



Antenna Specifications

SHENZHEN SUNWAY COMMUNICATION CO., LTD.

X80 T-shape Antenna product specification sheet

Revision History

Part Number	1100016748 (V3.0) (70mm Cable for TS) 1100016749 (V3.0) (110mm Cable for TS)
Description	Antenna Specification for X80 T-Shape Antenna (TS)
Initiated by	Sunway Development Team

Revision	Description	Authored by	Date	Notes
01	X80 T-shape Antenna (70mm/110mm cable for TS model) Antenna Specification	Fulong Yang; Daoyong Li;	11/25/2024	Initial version
02	X80 T-shape Antenna (70mm/110mm cable for TS model) Antenna Specification	Fulong Yang; Daoyong Li;	12/05/2024	Replace the IPEX plug with the KTA plug

Sunway Team

Approved	Prepared By
Davy Liu Disk Liu	Daoyong Li Fulong Yang

Customer Approval

Approved	Issued



X80 T-shape Antenna (70/110mm cable for TS model)

Antenna report version: V3.0

Product Description

1. Product Name and Part Number

- Product name: X80 T-shape Antenna
Part number: 1100016748/1100016749
- Product series: JB101-W4/5

2. Feature

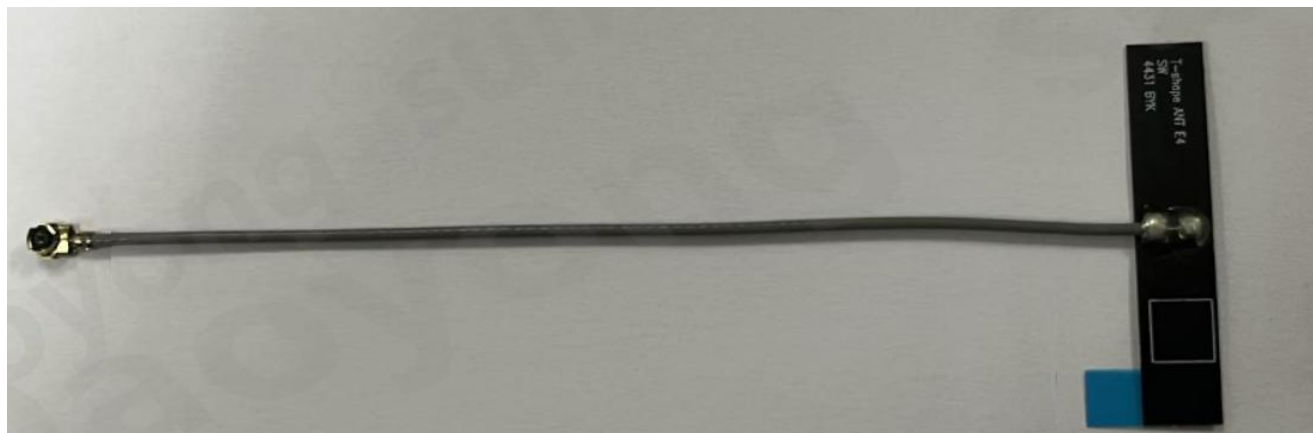
- MHF1 compatible connector/Plug
- Antenna pattern can be adjusted to meet end product working environment
- Cable length and color can be customized.
- Customized for X80 TS model.

TS 70mm





TS 110mm



General Specification

Characteristics	Specifications	
Product name	X80 T-shape Antenna	
Part number	JB101-W4(1100016748) JB101-W5/(1100016749)	
FPC Type	7.0mm X 35.0mm 0.25mm, Single layer	
Outline Dimensions	1100016748: 74.2mmX35mmX2mm 1100016749: 114.2mmX35mmX2mm	
Cable length	1100016748: 70mm 1100016749: 110mm	
Cable diameter	Ø1.13mm	
Cable Type	Shenyu Ø1.13 Low Loss Cable	
Frequency*	2.4-2.5GHz	5.15-5.725GHz
VSWR	<2	<2
Impedance	50 Ω	



