

Product Approved sheet

Part P/N: KS079-10054-A

specification: PCB antenna45x8.9mm+155mm

1.13Black Cable +I-PEX

Customer: ZeTian Technology

客户 P/N: PCB450815IMAB301

KEESUN		
Quality department	Engineering department	Business department
Lifang Meng	Haibin Liao	Chenglan Liu

Customer		
Verify	Check	Approve
consequence : ☐ Accept ☐ NG		
Opinion:		

[illegible]

Product Specification Overview

●Electrical Performance:

1. Frequency Range: 2.4G~2.5GHz
2. Impedance: 50 Ohms nominal
3. VSWR: ≤ 2.0
4. Gain: 5.21dBi
5. Admitted power radiation: 1W
6. Radiation of Radiation: Toroidal
7. Radiation: Omni
8. Polarization: Vertical
9. Connector Type:I-pex

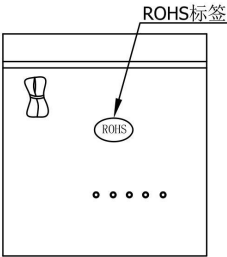
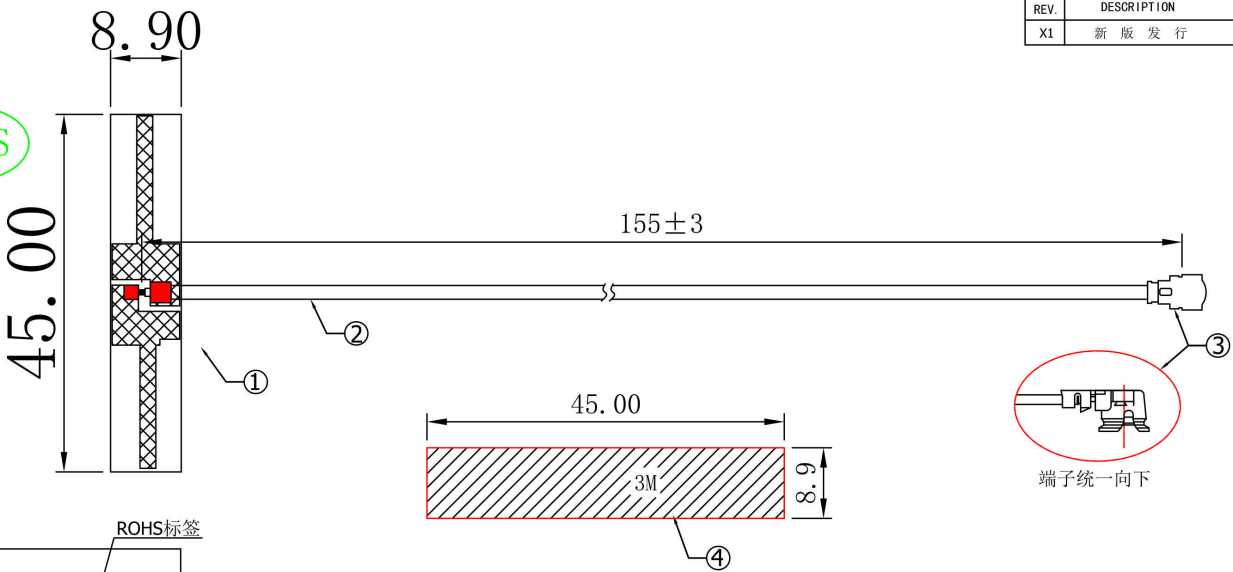
●Mechanical properties:

1. Cable: MI1.13 Black 50 Ohm
2. Operation temperature range:-20°C~ +70°C
3. Storage temperature range:-30°C~ +80°C
4. Color:

成品图

REV.	DESCRIPTION	DATE
X1	新版发行	2020.12.03

ROHS



25PCS/Bundle
Pack:50PCS/PE Bag

1. 外箱需贴1PCS/ROHS标签于外箱标签上
2. 外箱需贴1PCS/外箱标签于外箱侧麦右上角

SPECIFICATION:
FREQUENCY RANGE:2.4~2.5GHz
VSWR:1.92 MAX
IMPEDENCE:50Ω

4	3M 背胶	3M , L45*W8.9mm	1	
3	CONN	IPEX FOR φ1.13mm Cable	1	
2	CABLE	φ1.13mm Cable (Black)	1	
1	PCB	(L45*W8.9*H0.4mm)	1	
NO.	DESCRIPTION		QTY	REMARK

