SWB011

PN: SW20283EB56



Features

- Antenna 1 for 2400-2500MHz 、5100-5900MHz
- Antenna 2 for 2400-2500MHz
- Impedance 50 Ohm.

Applications:

- Antenna 1 for 2.4G WIFI&5G WIFI
- Antenna 2 for BT

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1. Electrical Specification

Cable 1 Parameters

Tested with 30cm cable length - RG174 with C20N

Standards	2.4G&5G WIFI	
Frequency range (MHz)	2400-2500	5100-5900
Peak Gain (dBi)	1.8~2.5	1.3~3.9
Average Gain (dB)	-1.8~-1.3	-1.6~-4.3
VSWR	< 1.2	< 3.1
Return Loss	< -21.0	< -6.0
Efficiency (%)	66.7~75.1	38~68.6
Polarization mode	Linear	Linear
Radiation pattern	Omni-Directional	Omni-Directional
Output impedance (Ω)	50	50
Max. Input Power(W)	25	25

Cable 2 Parameters

Tested with 30cm cable length - RG174 with C20N

Standards	BT
Frequency range (MHz)	2400-2500
Peak Gain (dBi)	2.5~4.0
Average Gain (dB)	-1.6~-0.9
VSWR	< 1.4
Return Loss	< -16.1
Efficiency (%)	69.2~81.8
Polarization mode	Linear
Radiation pattern	Omni-Directional
Output impedance (Ω)	50
Max. Input Power(W)	25

2. Mechanical and Environmental Specification

Mounting Type	Screw lock
Connector Type	RG174+SMA (M)
Antenna size(mm)	99.96 (φ) x 105.8 (H) x250 (Line length)
Material	SABIC PC 1414
Cable length(mm)	250mm (can be customized)
Operating Temperature (˚C)	- 40 ˚C ~ + 85 ˚C
Storage Temperature(˚C)	- 40 ˚C ~ + 85 ˚C