Antenna Specifications

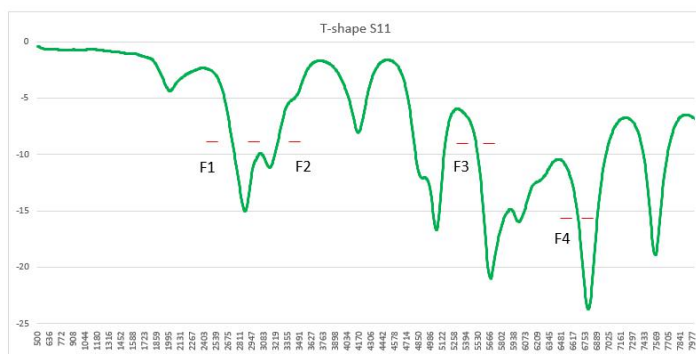
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Polarization	Linear	
Gain	<2.79 dBi@2.4-2.5GHz	<5.96 dBi@5.15-7.125GHz(5/6E)
Working Temp/ Relative humidity	-40°C-85°C / < 85%	
Storage Temp/ Relative humidity	-40°C-85°C / < 85%	

Measurement Results

Single antenna return loss

S11 Plot



Control spec

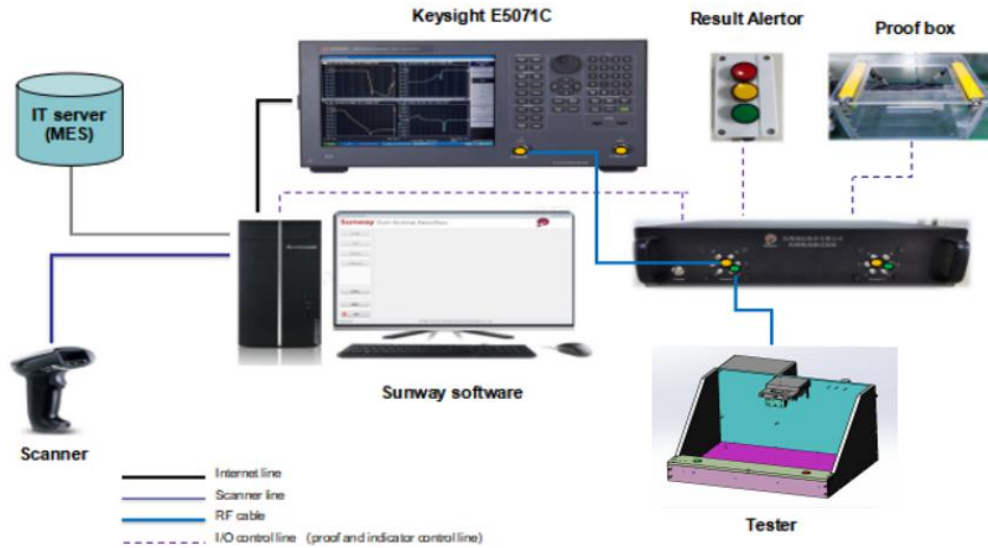
F1/F2: 2500MHz-3400MHz(-8db)±60MHZ
F3: 4500MHz-5100MHz(-8db)±100MHZ
F4: 6300MHz-6700MHz(-16db)±150MHZ



