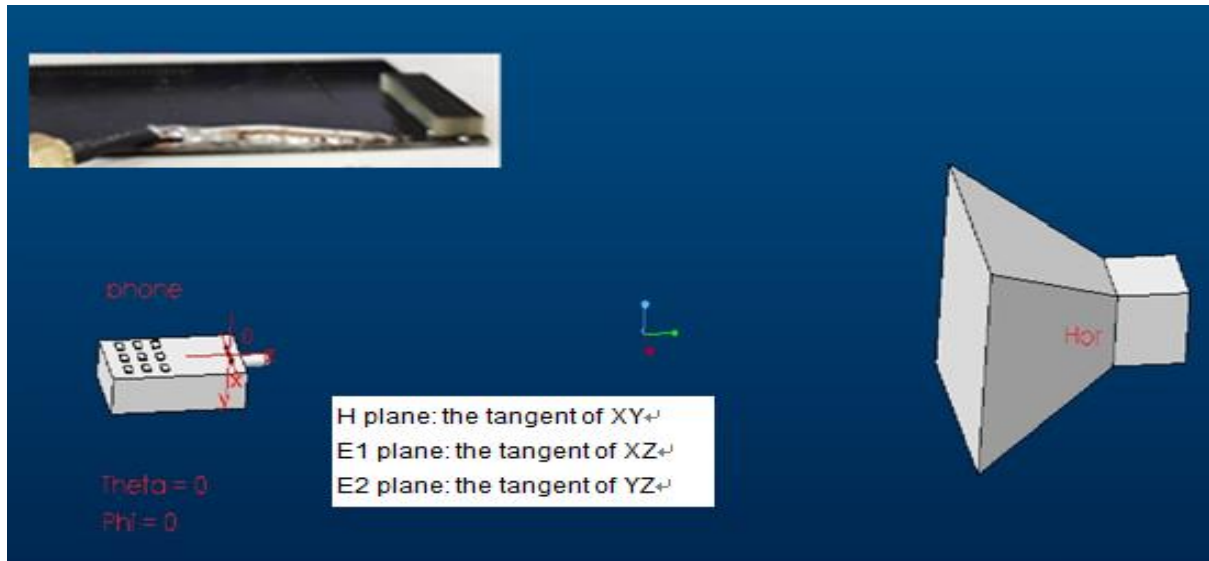
3.4 Efficiency



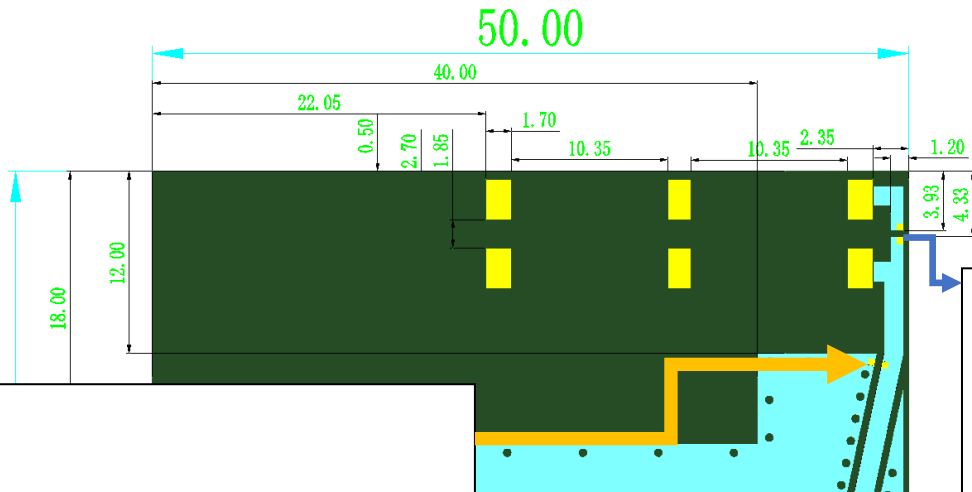
3.5 Gain



3.6 Directional pattern



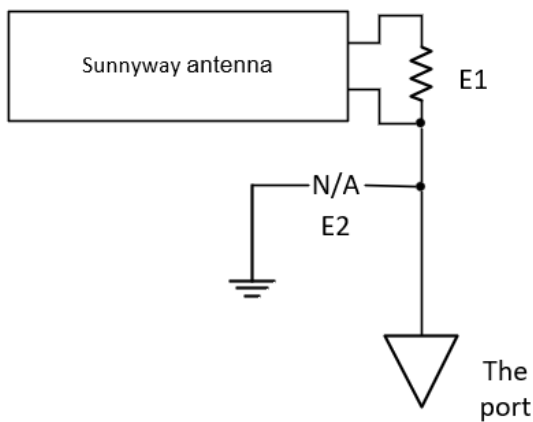
5. Matching circuit



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

0402 sized series-inductor for frequency tuning . Value: typically 9.1nH Best determined for each integration

The antenna requires a matching circuit that must be optimized for each product. The matching circuit will require up to two components and the following circuit should be designed into the host PCB. Not all components may be required but should be included as a precaution. The matching network must be placed close to the antenna feed to ensure it is more effective in tuning the antenna.