TITLE:	PCB内置天线+IPEX L=155mm			 APPROVED				
P/N:								
CUSTOMER:	KS079							
DRAW NO.:	KS079-10054-A							
DIMENSIONS TOLERANCES UNLESS OTHERWISE NOTED				SHEET: 1/1 SCALE: NONE CHECKED UNIT: mm REV. A DRAWED 李家茵				
一般公差 TOLERANCE		XXX	±0.05				XX	±1.0
		XX	±0.1					
		X	±0.2					
		X	±0.5					

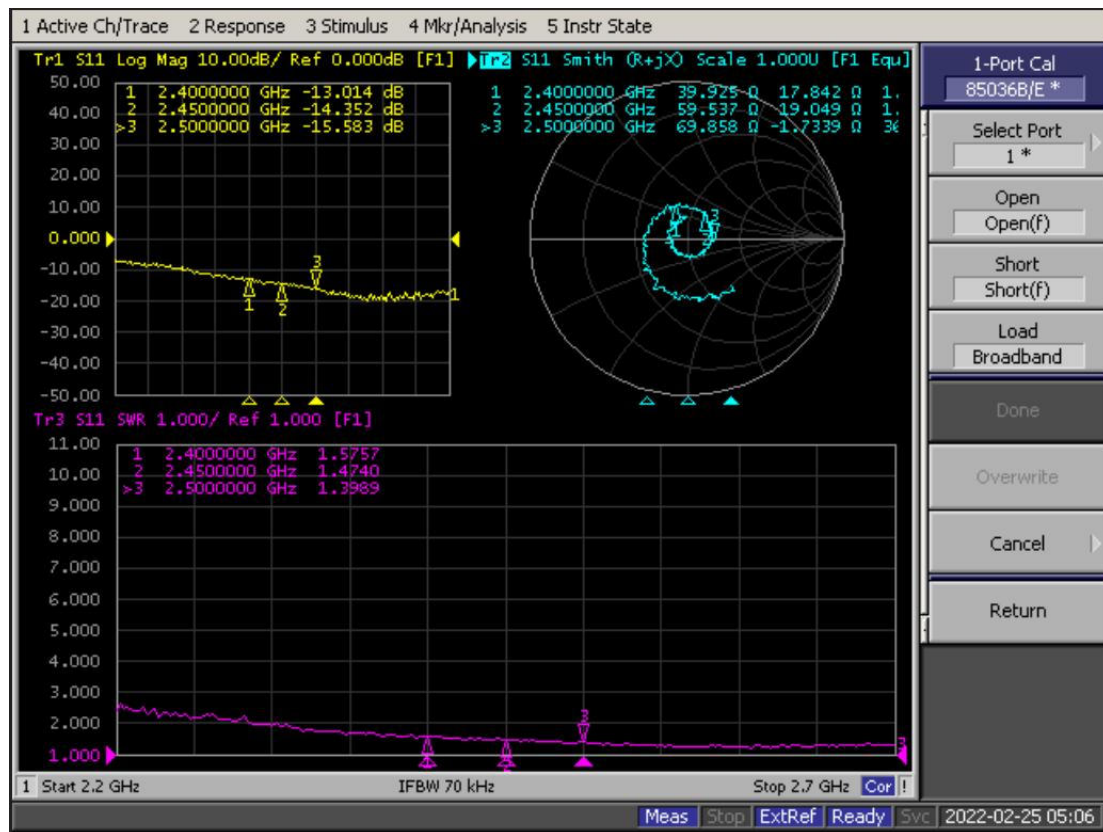
Network analyzer test pattern

P/N (Part Number) : KS079-10054-A

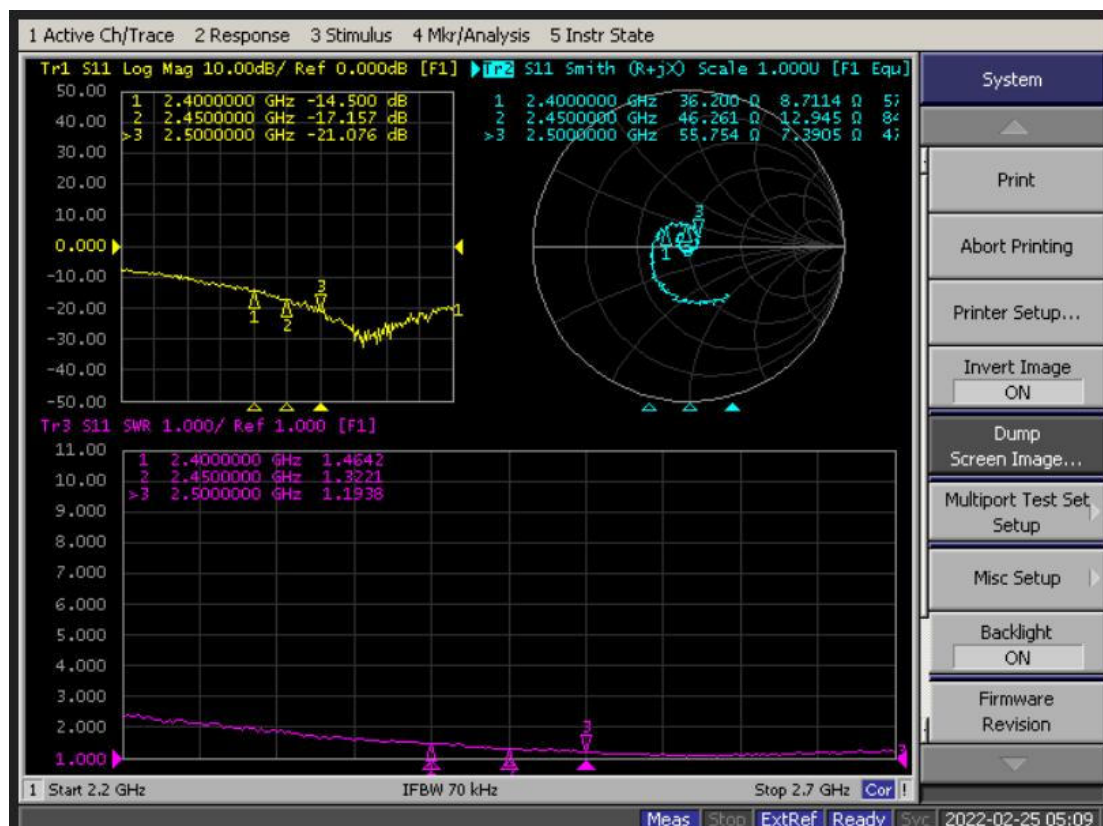
Title specification : 2.4GHz Antenna

Test value : Return Loss/VSWR

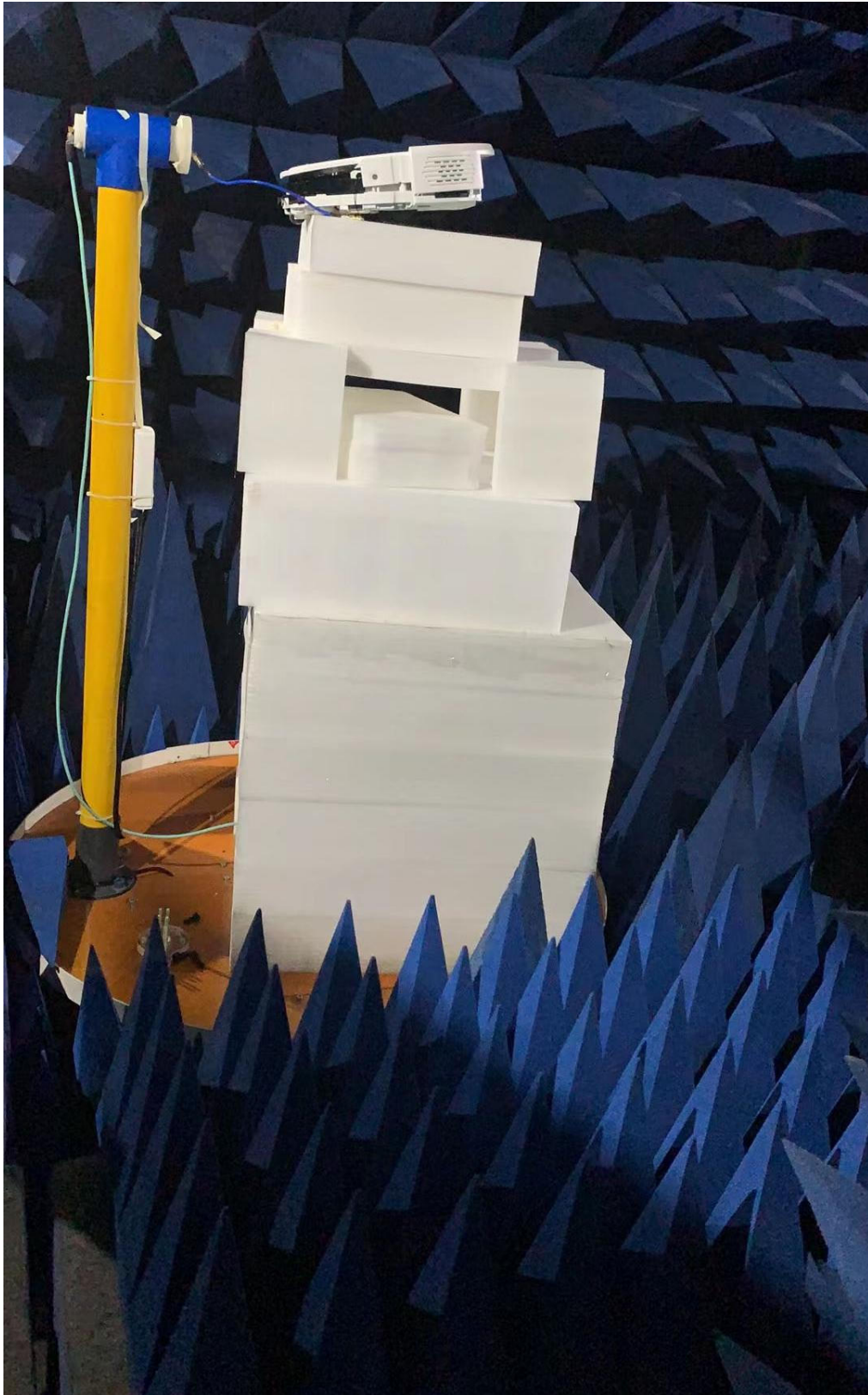
Antenna ONE



Antenna TWO



Antenna test method



Gain&Efficiency&PhaseCenter
增益、效率和相位中心

frequency 频率(MHz)	gain 增益(dBi)	efficiency 效率(dB)	efficiency 效率(%)
2400	4.03	-2.09	61.78
2405	4.12	-2.01	62.98
2410	4.08	-2.07	62.08
2415	4.19	-2	63.07
2420	4.28	-2.03	62.64
2425	4.37	-2.09	61.85