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RF Test System



RF Test State

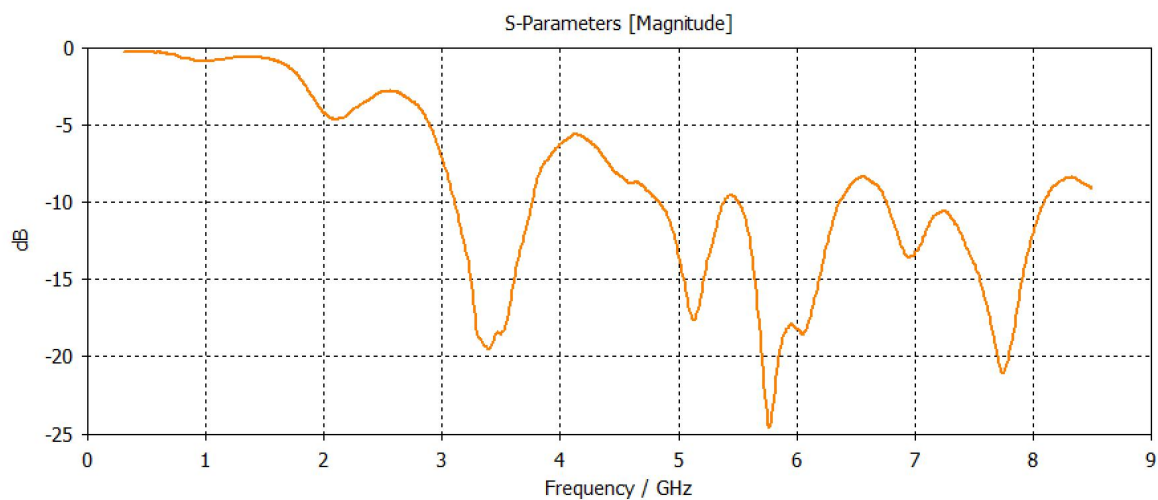


70mm cable

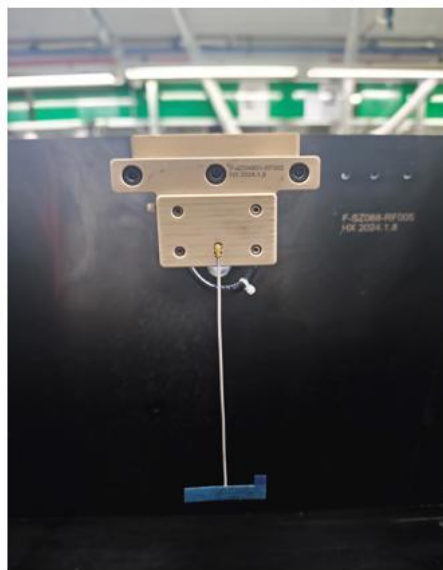


Antenna Specifications

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RF Test State

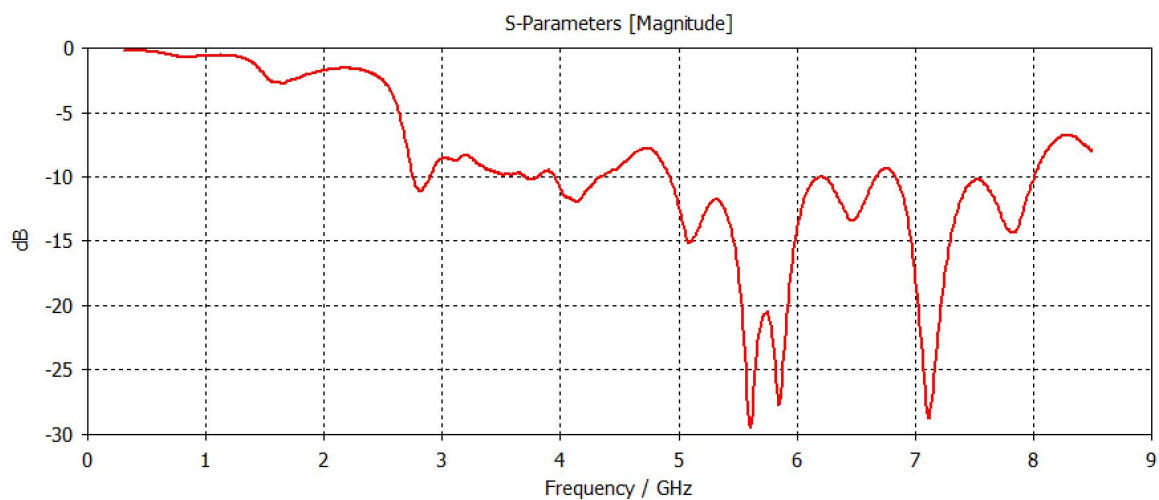


110mm cable



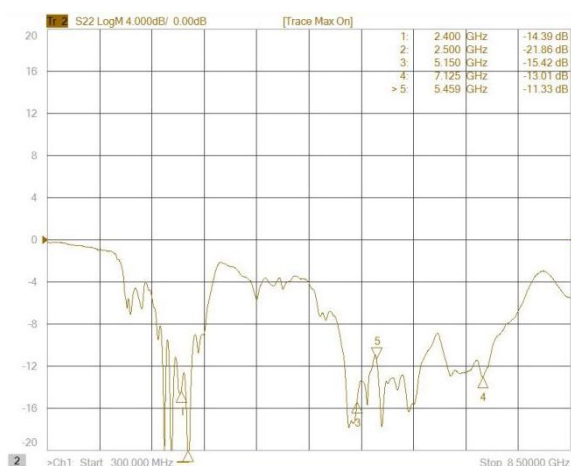
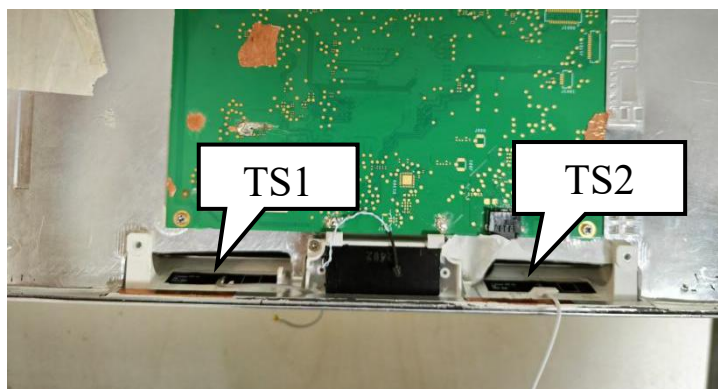
Antenna Specifications

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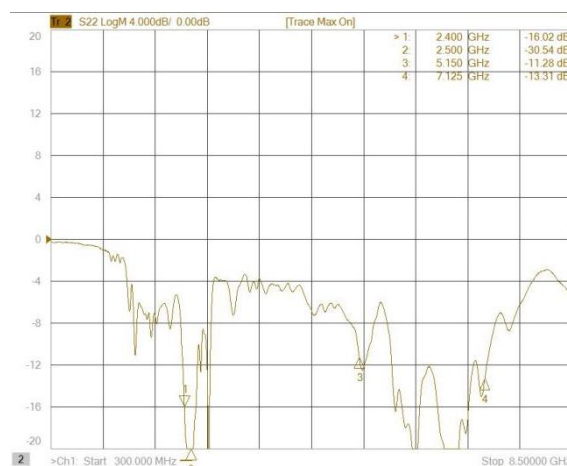




Return Loss in Different Machines



8inch_TS1



8inch_TS2



10inch_TS1



10inch_TS2



Antenna Specifications

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Max Gain and Efficiency in Different Machines

Freq(MHz)	8T-Effi(%) TS1	8T-Effi(%) TS2	8T-Gain(dBi) TS1	8T-Gain(dBi) TS2
