天 线 规 格 书
Antenna specification for approval

客户名称 Customer name	中柏		
机型 Model	V12PRO-11.97瀼镐筐鏘熸嘲閱戝睴澹?		
天线频段 Antenna frequency	2.4GHZ&5GHz		
天线功能 Antenna function	WIFI&BT&5Gwifi		
天线材质 Antenna material	FPC	FPC 颜色 FPC color	黑色
型号 model	V12PRO		
料号 Material number	SWD-FM-RD-002A.0/2020.1		
客户料号 Customer Part Number			

索 沃 德 承 认 签 章 Ward accepted the signature		客 户 承 认 签 章 Client acknowledges signature	
结构 structure		采购 Purchase	
文控 Document control		结构 structure	
射频 radio frequency		工程 engineering	
审核 To examine		品质 QC	
承辦人 Responsible	李婷婷	审核 To examine	
日期 date 2023.01.03	盖章区 Seal area	日期 date 2023.01.03	盖章区 Seal area

二:概述

(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:

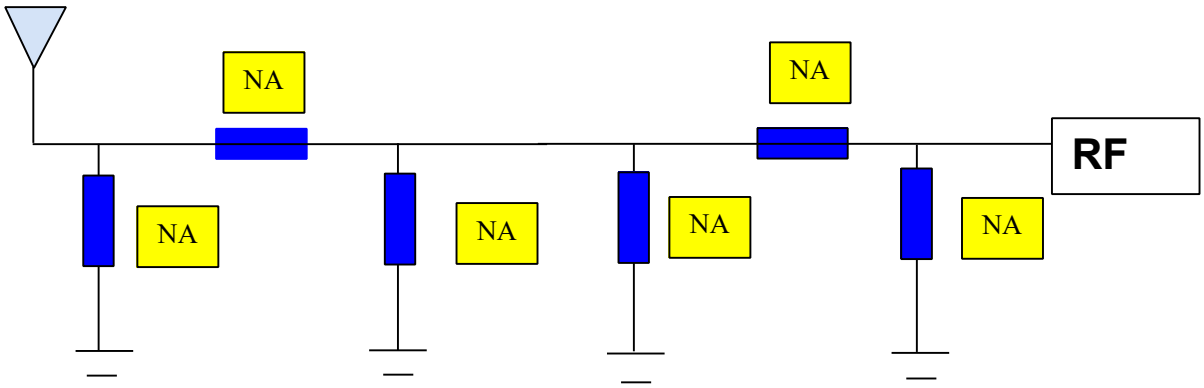
Description	2.4GHz~6GHz	Units
VSWR	≤2.0	
Average Antenna Gain	0.22dbi for 2.4G,1.66dbi for 5G	dB
Antenna Efficiency	≥40	%
Feed Impedance	50 ohms	
Operating Temperature	-40 to +85 deg C	
Polarization / Azimuth	Linear / Omni-directional	

(2)Mechanical Information

Mechanical Dimension	
Cable Length	475mm/GRAY
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

