

RFCCOM

ShenZhenShi BeiGuangLianHe Technology Co. Ltd.

**Profile Series
51GS_M-TB42I**

RFCCOM Embedded Antenna

Preliminary Engineering Data Sheet

***CREATE
VALUE FOR
CUSTOMERS***



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1、Descriptions

This embedded antenna is designed for 2.4GHz and 5GHz Band. Both of wireless Lan IEEE 802.11a/b/g/n/11ac ,Bluetooth and Zigbee .This Antenna provides a high efficiency and a good performance.

2、Features

The 51GS_M-TB42I Embedded Antenna is defined by the following features:

- ④ IEEE 802.11 a/b/g/n/11ac standards
- ④ 2.09 dBi peak gain at 2.4 GHz
- ④ 2.19 dBi peak gain at 2.45 GHz
- ④ 2.32 dBi peak gain at 2.48 GHz
- ④ 3.54 dBi peak gain at 5.2 GHz
- ④ 3.22 dBi peak gain at 5.5 GHz
- ④ 3.64 dBi peak gain at 5.8 GHz
- ④ Cable route and Case mount
- ④ Easy integration

3、Applications

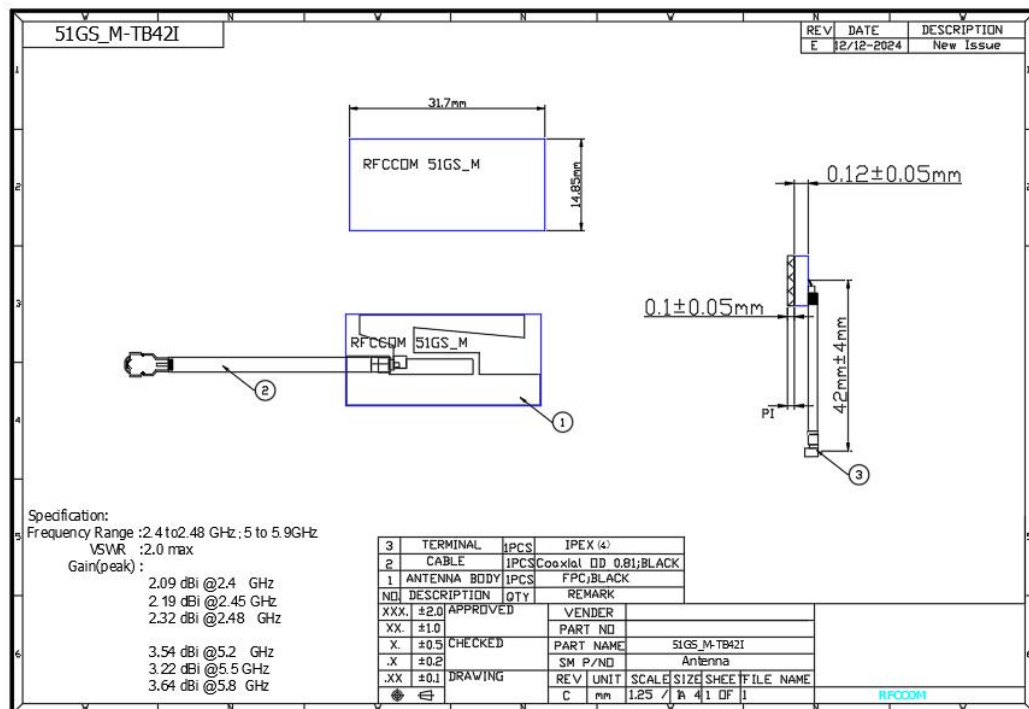
- ④ Wireless LAN
- ④ ISM band 2.4GHz and 5GHz wireless applications
- ④ Bluetooth
- ④ Zigbee