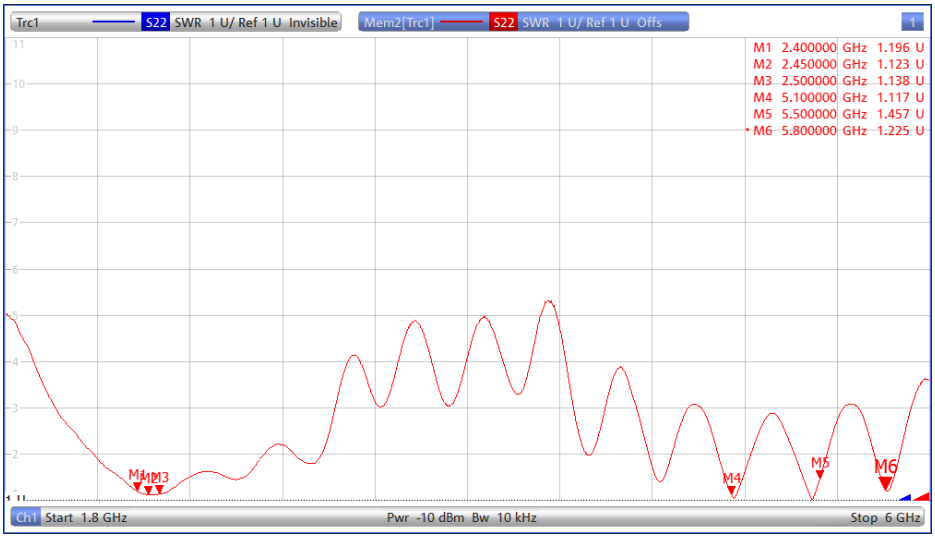
3. Antenna parameters

3.1 Cable 1: 2.4G&5G WIFI

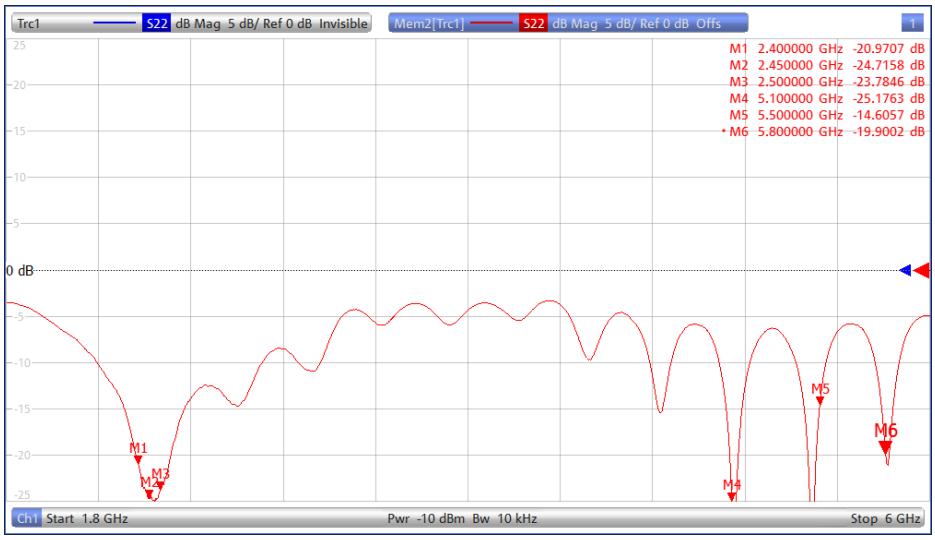
3.1.1 General Data

FRE（MHz）	2400	2450	2500	5100	5500	5800
VSWR	1.2	1.1	1.1	1.1	1.5	1.2
Return Loss	-21.0	-24.7	-23.8	-25.2	-14.6	-19.9
Eff (%)	66.7	70.8	74.3	53.5	68.6	46.9
Average Gain(dB)	-1.8	-1.5	-1.3	-2.7	-1.6	-3.3