2400	33.44	31.38	2.17	-0.30
2420	31.97	32.84	2.13	-0.36
2440	33.01	35.52	2.19	0.26
2460	34.82	36.12	2.12	0.65
2480	32.82	35.07	1.29	0.50
2500	28.51	32.65	-0.34	-0.55
5150	32.61	44.51	0.19	3.18
5250	38.19	45.40	3.06	3.97
5350	49.86	39.60	5.28	3.78
5450	37.89	36.52	4.81	2.63
5550	46.34	38.56	4.47	3.84
5650	49.28	46.48	4.69	4.00
5750	42.36	47.77	5.65	4.23
5850	44.85	48.29	3.97	1.81
5950	48.50	50.13	4.73	3.05
6050	55.97	44.65	4.09	3.33
6150	51.33	44.67	4.42	4.60
6250	45.35	46.76	2.43	3.94
6350	35.81	43.98	1.73	3.23
6450	32.92	37.66	1.57	2.69
6550	44.65	40.60	2.83	3.47
6650	42.91	40.98	3.33	3.11
6750	41.04	44.13	2.97	1.98
6850	47.57	46.58	3.76	2.19
6950	37.99	39.24	2.92	2.41
7050	37.04	40.35	2.74	1.51
7150	38.62	38.34	2.25	1.51
AVE	40.58	41.07	3.02	2.40



