

**(1)Antenna performance**

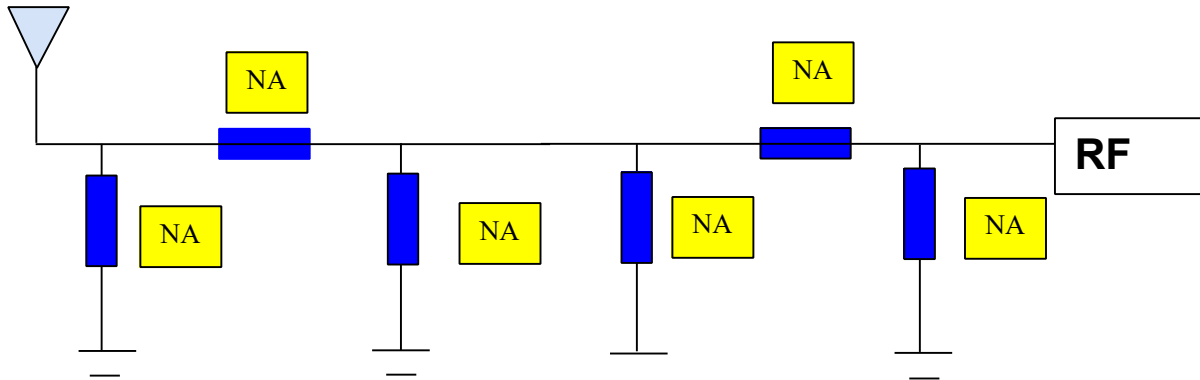
1. This approval sheet supports for MID project. FPC antennas include in this project. This report is for the performance of WIFI&BT antenna.
2. Antenna shape size: Meet the requirement of MID
3. Antenna band: 2.4GHz~5GHz
4. Antenna material: Antenna material meet the requirement of MID
5. Adhesive performance: Adhesive performance meet the requirement of MID
6. Antenna performance meet the spec below:

Description	2.4GHz~5GHz	Units
VSWR	≤2.0	
Average Antenna Gain	≥-4.5	dB
Feed Impedance	50 ohms	
Operating Temperature	-40 to +85 deg C	
Polarization / Azimuth	Linear / Omni-directional	

**(2)Mechanical Information**

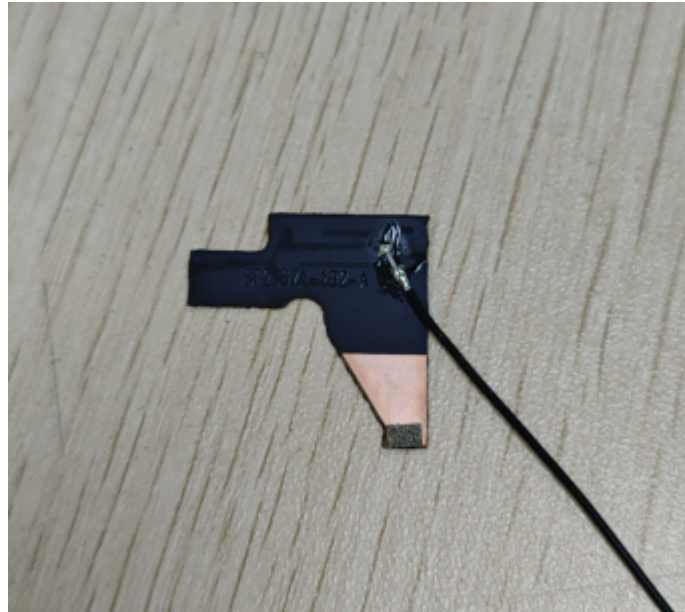
Mechanical Dimension	
Cable Length	038mm/BLACK
Description	WIFI&BT antenna
Material	FPC
Coaxial Cable	50Ω/O. D. 0.81mm
Environmental	
Operation Temperature	-40 to +85 deg C
Storage Temperature	-40 to +85 deg C

## (1) Match circuit



## (2) Antenna photo





(VSWR)



Passive Test For 2.4G			
Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)
2400	52.43	-2.8	1.36
2410	52.78	-2.78	1.35
2420	55.12	-2.59	1.57
2430	57.99	-2.37	1.8
2440	57.78	-2.38	1.75
2450	47.84	-3.2	1.02
2460	43.96	-3.57	0.81
2470	35.63	-4.48	0.07
2480	36.02	-4.43	0.19
2490	35.07	-4.55	0.01
2500	38.29	-4.17	0.36

Passive Test For 5G-WIFI			
Freq	Effi	Effi	Gain
(MHz)	(%)	(dB)	(dBi)
5000	61.97	-2.08	4.67
5100	66.3	-1.78	4.88
5200	51.2	-2.91	3.13
5300	52.78	-2.78	2.39
5400	57.74	-2.39	4.02
5500	40.55	-3.92	2.52
5600	47.97	-3.19	2.79
5700	50.81	-2.94	3.49
5800	59.62	-2.25	4.27
5900	44.81	-3.49	3.34
6000	37.75	-4.23	2.55

**Active data**

Test	802.11b : 11Mbps 20M		
Result	1	6	11
Frequency (MHz)	2412	2437	2462
TRP (dBm)	15.87	16.14	16.82
TIS (dBm)	-76.26	-79.69	-82.42
Test	802.11n : MCS7 20M		
Result	1	6	11
Frequency (MHz)	2412	2437	2462
TRP (dBm)	14.96	14.49	14.1
TIS (dBm)	-65.12	-65.74	-63.88
Test	802.11n : MCS7 20M		
Result	36	100	165
Frequency (MHz)	5180	5500	5825
TRP (dBm)	11.97	13.77	12.26
TIS (dBm)	-62.4	-64.34	-56.58
Test	802.11a : 54Mbps 20M		
Result	36	100	165
Frequency (MHz)	5180	5500	5825
TRP (dBm)	12	13.69	13.63
TIS (dBm)	-68.84	-68.92	-69.17

**EUT Setup**





**3D pattern**

