

SWB003-1MSMA

PN: SW25004EB56



Features:

- Antenna for 4G&3G&2G, GPS&GLONASS&GALILEO.
- Maintains high performance on device.
- 2 connecting wires.
- High gain.
- Impedance 50 Ohm.

Applications:

- Access Points.
- Game Consoles.
- Set-Top-Box.
- Network Devices.
- MIMO Systems.

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1. Electrical Specifications

Cable 1 Parameters CELLULAR / LTE Antenna

Standards	4G/3G/2G/NB-IoT/CAT M1		
Frequency range (MHz)	698~960	1710~2170	2300~2690
Peak Gain (dBi)	-0.5~2.5	-0.4~3.0	0.6~3.2
Average Gain (dB)	-4.2~-1.8	-3.5~-2.1	-3.6~-2.5
VSWR	<3.0	<3.0	<3.0
Return Loss	<-7.0	<-6.0	<-6.0
Efficiency (%)	38~65%	45~60%	45~55%
Polarization mode	Linear		
Radiation pattern	Omni-Directional		
Output impedance (Ω)	50		
Max. Input Power(W)	5		

Cable 2 Parameters GNSS Antenna

Standards	GPS/GALILEO	GLONASS
Band (MHz)	1575MHz	1602MHz
Frequency range (MHz)	1575.42	1598~1610
Peak Gain (dBi)	0.4	0.3~0.9
Average Gain (dB)	-3.1	-3.4~-2.6
VSWR	1.23	<2.0
Return Loss	-19.66	<-15.0

Impedance(Ω)	50
Polarization	RHCP
Radiation Pattern	Hemispherical
Saw Filter	Pre-Filter
Active Gain (dB)	28
Noise-Figure(dB)	1dB(+25°C±10°C)
Supply Current(mA)	15
Supply Voltage(V)	1.8~3.6

2. Mechanical and Environmental Specification

Mounting Type	Magnets
Connector Type	RG174 cable , SMA male head male needle
Antenna size(mm)	81.0 (ϕ) x 14.32 (L)
Material	External
Cable length(mm)	1000 (can be customized)
Operating Temperature (°C)	- 40 °C ~ + 80 °C
Storage Temperature(°C)	- 40 °C ~ + 80 °C

3. Antenna parameters

3.1 Cable 1: CELLULAR/LTE Tested with 50cm cable length - RG174 with C20N

FRE (MHz)	698	960	1710	2170	2300	2500	2690
VSWR	2.05	2.51	1.67	1.47	2.41	1.66	2.73
Return Loss	-9.26	-7.46	-11.94	-14.41	-7.66	-12.06	-6.65
Eff (%)	41.5	43.4	54.1	46.6	49.8	49.5	46.3
Average Gain(dB)	-3.82	-3.62	-2.67	-3.31	-3.03	-3.05	-3.34

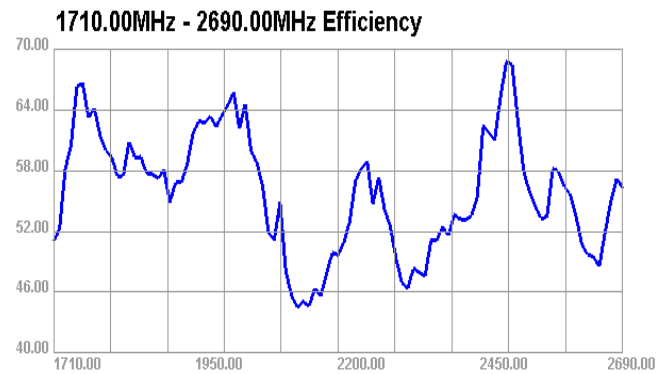
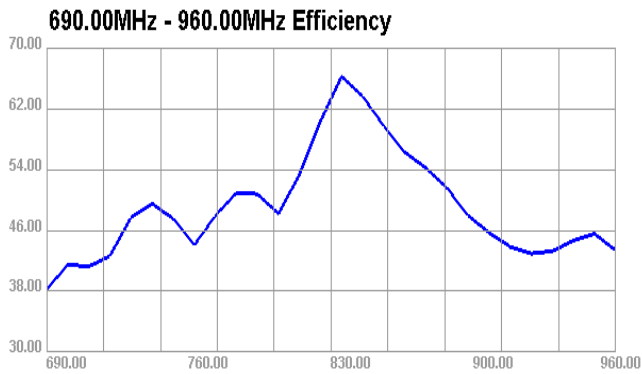
3.1.1 VSWR