Antenna Specifications

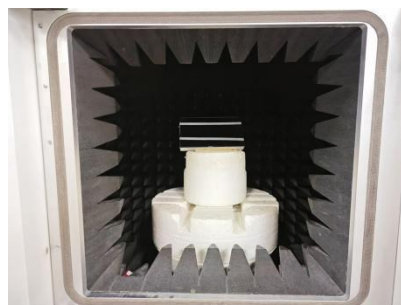
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Freq(MHz)	10T-Effi(%) TS1	10T-Effi(%) TS2	10T-Gain(dBi) TS1	10T-Gain(dBi) TS2
2400	29.73	38.14	-0.20	2.79
2420	30.54	41.01	0.76	2.41
2440	31.18	41.22	0.89	2.28
2460	39.20	36.02	1.36	1.37
2480	44.95	33.11	1.72	0.85
2500	45.46	32.23	1.38	0.49
5150	48.12	42.78	2.61	1.26
5250	44.38	43.57	1.05	0.44
5350	40.66	44.29	1.16	1.85
5450	41.98	37.76	2.68	1.16
5550	44.43	44.13	2.55	3.11
5650	42.21	58.36	3.49	3.87
5750	45.00	60.86	3.69	4.50
5850	50.26	62.35	4.52	4.79
5950	46.78	52.84	4.01	3.54
6050	51.03	51.25	4.43	2.80
6150	47.16	46.50	4.36	2.33
6250	48.01	44.99	4.77	2.80
6350	49.97	47.10	4.36	3.54
6450	55.25	48.49	4.42	3.37
6550	60.32	55.33	5.26	3.57
6650	68.22	52.52	5.08	3.16
6750	66.83	56.13	5.16	3.35
6850	59.81	54.40	5.96	2.78
6950	52.21	43.79	5.08	2.40
7050	49.78	38.20	4.21	1.33
7150	40.07	31.04	3.13	0.60
AVE	47.17	45.87	3.26	2.47

