SWB009

PN: SW20281EB56



Features:

- Antenna for 700~960MHz, 1710~2690MHz
- Impedance 50 Ohm

Applications:

- Antenna for 4G/3G/2G

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1. Electrical Specification

Standards	4G/3G/2G	
Frequency range (MHz)	700~960	1710~2690
Peak Gain (dBi)	-0.7~2.7	1.2~4.4
Average Gain (dB)	-5.2~-2.1	-4.1~-1.9
VSWR	< 3.5	< 2.9
Return Loss	< -5.2	< -7.0
Efficiency (%)	30.2~61.4%	38.6~64.4%
Polarization mode	Linear	
Radiation pattern	Omni-Directional	
Output impedance (Ω)	50	
Max. Input Power(W)	5	

Note： Debug based on 200 mm wire length

2. Mechanical and Environmental Specifications

Mounting Type	Screw lock
Connector Type	SMA-M
Antenna size(mm)	Φ46.40 x 26.1(H)
Material	ABS
Cable length(mm)	2000-RG174(can be customized)
Operating Temperature (˚C)	- 40 ˚C ~ + 85 ˚C
Storage Temperature(˚C)	- 40 ˚C ~ + 85 ˚C

3. Antenna Parameters

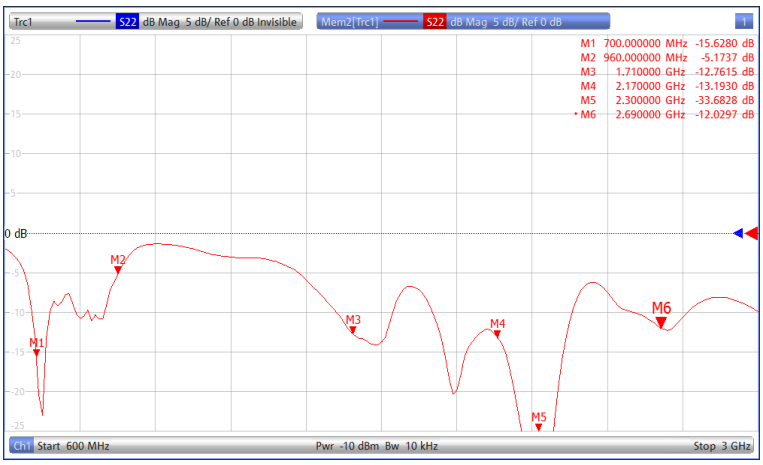
3.1 General Data

FRE (MHz)	700	960	1710	2170	2300	2690
VSWR	1.4	3.5	1.6	1.6	1.0	1.7
Return Loss	-15.6	-5.2	-12.8	-13.2	-33.7	-12.0
Eff (%)	30.2	36.0	51.5	62.3	60.0	43.6
Average Gain(dB)	-5.2	-4.4	-2.9	-2.1	-2.2	-3.6