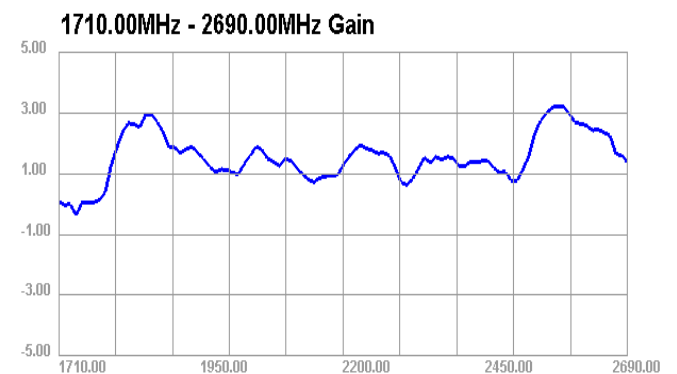
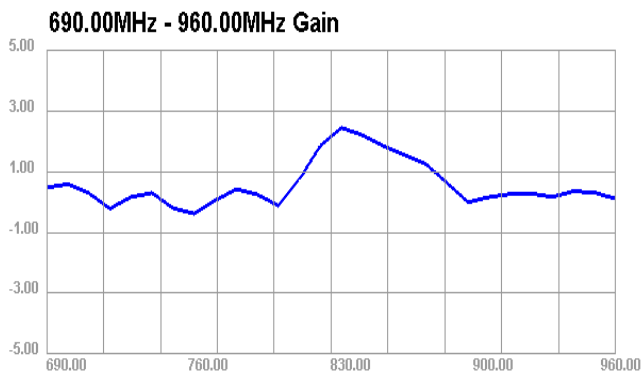
3.1.2 Return Loss