The location of the antenna in the chamber



8inch

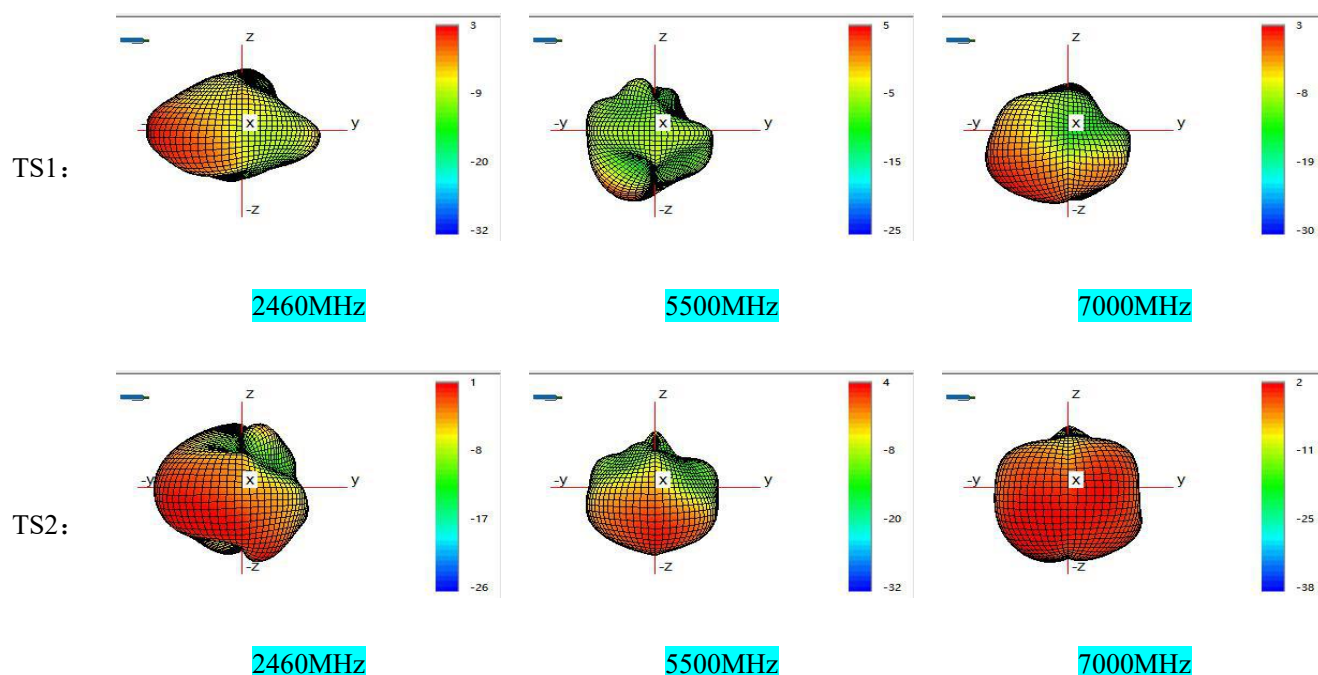


10inch

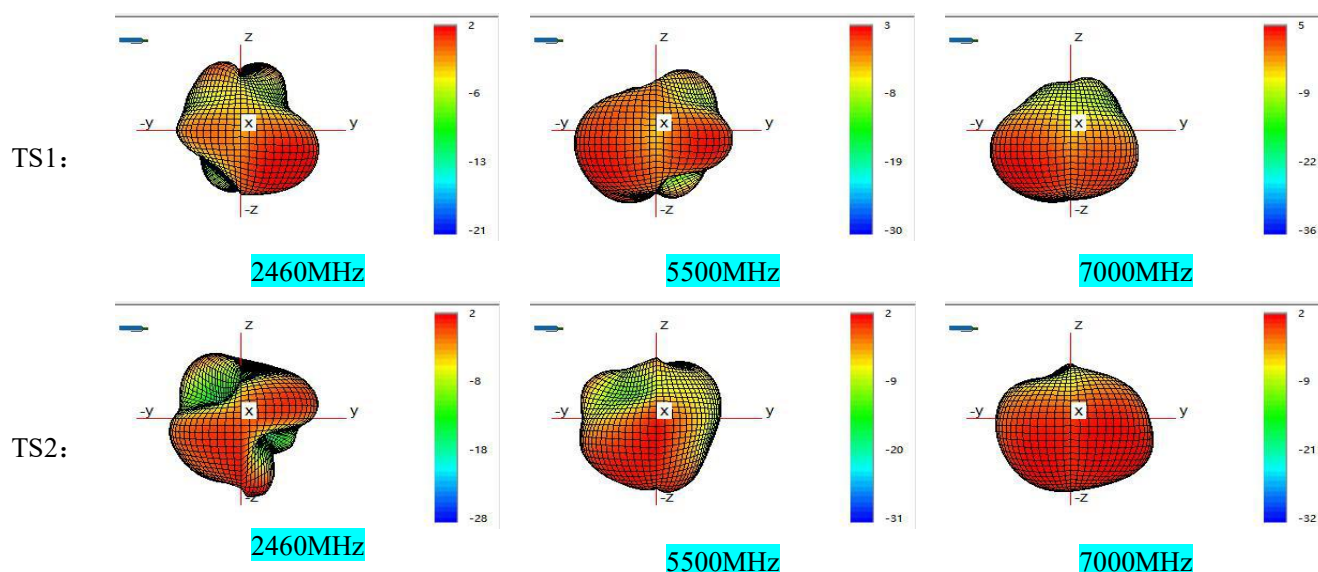


Three-dimensional radiation pattern

8inch-T-shape



10inch-T-shape



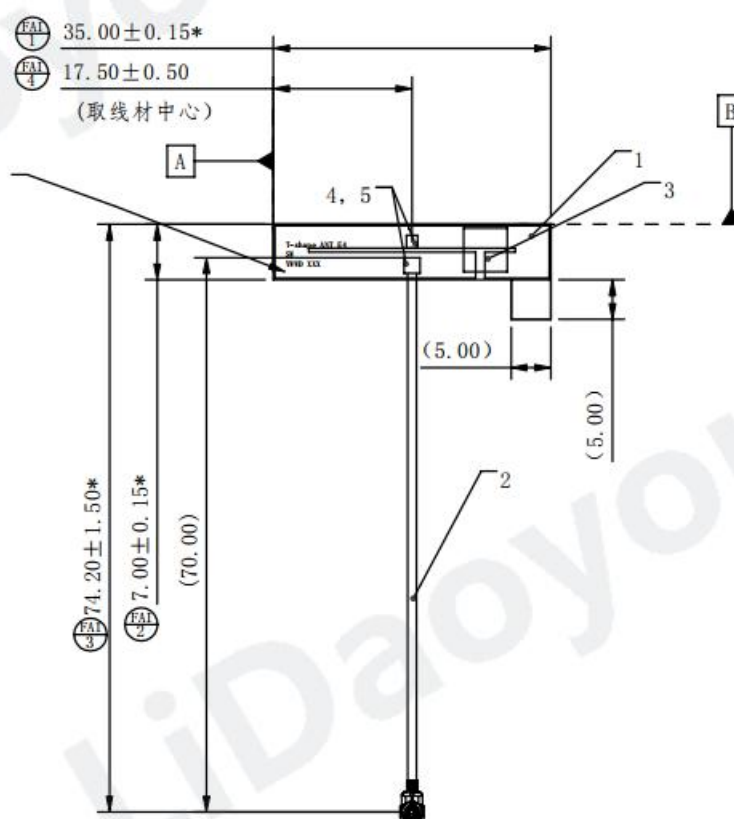