2430	4.63	-1.93	64.18
2435	4.79	-1.89	64.69
2440	4.99	-1.79	66.24
2445	5.2	-1.59	69.3
2450	5.2	-1.54	70.12
2455	5.21	-1.49	70.97
2460	5.15	-1.51	70.59
2465	5	-1.61	69.05
2470	5.07	-1.49	70.92
2475	5.08	-1.47	71.27
2480	5.03	-1.53	70.27
2485	5.07	-1.48	71.11
2490	5	-1.57	69.69
2495	4.76	-1.8	66.02
2500	4.46	-2.15	60.94

Active Measurement Report

Model: 机器1

Export Time 2022/2/24 17:19:19

Item	Tester	Measurement	Azimuths	Elevations	Standard	Band	Channel	Frequency	MaxValue	Total	Upper	Test time	End time
1	Cmw500	TRP	Every30	Every30	WIFI_B	B_11M	1	2412	18.57	14.08	14.24	3' 39"	2022/2/24 15:31:48
2	Cmw500	TRP	Every30	Every30	WIFI_B	B_11M	6	2437	17.67	12.64	12.85	3' 45"	2022/2/24 15:36:29
3	Cmw500	TRP	Every30	Every30	WIFI_B	B_11M	13	2472	15.51	11.25	11.44	3' 47"	2022/2/24 15:41:12