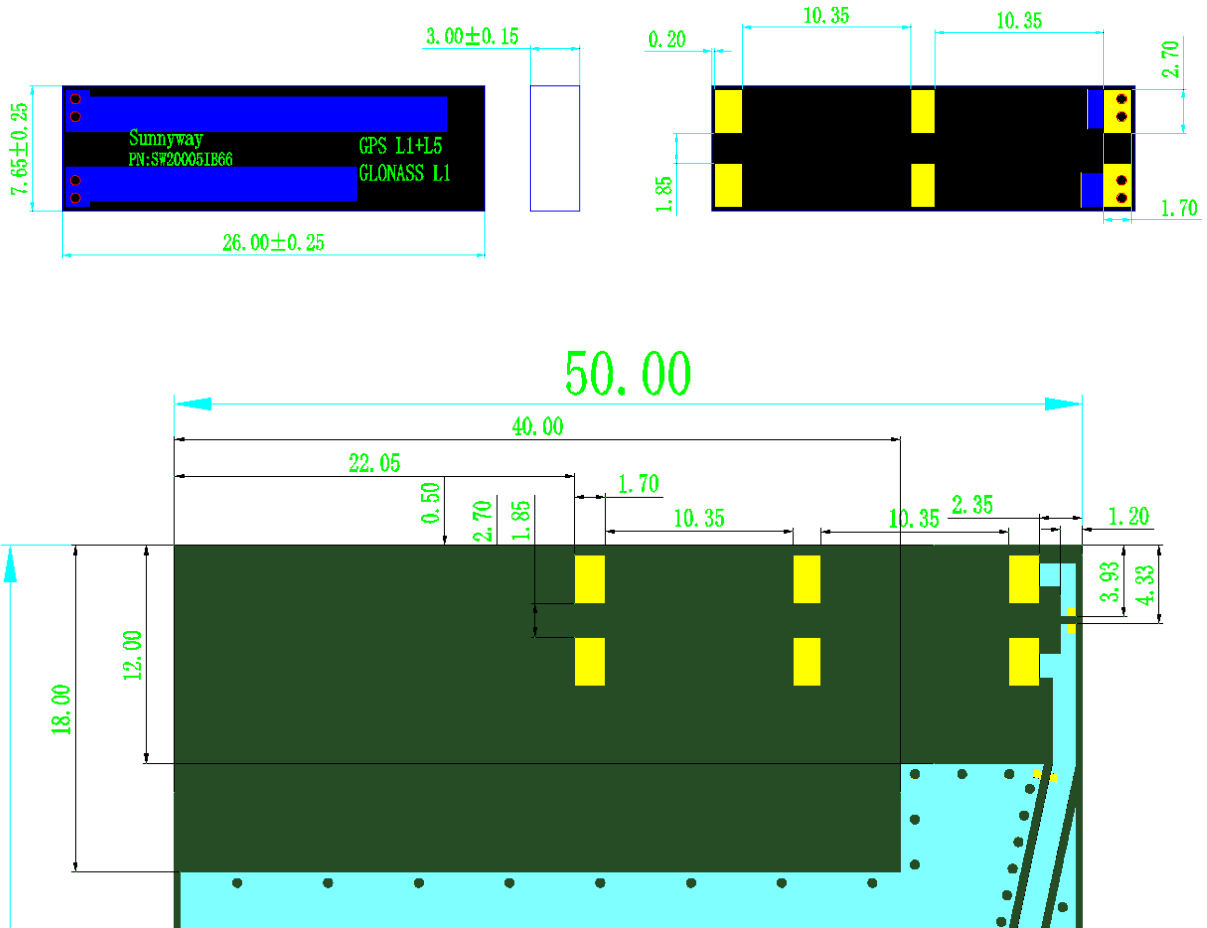


position	Type	Value
E1	Inductor	9.1nH
E2	N/A	N/A



6. Antenna Drawing

All dimensions are in mm





7. Soldering Temperature

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

8. Reflow Profile