Product structural information

Product Drawing

TS 70mm

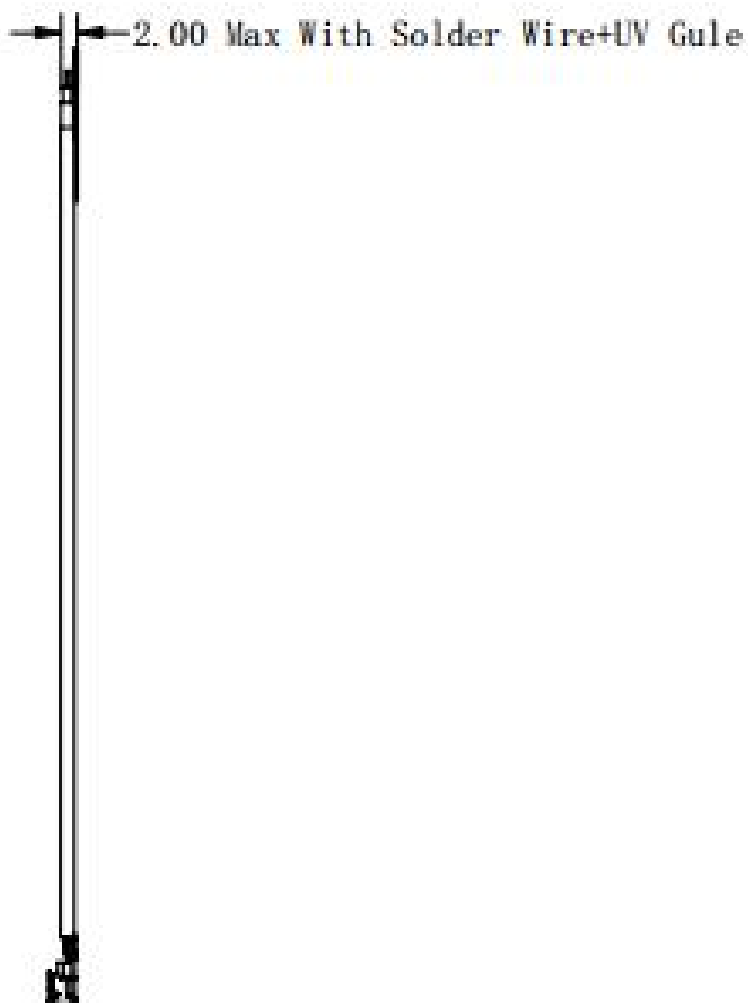
Silkscreen Information:
T-shape ANT: Product Name
E4Antenna design revision
SW: Sunway Code
Y: Year
WW: Week
D: Day (7 refer Sunway)
XXX: FPC Supplier Code