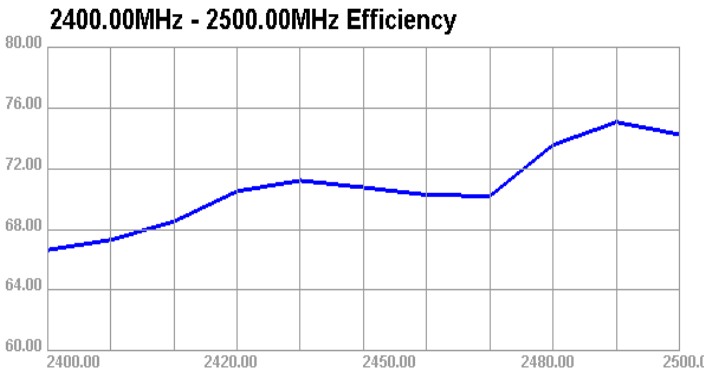
3.1.2 VSWR

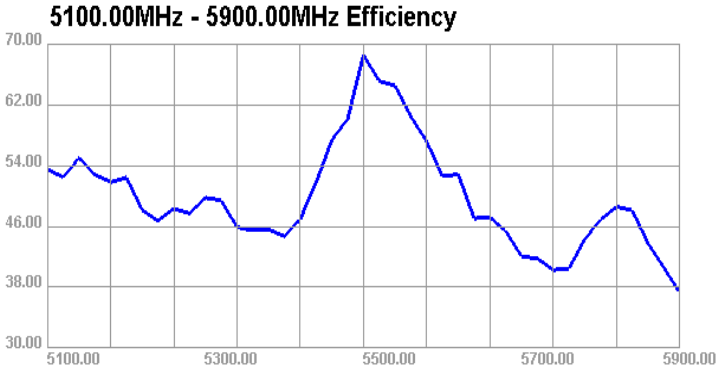


3.1.3 Return Loss

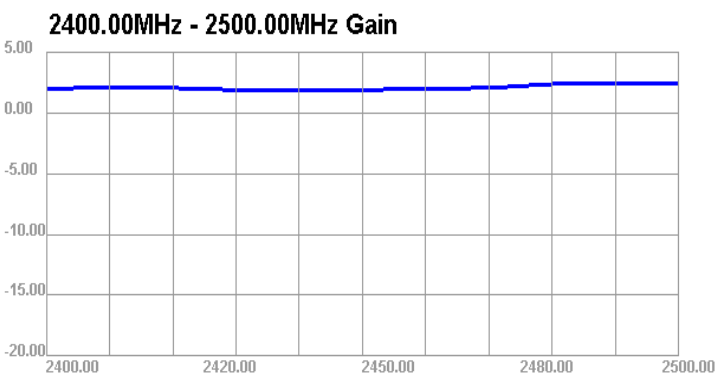


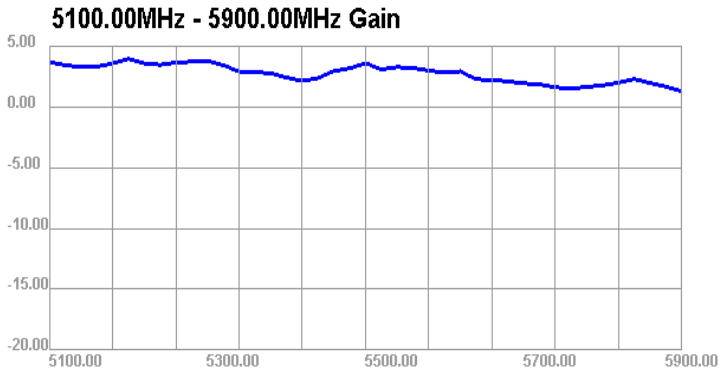
3.1.4 Efficiency



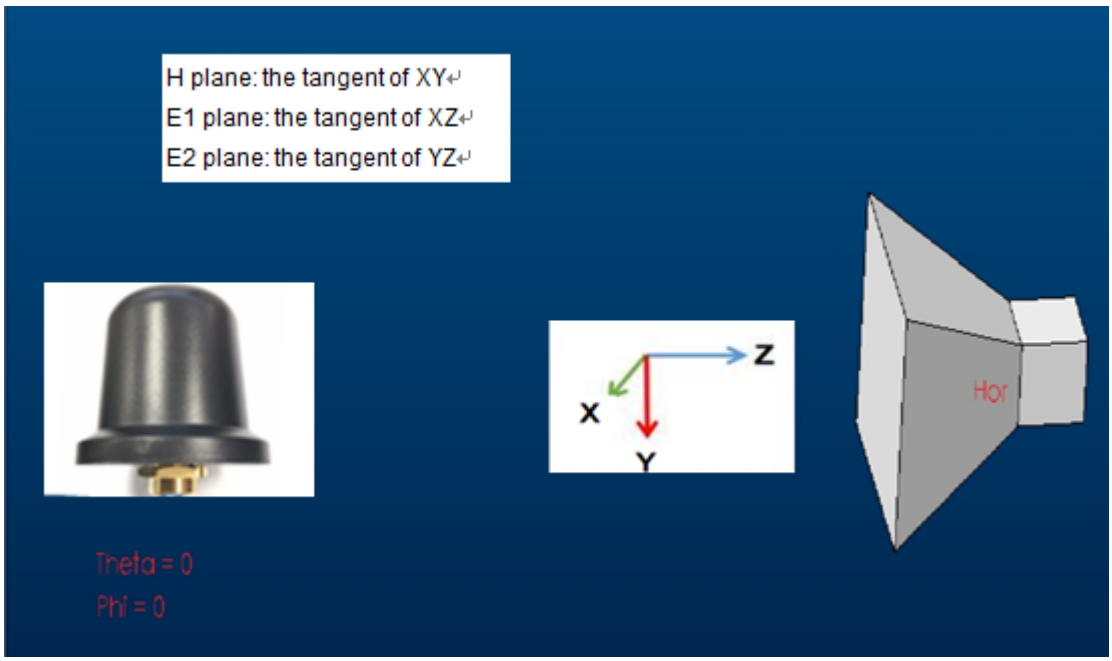


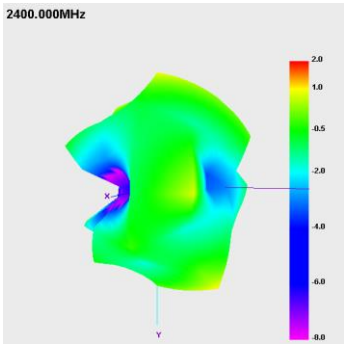
3.1.5 Gain

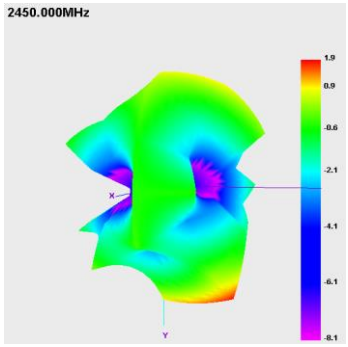


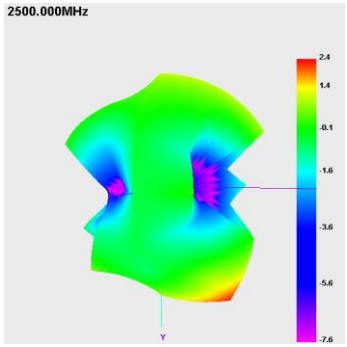