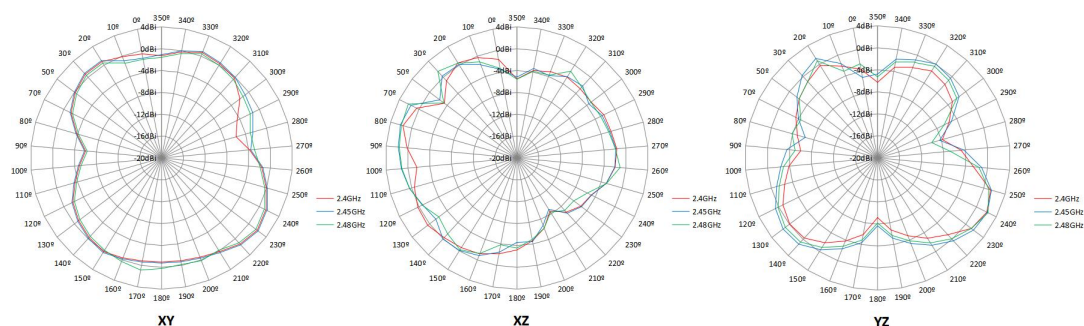
4、Electrical Specifications

Standard	IEEE 802.11n and 802.11 a/b/g/11ac	
Frequency range	2.4 to 2.48GHz , 5 to 5.9 GHz	
Peak gain	2.09 dBi peak gain at 2.4 GHz 2.19 dBi peak gain at 2.45 GHz 2.32 dBi peak gain at 2.48 GHz	3.54 dBi peak gain at 5.2 GHz 3.22 dBi peak gain at 5.5 GHz 3.64 dBi peak gain at 5.8 GHz
VSWR	2:1	
Feed impedance	50 ohms	
Power handling	30 dBm	
Interface	50 ohms, 0.81 mm diameter, micro coax cable (available with optional U.FL-compatible cable connector and/or cable-mounted EMI ferrites)	
Antenna dimensions	31.7 x 14.85 x 0.23mm (L x W x H)	
Temperature range	Operating: -40° C to +75° C (-40° F to +167° F) Storage: -40° C to +85° C (-40° F to +185° F)	
Humidity range	0% to 95% non-condensing	

5、Dimensions



6、Radiation Patterns

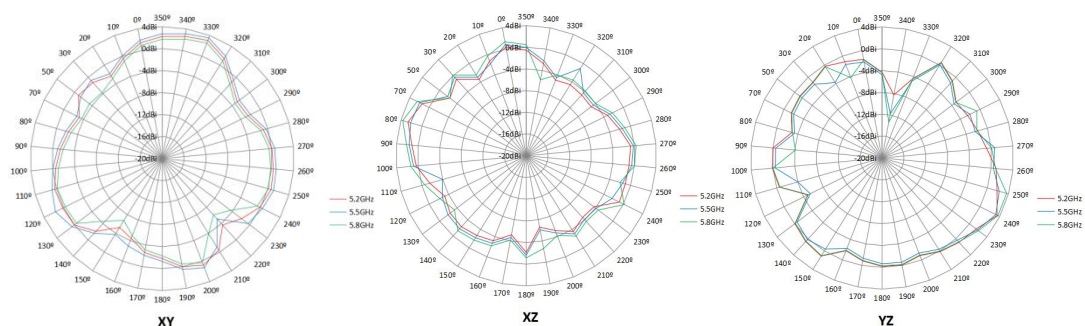


XY	Frequency (GHz)	Max	Min	Avg
		Peak gain (dBi)		
	2.4	1.94	-6.02	-1.12
	2.45	2.14	-5.82	-0.78
	2.48	1.64	-6.32	-1.06

XZ	Frequency (GHz)	Max	Min	Avg
		Peak gain (dBi)		
	2.4	1.66	-8.56	-2.29
	2.45	2.14	-8.95	-2.23
	2.48	2.29	-8.33	-2.18

YZ	Frequency (GHz)	Max	Min	Avg
		Peak gain (dBi)		
	2.4	2.09	-9.17	-2.95
	2.45	2.19	-8.31	-1.94
	2.48	2.32	-9.81	-2.51

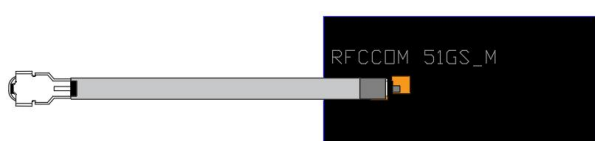




XY	Frequency (GHz)	Max	Min	Avg
		Peak gain (dBi)		
	5.2	3.04	-5.28	-0.91
	5.5	3.13	-5.15	-0.43
	5.8	2.54	-6.78	-1.87

XZ	Frequency (GHz)	Max	Min	Avg
		Peak gain (dBi)		
	5.2	2.66	-6.60	-2.38
	5.5	2.16	-6.10	-2.02
	5.8	3.02	-5.72	-1.56

YZ	Frequency (GHz)	Max	Min	Avg
		Peak gain (dBi)		
	5.2	3.54	-8.25	-1.03
	5.5	3.22	-11.75	-1.67
	5.8	3.64	-13.35	-1.31



7、Cable Datasheet

Structure characteristics				
Structure	Item		Standard value	
①Inner conductor	Material		Tinned copper wire	
	Makeup:total / O.D. of every wire(mm)		1/0.15	
	(Intertwist)NOM.O.D.(mm)		0.15±0.008	
②Insulation	Material		FEP	
	Color		Natural	
	NOM.O.D.(mm)		0.41±0.05	
③Outer conductor	Material		Tinned copper	
	Makeup:total / O.D. of every wire(mm)		16/3/0.05±0.005	
	NOM.O.D.(mm)		0.63±0.05	
	Coverage ratio(%)		90±5	
④Jacket	Material		FEP	
	Color		Black	
	NOM.O.D.(mm)		0.81±0.05	
Electrical characteristics				
Item	Standard value	Item	Frequency	Standard value Unit:dB/m
Capacitance(pF/m)	98	Attenuation	1GHz	≤3.6
Velocity(%)	70		2GHz	≤5.1
Impedance(Ω)	50±3		3GHz	≤6.2
Standing wave ratio	≤1.3@0~6GHz		4GHz	≤7.5
Max.operating voltage(V)	1000		5GHz	≤8.5
Max.operating frequency(GHz)	6		6GHz	≤9.4
Dependability				
Item		Unit	Standard value	
Min.bending radius static		mm	4	
Operating temperature		℃	-55~+150	



8、Packaging