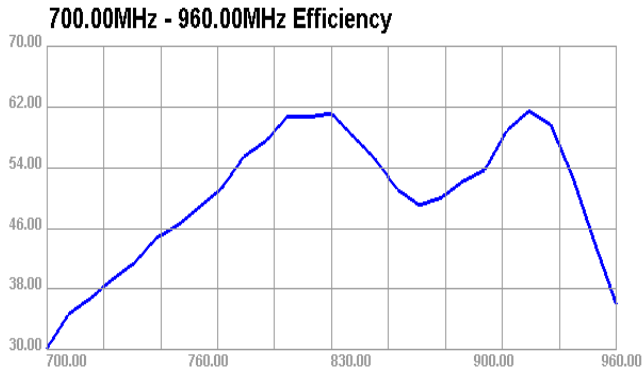
3.2 VSWR

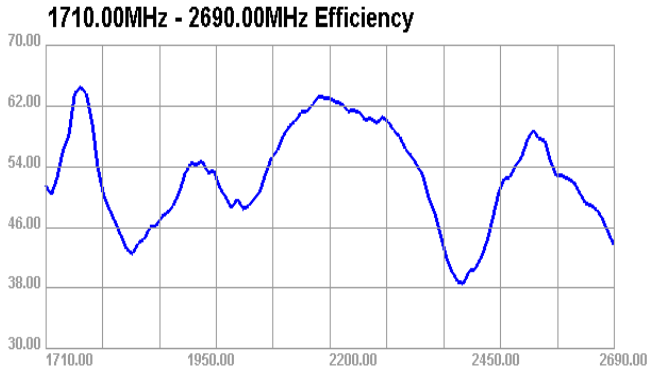


3.3 Return Loss

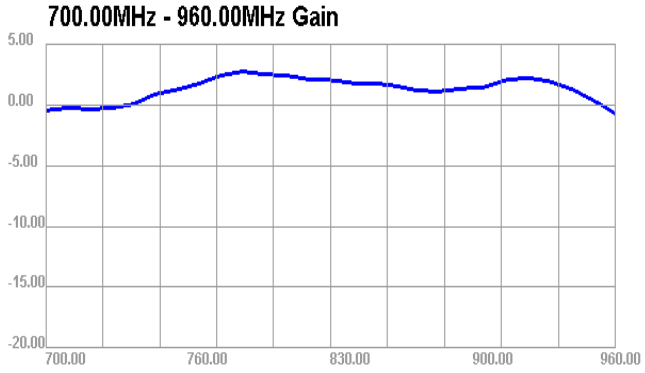


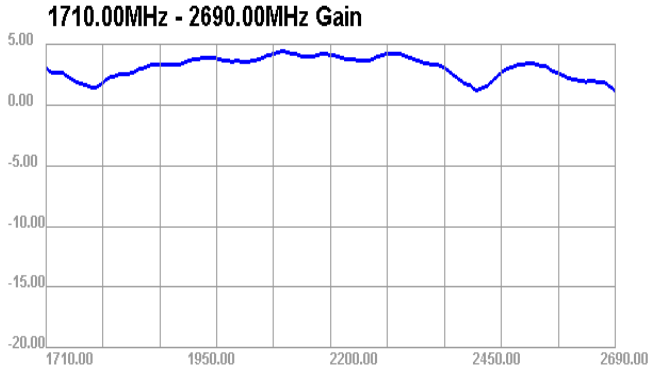
3.4 Efficiency



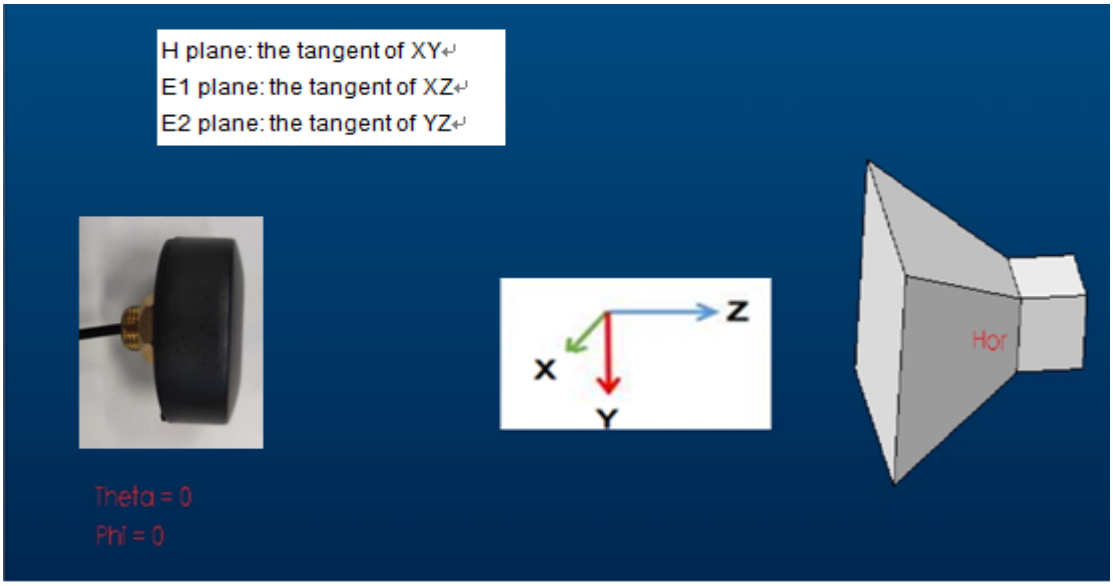


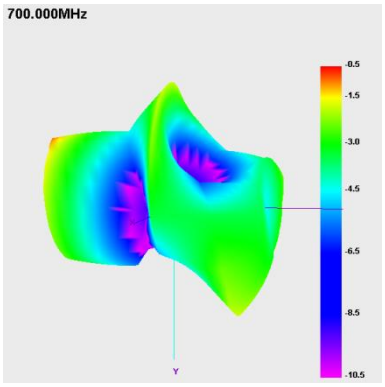
3.5 Gain

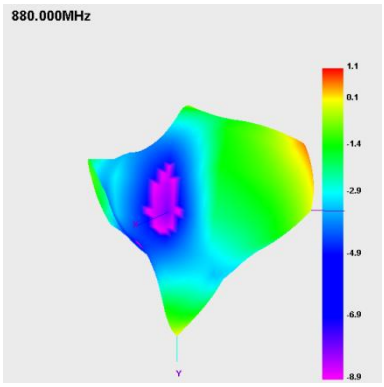


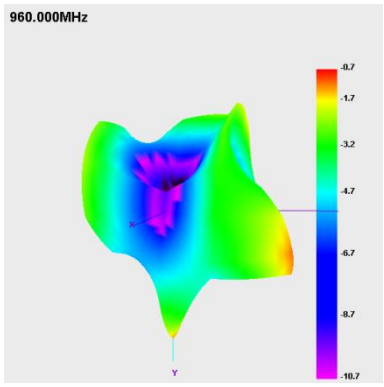


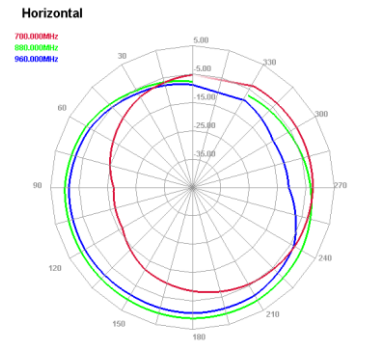
3.6 Directional Pattern

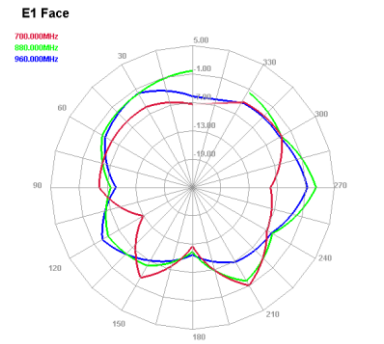


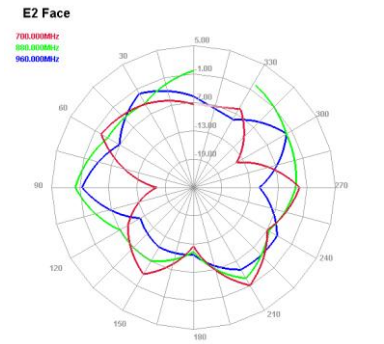

700.000MHz
-0.5
-1.5
-3.0
-4.5
-6.5
-8.5
-10.5
Y

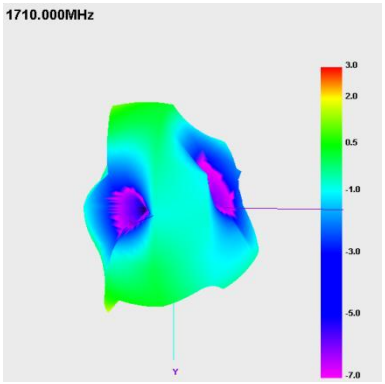

880.000MHz
1.1
0.1
-1.4
-2.9
-4.9