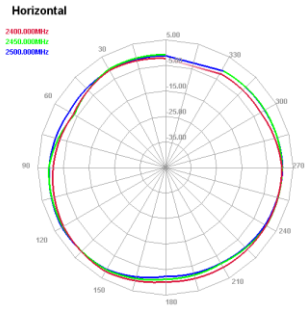
3.1.6 Directional Pattern

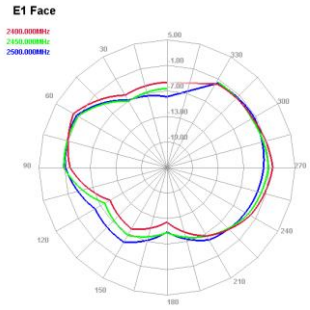


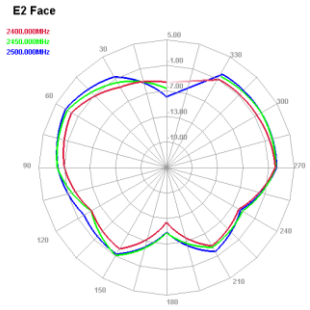

2400.000MHz

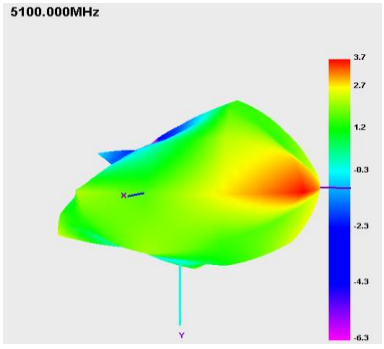

2450.000MHz

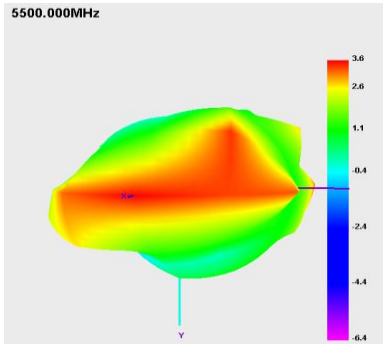

2500.000MHz

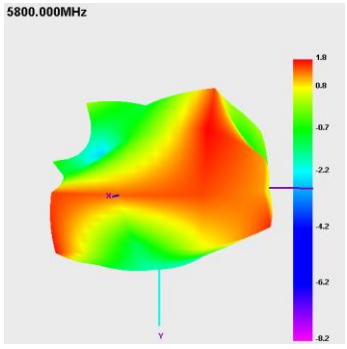

Horizontal

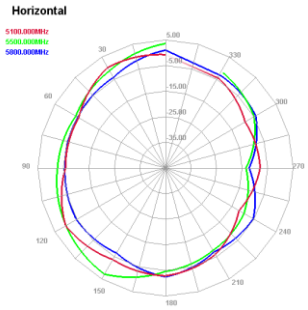