三:匹配电路图&机器图片&天线图片

(1)Matching circuit

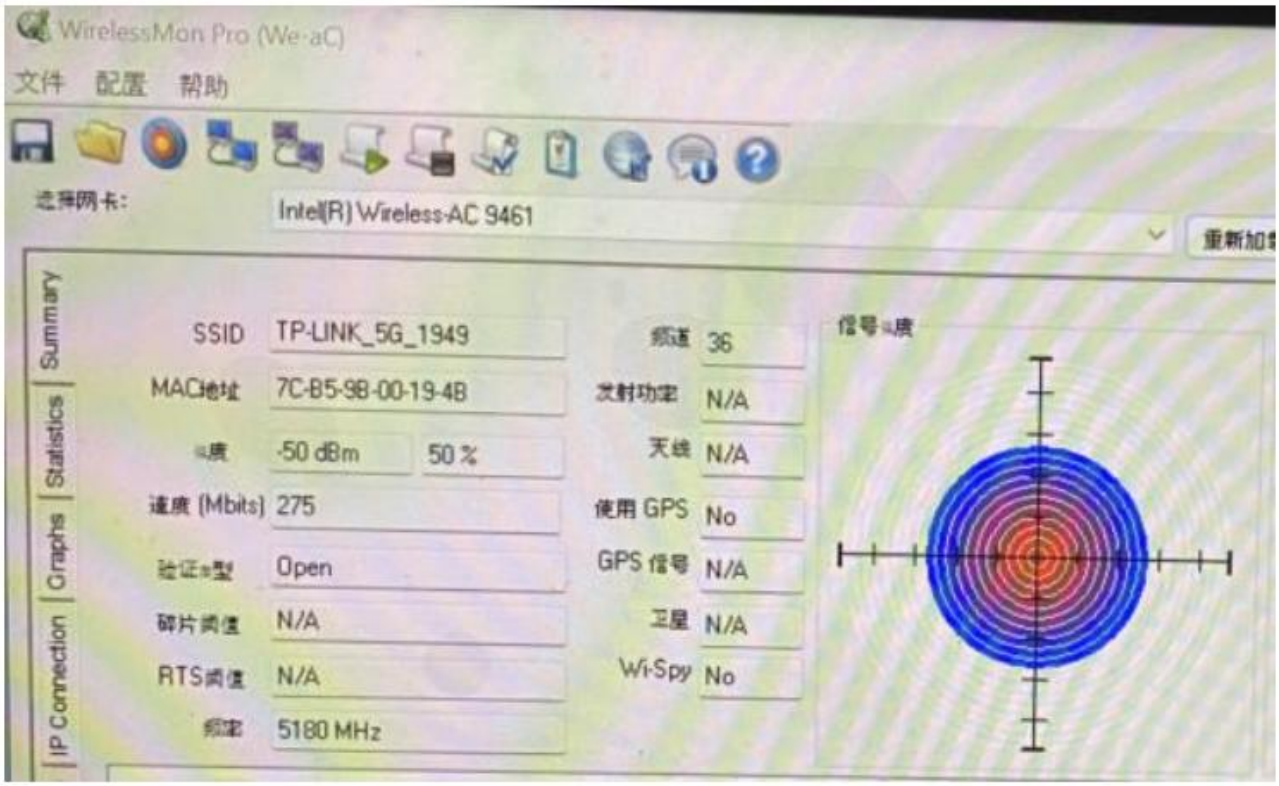


四:Standing wave ratio and Gain

Passive Test For 2.4Gwifi								
Freq	Effi	Effi	Gain	Gain	UHIS	DHIS	Max	Min
(MHz)	(%)	(dB)	(dBi)	(dBd)	(%)	(%)	(dB)	(dB)
2400	21.02	-6.77	-1.88	-4.03	8.391	12.626	-1.88	-15.21
2410	21.78	-6.62	-1.41	-3.56	8.487	13.298	-1.41	-16.05
2420	26.18	-5.82	-0.37	-2.52	9.922	16.255	-0.37	-18.92
2430	26.08	-5.84	-0.17	-2.32	9.651	16.427	-0.17	-21.81
2440	25.15	-5.99	-0.39	-2.54	9.236	15.918	-0.39	-20.44
2450	20.74	-6.83	-0.85	-3	7.355	13.385	-0.85	-18.21
2460	21.49	-6.68	-0.48	-2.63	7.358	14.137	-0.48	-16.17
2470	21.6	-6.66	-0.3	-2.45	7.377	14.22	-0.3	-15.16
2480	24.48	-6.11	0.22	-1.93	8.291	16.184	0.22	-13.83
2490	24.05	-6.19	-0.08	-2.23	8.126	15.921	-0.08	-12.94
2500	22.69	-6.44	-0.37	-2.52	7.584	15.106	-0.37	-14.15