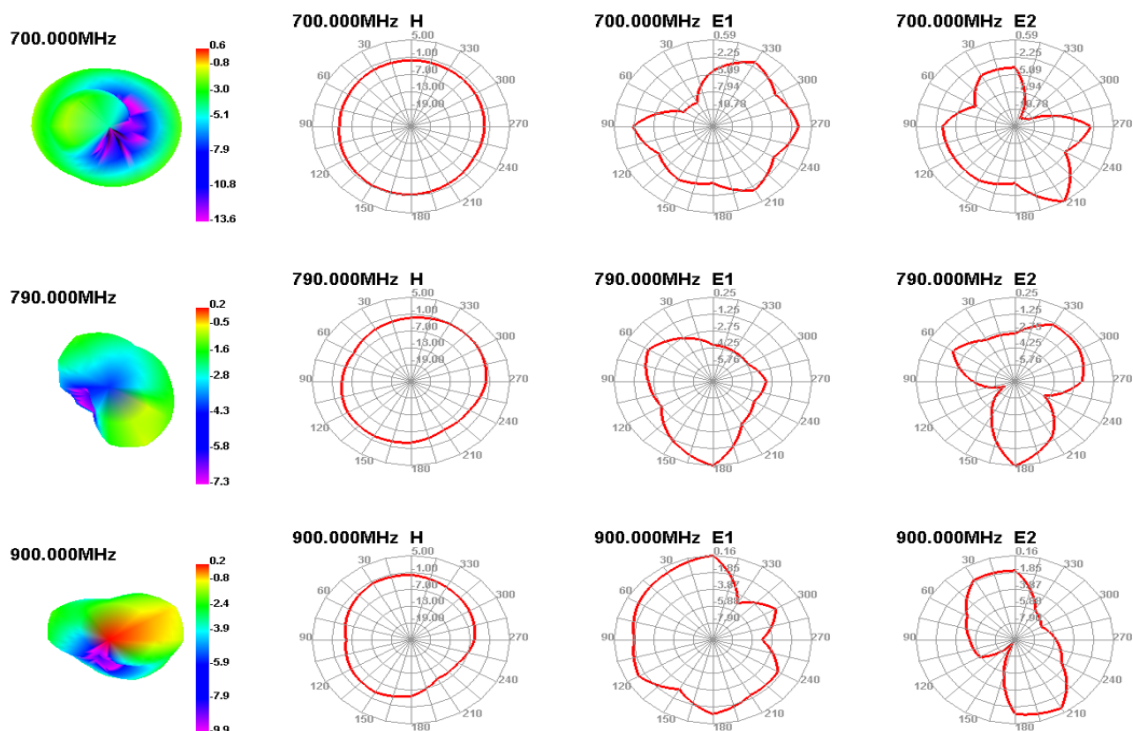
3.1.3 Efficiency



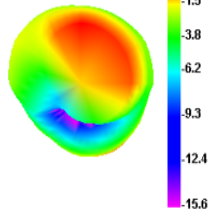
3.1.4 Gain



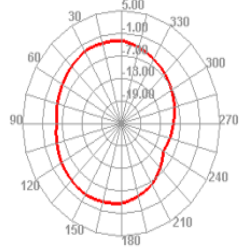
3.1.5 Directional pattern



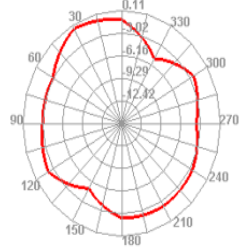
960.000MHz



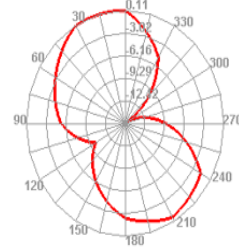
960.000MHz H



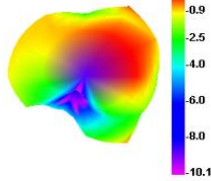
960.000MHz E1



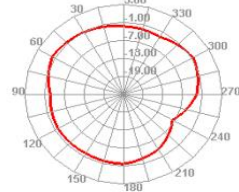
960.000MHz E2



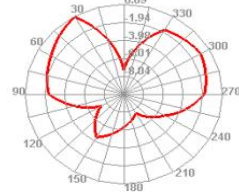
1710.000MHz



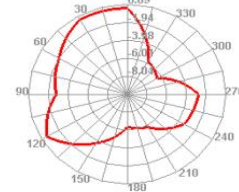
1710.000MHz H



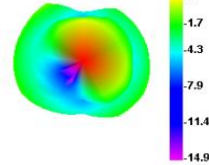
1710.000MHz E1



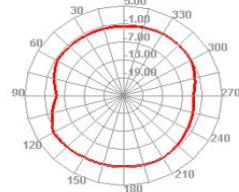
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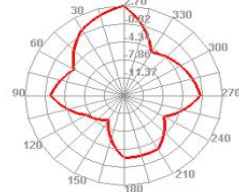
1880.000MHz



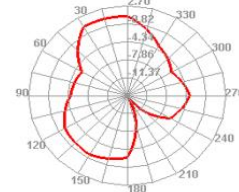
1880.000MHz H



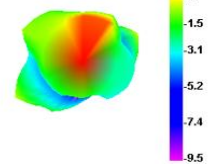
1880.000MHz E1



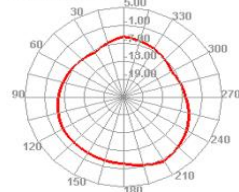
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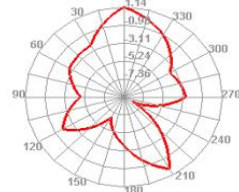
1990.000MHz