E1 Face

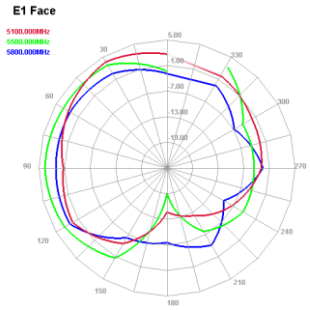

E2 Face

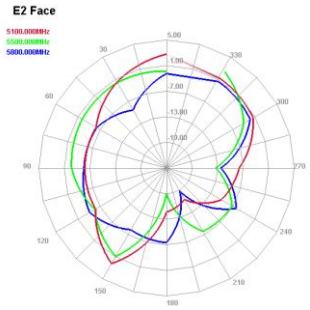

5100.000MHz


5500.000MHz


5800.000MHz


Horizontal


E1 Face

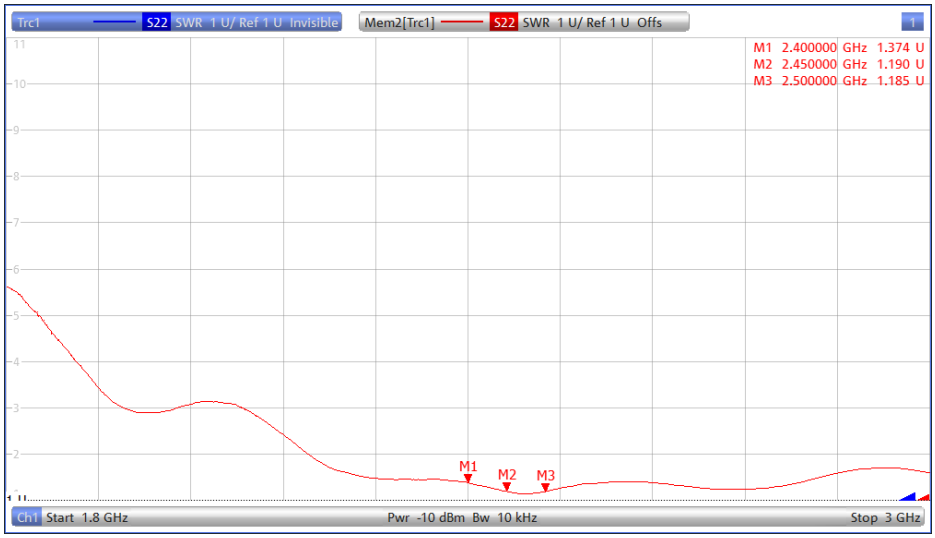

E2 Face

3.2 Cable 2: BT

3.2.1 General Data

FRE (MHz)	2400	2450	2500
VSWR	1.4	1.2	1.2
Return Loss	-16.1	-21.2	-21.4
Eff (%)	70.0	72.9	80.6
Average Gain(dB)	-1.6	-1.4	-0.9