5	Cmw500	TIS with EIRP	Every30	Every30	WIFI_B	B_11M	13	2472	86.92	82.58,11.25	82.77	5' 7"	2022/2/24 16:13:28
6	Cmw500	TRP	Every30	Every30	WIFI_G	G_6M	1	2412	19.81	15.21	15.37	7' 1"	2022/2/24 16:21:54
7	Cmw500	TRP	Every30	Every30	WIFI_G	G_6M	6	2437	18.85	13.86	14.09	3' 46"	2022/2/24 16:26:52
8	Cmw500	TRP	Every30	Every30	WIFI_G	G_6M	13	2472	16.92	12.6	12.78	3' 55"	2022/2/24 16:32:00
10	Cmw500	TIS with EIRP	Every30	Every30	WIFI_G	G_54M	13	2472	73.5	68.78,12.64	68.97	9' 7"	2022/2/24 16:58:22
9	Cmw500	TRP	Every30	Every30	WIFI_N	N_6.5M	1	2412	18.74	14.18	14.35	3' 46"	2022/2/24 16:48:06
11	Cmw500	TRP	Every30	Every30	WIFI_N	N_6.5M	6	2437	18.91	13.31	13.56	3' 34"	2022/2/24 17:03:14
12	Cmw500	TRP	Every30	Every30	WIFI_N	N_6.5M	13	2472	16.89	11.9	12.11	4' 0"	2022/2/24 17:08:09
13	Cmw500	TIS with EIRP	Every30	Every30	WIFI_N	N_65M	13	2472	70.24	65.93,11.57	66.11	8' 47"	2022/2/24 17:17:34