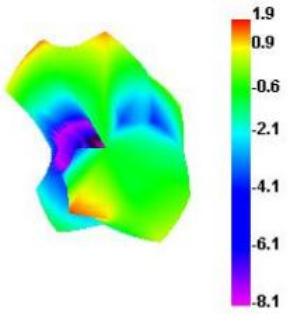
Passive Test For 5Gwifi								
Freq	Effi	Effi	Gain	Gain	UHIS	DHIS	Max	Min
(MHz)	(%)	(dB)	(dBi)	(dBd)	(%)	(%)	(dB)	(dB)
5000	14	-8.54	-0.51	-2.66	4.782	9.214	-0.51	-28.92
5100	14.82	-8.29	-0.37	-2.52	4.875	9.949	-0.37	-18.59
5200	12.31	-9.1	-1.75	-3.9	4.161	8.148	-1.75	-23.19
5300	15.86	-8	-2.22	-4.37	5.978	9.882	-2.22	-20.78
5400	19.29	-7.15	-1.37	-3.52	7.472	11.819	-1.37	-22.86
5500	22.06	-6.56	-1.35	-3.5	10.007	12.056	-1.35	-18.04
5600	19.35	-7.13	-1.57	-3.72	7.365	11.98	-1.57	-25.09
5700	24.74	-6.07	1	-1.15	8.404	16.34	1	-16.25
5800	30.23	-5.2	1.66	-0.49	9.112	21.119	1.66	-21.89
5900	26.6	-5.75	0.39	-1.76	8.954	17.641	0.39	-19.82
6000	33.41	-4.76	0.75	-1.4	10.73	22.683	0.75	-15.59


文件 配置 帮助
Intel(R) Wireless-AC 9461
Summary
Statistics
Graphs
IP Connection
SSID TP-LINK_1949
MAC地址 7C-B5-9B-00-19-49
-40 dBm 62 %
速度 (Mbits) 150
Open
N/A
RTS阈值 N/A
2437 MHz
频道 6
发射功率 N/A
天线 N/A
使用 GPS No
GPS 信号 N/A
卫星 N/A
Wi-Spy No
信号强度

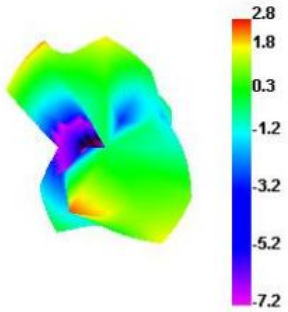

WirelessMon Pro (We-aC)
文件 配置 帮助
Intel(R) Wireless-AC 9461
Summary
Statistics
Graphs
IP Connection
SSID TP-LINK_5G_1949
MAC地址 7C-B5-9B-00-19-4B
-50 dBm 50 %
速度 (Mbits) 275
Open
N/A
RTS阈值 N/A
5180 MHz
频道 36
发射功率 N/A
天线 N/A
使用 GPS No
GPS 信号 N/A
卫星 N/A
Wi-Spy No
信号强度

五:3D pattern

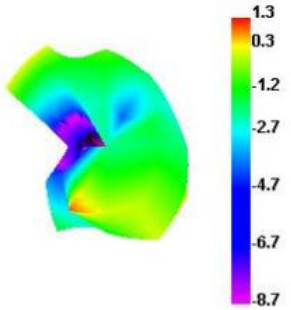
2400.000MHz



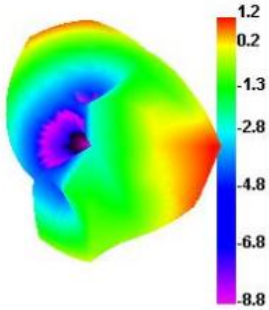
2450.000MHz



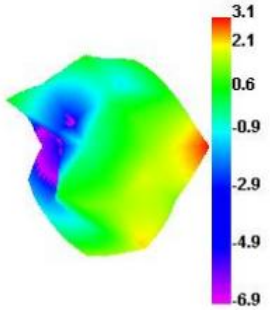
2500.000MHz



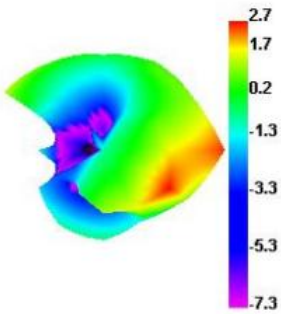
5000.000MHz



5500.000MHz



6000.000MHz



六:Antenna drawing