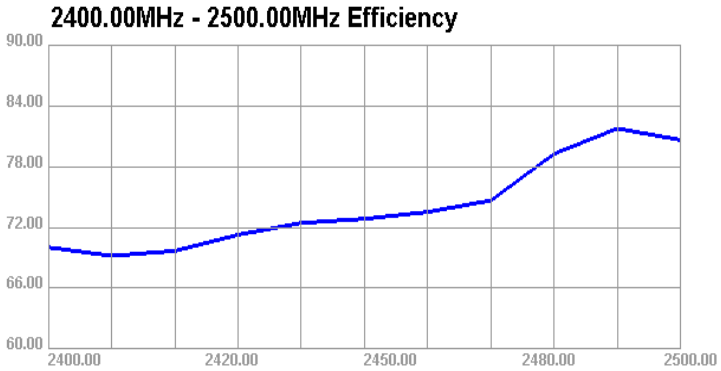
3.2.2 VSWR



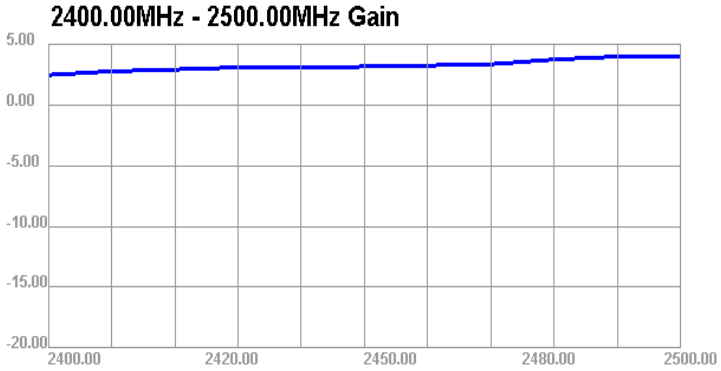
3.2.3 Return Loss



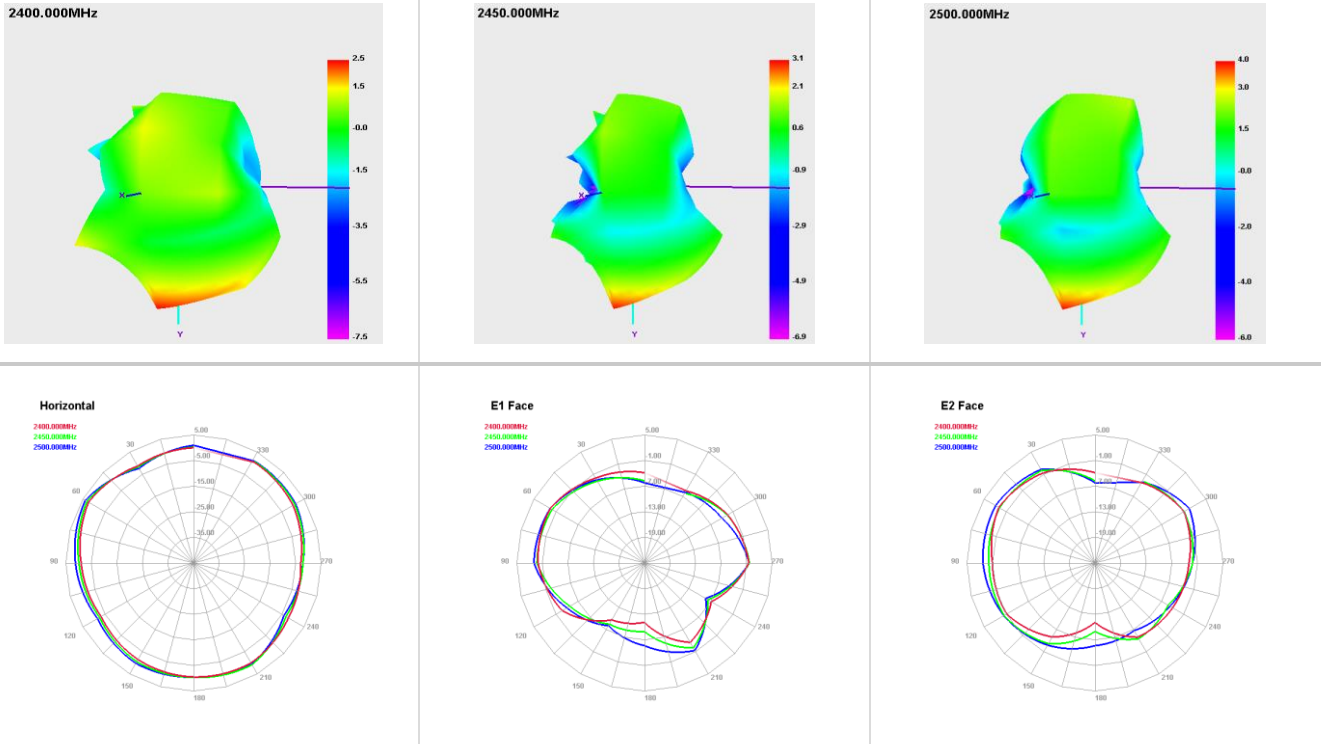
3.2.4 Efficiency



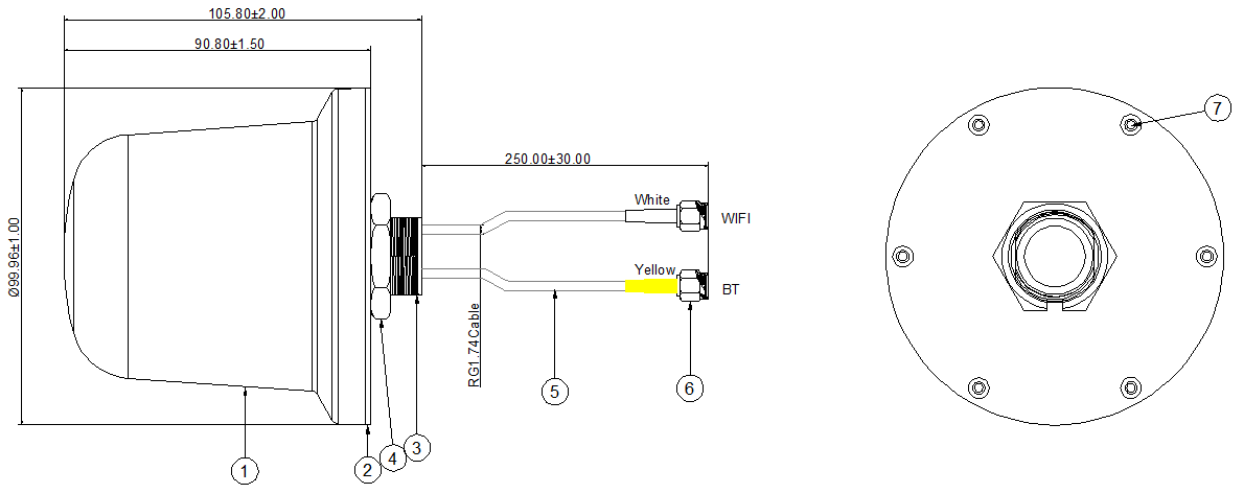
3.2.5 Gain



3.2.6 Directional Pattern



4. Antenna Drawing



Series	Component name	Material	Color	Quantity
1	Upper Shell	SABIC PC 1414	black	1
2	Lower Shell	SABIC PC 1414	black	1
3	Screw	brass	gold	1
4	Nuts	brass	gold	1
5	Cable	RG174	black	2
6	SMA	brass	gold	2
7	Screw	M3x5	black	6

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