-6.9
-8.9
Y

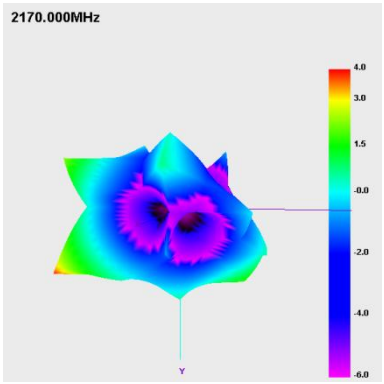

960.000MHz
-0.7
-1.7
-3.2
-4.7
-6.7
-8.7
-10.7
Y

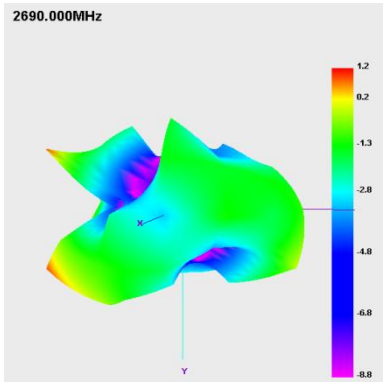

Horizontal
700.000MHz
880.000MHz
960.000MHz

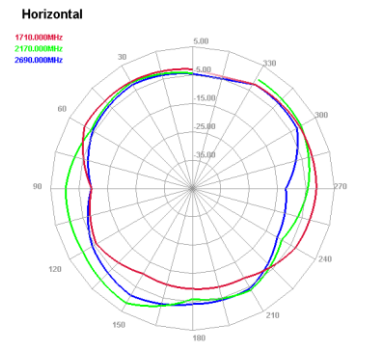

E1 Face
700.000MHz
880.000MHz
960.000MHz


E2 Face
700.000MHz
880.000MHz
960.000MHz

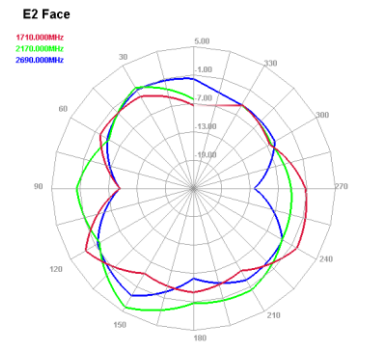

1710.000MHz
3.0
2.0
0.5
-1.0
-3.0
-5.0
-7.0
Y


2170.000MHz
4.0
3.0
1.5
-0.0
-2.0
-4.0
-6.0
Y


2690.000MHz
1.2
0.2
-1.3
-2.8
-4.8
-6.8
-8.8
Y

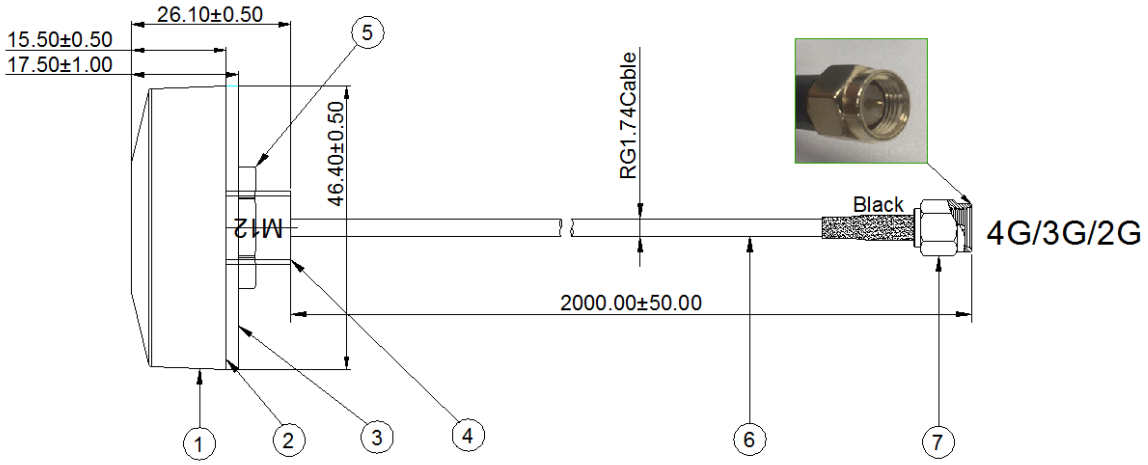

Horizontal
1710.000MHz
2170.000MHz
2690.000MHz


E1 Face
1710.000MHz
2170.000MHz
2690.000MHz


E2 Face
1710.000MHz
2170.000MHz
2690.000MHz

4. Antenna Drawing

Unit: mm



Series	Component name	Material	Color	Quantity
1	Upper Shell	ABS	black	1
2	Lower Shell	ABS	black	1
3	Back Glue	Back Glue	natural colour	1
4	Screw	brass	Gold	1
5	Nuts	brass	Gold	1
6	Cable	RG174	black	1
7	SMA	brass	Gold	1

Note: Cable Loss

Attenuation, Typical value (20℃) (Permissible error±10%)

Frequency MHZ	dB/100m
100	19
200	22
400	32
500	37
800	44
1000	49
1200	54
1500	65
1800	67
2000	71
2500	81
3000	88
4000	105
5000	121
5800	132
6000	135

Changelog for the datasheet			
Revision	Date	Author:	Notes:
-	2020-02-13	Kevin LV	Initial Datasheet Release
V0	2025-06-16	Kevin LV	Update text formatting, titles, fonts, etc