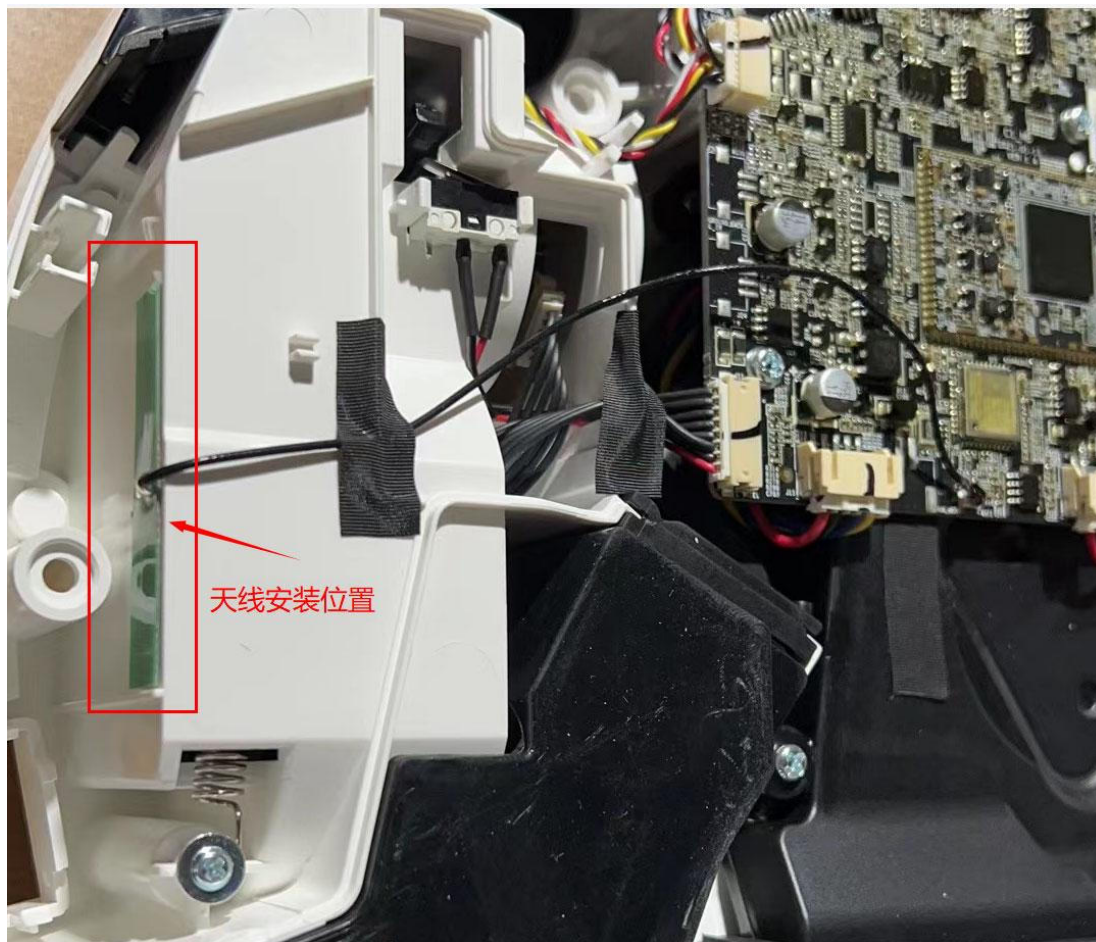
Active Measurement Report

Model: 机器2

Export Time 2022/2/24 19:15:39

Item	Tester	Measurement	Azimuths	Elevations	Standard	Band	Channel	Frequency	MaxValue	Total	Upper	Test time	End time
14	Cmw500	TRP	Every30	Every30	WIFI_B	B_11M	1	2412	19.42	14.31	14.44	3' 47"	2022/2/24 17:26:20
15	Cmw500	TRP	Every30	Every30	WIFI_B	B_11M	6	2437	18.58	13.06	13.24	3' 40"	2022/2/24 17:30:54
16	Cmw500	TRP	Every30	Every30	WIFI_B	B_11M	13	2472	17.51	11.62	11.75	3' 53"	2022/2/24 17:35:43
17	Cmw500	TIS with EIRP	Every30	Every30	WIFI_B	B_11M	13	2472	83.03	77.14,11.52	77.27	4' 40"	2022/2/24 17:41:00
18	Cmw500	TRP	Every30	Every30	WIFI_G	G_6M	1	2412	20.89	15.66	15.81	3' 49"	2022/2/24 17:45:40
19	Cmw500	TRP	Every30	Every30	WIFI_G	G_6M	6	2437	20.6	15.05	15.24	3' 48"	2022/2/24 17:50:42
20	Cmw500	TRP	Every30	Every30	WIFI_G	G_6M	13	2472	19.9	14.04	14.15	4' 1"	2022/2/24 17:55:56
21	Cmw500	TIS with EIRP	Every30	Every30	WIFI_G	G_54M	13	2472	72.53	66.69,13.92	66.8	12' 32"	2022/2/24 18:36:02
22	Cmw500	TRP	Every30	Every30	WIFI_N	N_6.5M	1	2412	21.06	15.18	15.36	3' 46"	2022/2/24 18:40:16
23	Cmw500	TRP	Every30	Every30	WIFI_N	N_6.5M	6	2437	19.96	13.98	14.2	4' 2"	2022/2/24 18:45:20
24	Cmw500	TRP	Every30	Every30	WIFI_N	N_6.5M	13	2472	19.32	13.04	13.17	3' 51"	2022/2/24 18:50:05
25	Cmw500	TIS with EIRP	Every30	Every30	WIFI_N	N_65M	13	2472	69.16	62.91,13.05	63.03	7' 18"	2022/2/24 19:15:08

Installation drawing



Antenna standard parameters

一、Technical specifications

Operating frequency range	2.4GHz~2.5GHz
S.W.R	≤ 1.92
Antenna gain	2dBi
Switching mode	i-PEX
Impedance	50 Ohm

二、Reliability test

Project	Test condition	Specifications