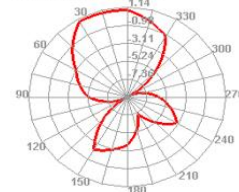
1990.000MHz H



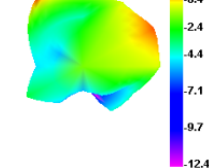
1990.000MHz E1



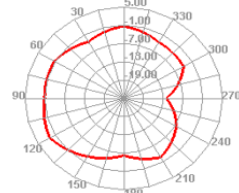
1990.000MHz E2



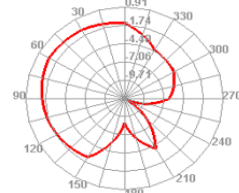
2170.000MHz



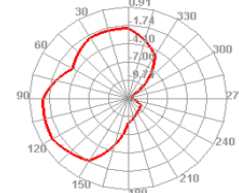
2170.000MHz H



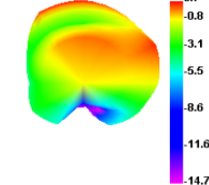
2170.000MHz E1



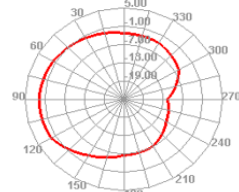
2170.000MHz E2



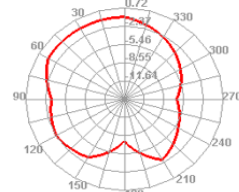
2300.000MHz



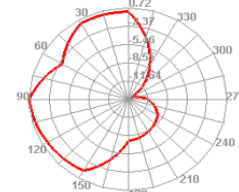
2300.000MHz H

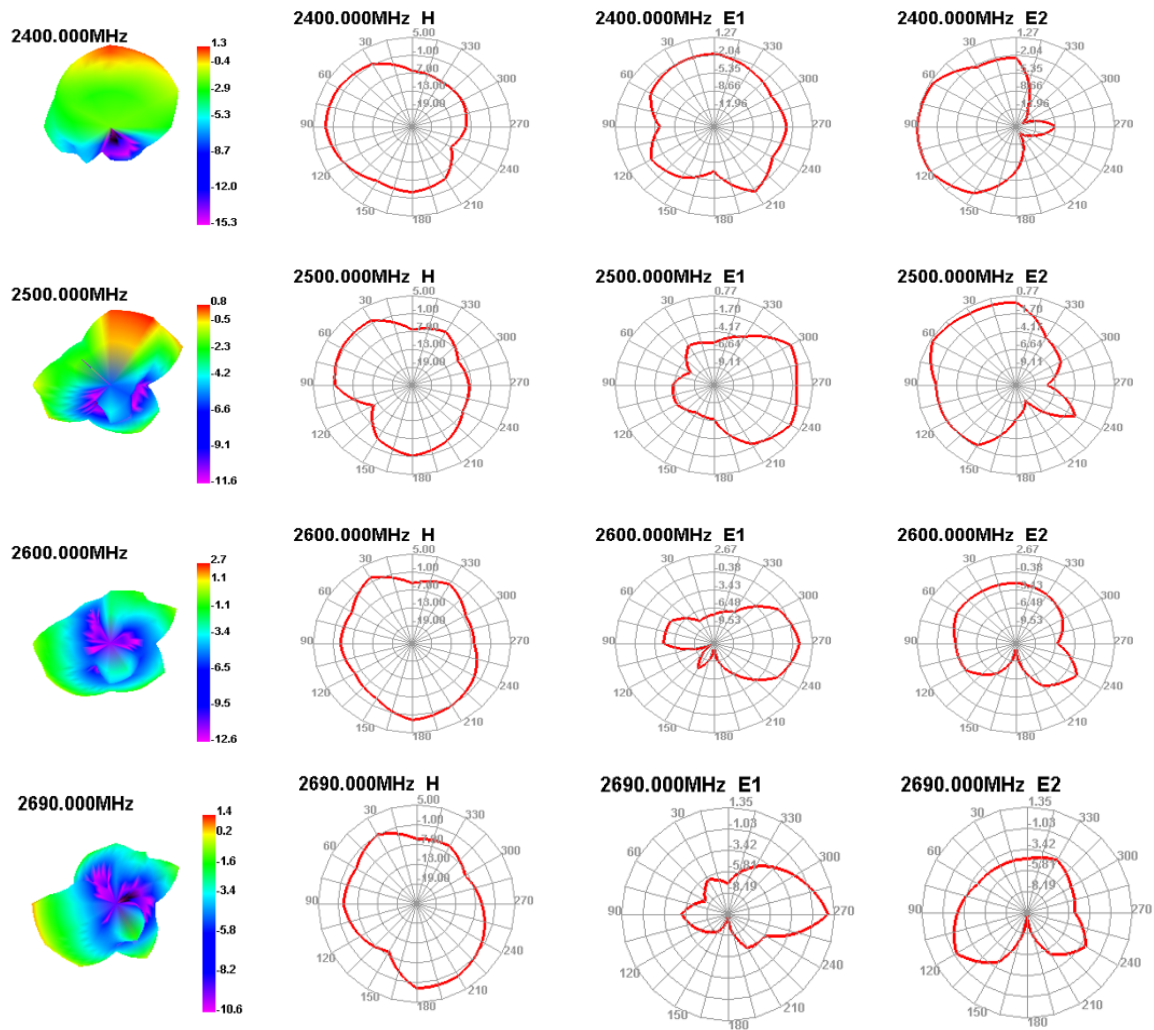


2300.000MHz E1



2300.000MHz E2

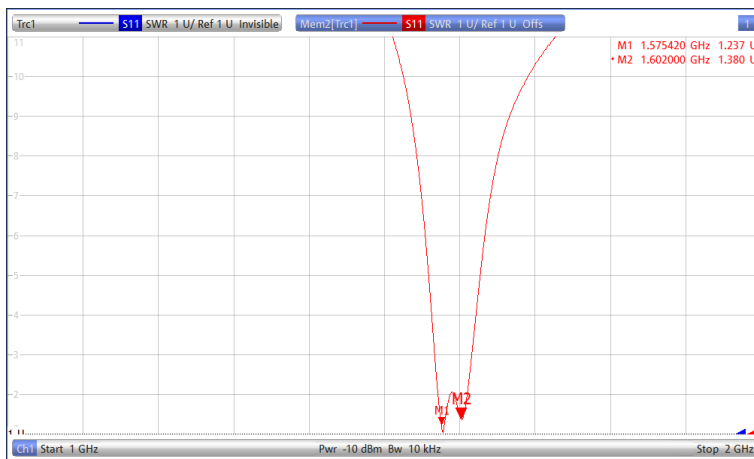




3.2 Cable 2: GNSS Tested with 50cm cable length - RG174 with C20N

FRE (MHz)	1575.42	1602
VSWR	1.23	1.38
Return Loss	-19.66	-15.93
Eff (%)	48.5	53.7
Average Gain(dB)	-3.1	-2.7

