



Sunplus 950 Platform Antenna Specification

(Non-Standard Parts)

1. Revision History

Version No.	Changes	Changed on	Changed by
A0	First Version	2021-3-12	Xiao Wei

2. Applications

This antenna is used in the Pateo Sunplus 950 platform project (vehicle-mounted antenna).

3. Environment Parameters

Working temperature: -40°C~85°C

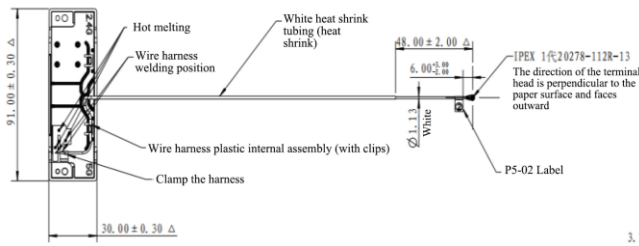
Storage temperature: -40°C~85°C

4. Performance Specifications

Electrical Parameters	
Antenna Performance Specifications (Bluetooth Antenna)	
Frequency range (MHz)	2400-2500/5150-5850
Bandwidth (MHz)	100
Input impedance (ohms)	50
Return loss (S11)	$\leq -7\text{dB}$
Maximum gain (dBi)	1dBi
Polarization mode	Linear polarization
Radiation efficiency	$\geq 40\%$
Antenna Performance Specifications (5GWIFI Antenna)	
Frequency range (MHz)	5150-5850
Bandwidth (MHz)	700
Input impedance (ohms)	50
Return loss (S11)	≤ -10
Maximum gain (dBi)	4.7dBi
Polarization mode	Linear polarization
Radiation efficiency	$\geq 40\%$

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Prepared by	Huang Fei	Reviewed by	Huang Weigang	Approved by	Xiang Zhiwen		

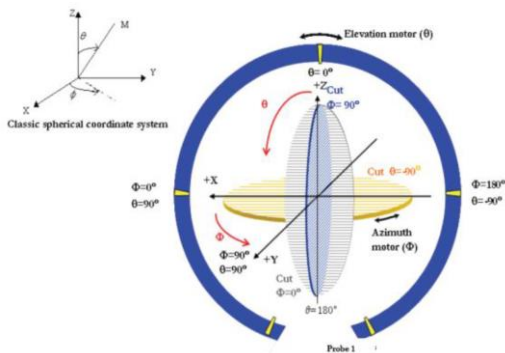
5. Product Pictures



6. Antenna Test Environment

The antenna input characteristic test uses an Agilent E5071C vector network analyzer.

The antenna radiation characteristics test uses a near-field microwave anechoic chamber. The test coordinate system is shown in the figure.



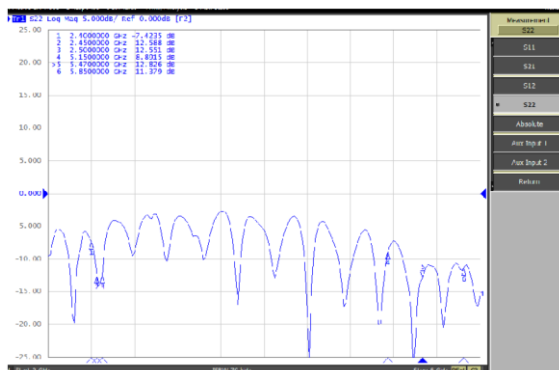
7. Antenna Performance Test Data



8. Antenna Drawing Specifications

7.1 Antenna S11

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7.2 Antenna Efficiency

Bluetooth + 5G WIFI Antenna							
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)
2400	40.36	-3.94	0.65	5150	38.58	-4.14	2.73
2410	40.53	-3.92	0.24	5200	38.53	-4.14	2.61
2420	41.15	-3.86	0.66	5250	37.34	-4.28	2.51
2430	42.04	-3.76	0.7	5300	38.66	-4.13	1.33
2440	42.62	-3.7	0.59	5350	39.84	-4	1.35
2450	43.11	-3.65	0.98	5400	36.7	-4.35	2.58
2460	41.29	-3.84	0.62	5450	39.97	-3.98	3.26
2470	41.98	-3.77	0.34	5500	39.31	-4.06	3.17
2480	43.65	-3.6	0.45	5550	40.14	-3.96	4.14
2490	44.27	-3.54	0.04	5600	40.74	-3.9	3.92
2500	41.01	-3.87	0.58	5650	55.28	-2.57	4.73
Average	42	-3.77	0.53	5700	48.85	-3.11	4.19
				5750	52.47	-2.8	4.71
				5800	46.83	-3.29	4.14
				5850	48.51	-3.14	4.67
				Average	42.78	-3.72	3.34

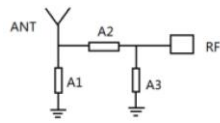
7.3 Active Antenna

All-in-One Unit				Split Unit			
	CH	TRP(dBm)	TIS(dBm)		CH	TRP(dBm)	TIS(dBm)
11a 54M	36	15.71	-71.91	11a 54M	36	15.09	-71.97
	100	16.22	-68.89		100	16.76	-72.81
	165	10.65	-71.98		165	11.51	-70.12

7.4 Antenna Matching

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Bluetooth + 5G WIFI antenna matching



Element	Value
A1(0402)	N/A
A2(0402)	0 Ohm
A3(0402)	N/A

8. Structure Diagram

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