Storage environment	Temperature, humidity, and air pressure are tested in the absence of specified conditions: 1 temperature is -30 degrees C to +80 2 relative humidity is 45%-85% 3 air pressure is 86kpa-106kpa	Normal electrical and mechanical properties
High and low temperature test	Between 70 and 40 degrees C for 5 cycles, and then under normal conditions 1-2H, check the appearance quality.	The dimensions shall meet the requirements and shall meet the requirements of the mechanical and electrical properties.
Resistance to constant damp heat test	Relative humidity 95 + 3%, the test temperature: 40 degrees C, after continuing the 2H effect, the test sample after taking out the electrical performance of 5min, test product under normal conditions 1-2H, check the appearance quality	The dimensions shall meet the requirements and shall meet the requirements of the mechanical and electrical properties.
Vibration test	Frequency range 10-55HZ, displacement amplitude: 0.35MM, acceleration amplitude: 50.0M/S, sweep frequency cycle times: 30 times	Normal electrical and mechanical properties
Drop test	1m high altitude drop	Normal electrical and mechanical properties
Drawing force test	To test the bearing strength with push pull test instrument 10N	Normal electrical and mechanical properties
Voltage resistance	1 insulation spark voltage 1.5K V 2 sheath spark voltage 1.5K V 3 insulation resistance to sheath voltage 0.5K V	Normal electrical and mechanical properties
Attenuation value	2.0(nominal) 1.0GHz 3.2(nominal) 2.4GHz 3.7(nominal) 3.0GHz 4.3(nominal) 4.0GHz 4.8(nominal) 5.0GHz 5.3(nominal) 6.0GHz 2.9(nominal) 2.0GHz	3.3dB/m (at20°C)