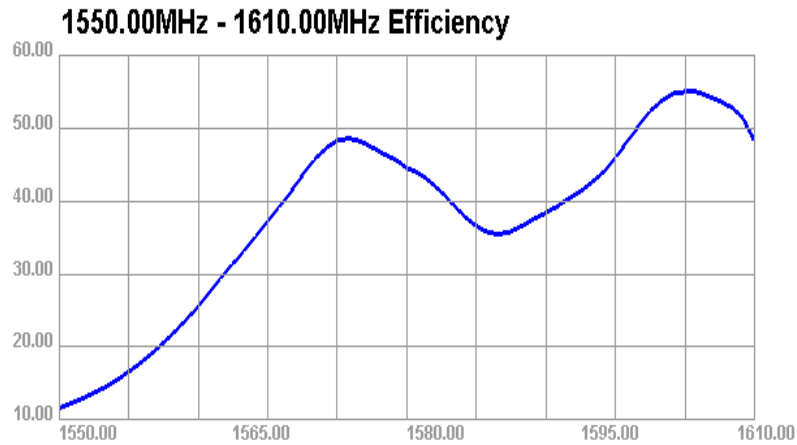
3.2.1 VSWR



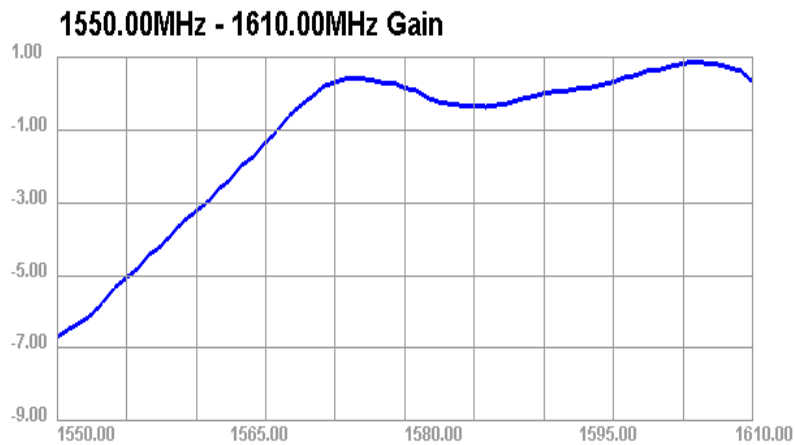
3.2.2 Return Loss



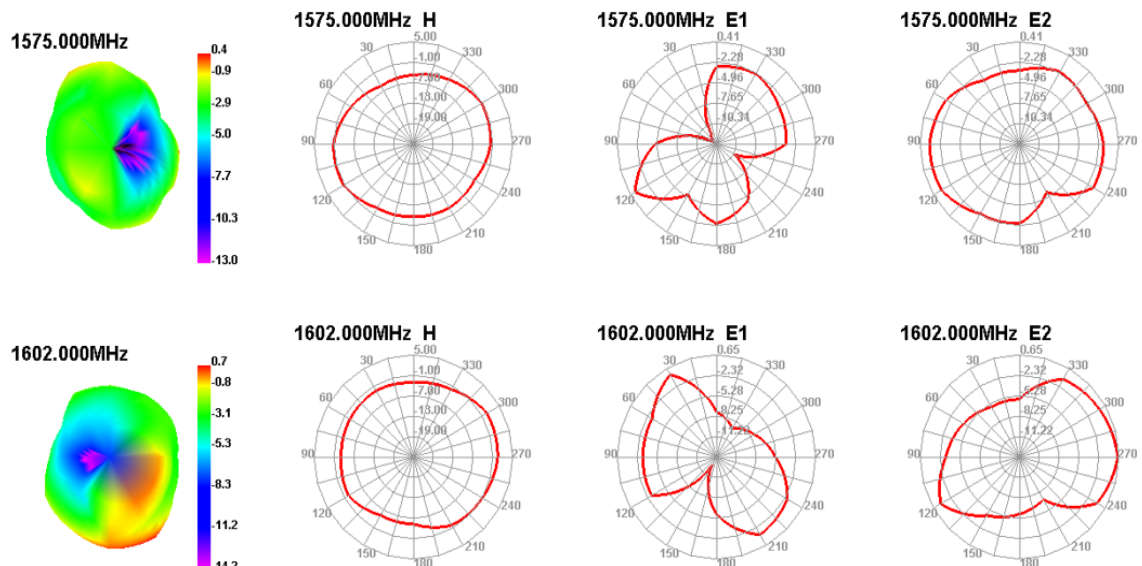
3.2.3 Efficiency



3.2.4 Gain



3.2.5 Directional pattern



4. Antenna Drawing