Antenna Specifications

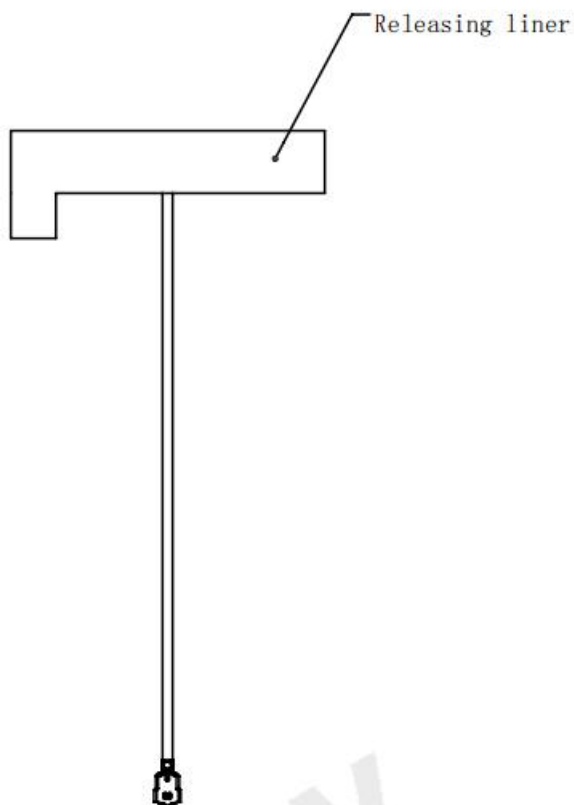
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Antenna Specifications

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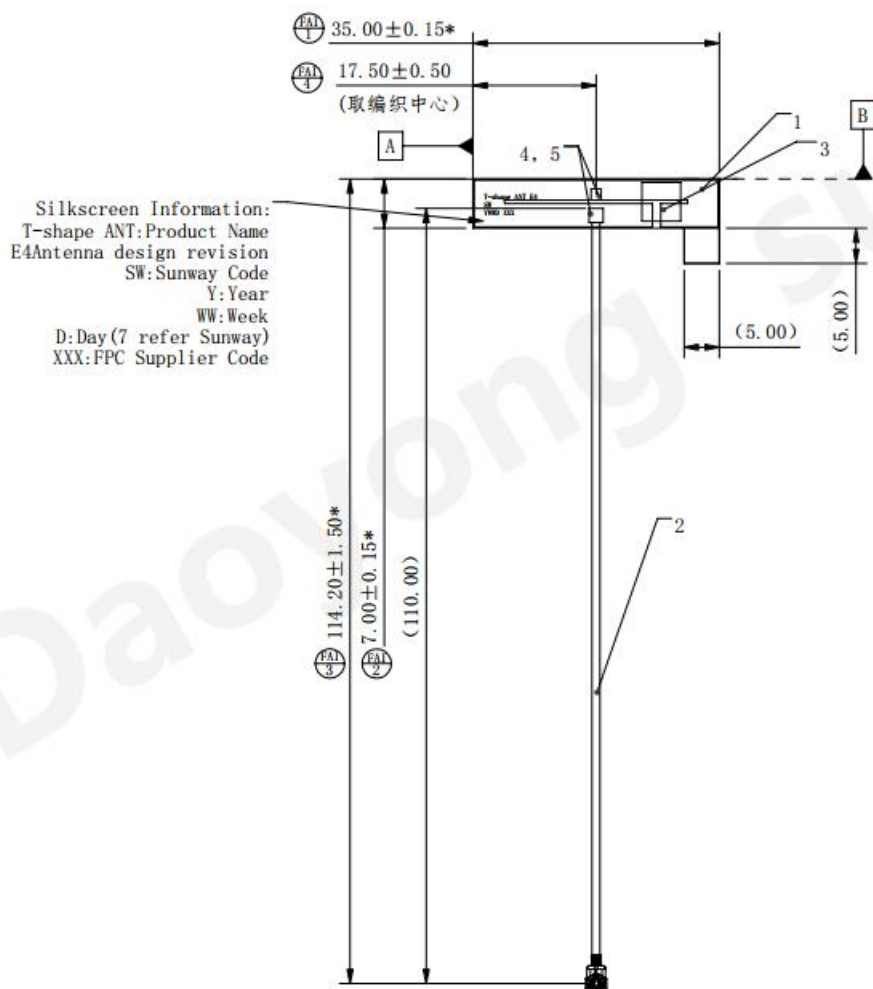
5	UV胶水	3100014592	0.0001	UV胶水
4	锡线_M705	3100004503	0.0002kg	锡线
3	Barcode_5X5mm	3100002857	1	二维码
2	JB101-W4-Cable	3100047883	1	Cable
1	JB101-W4-FPC	3100039672	1	FPC
NO. 序号	PART NAME 部件名称	PART NO. 部件料号	Q'TY 数量	REMARK备注



Antenna Specifications

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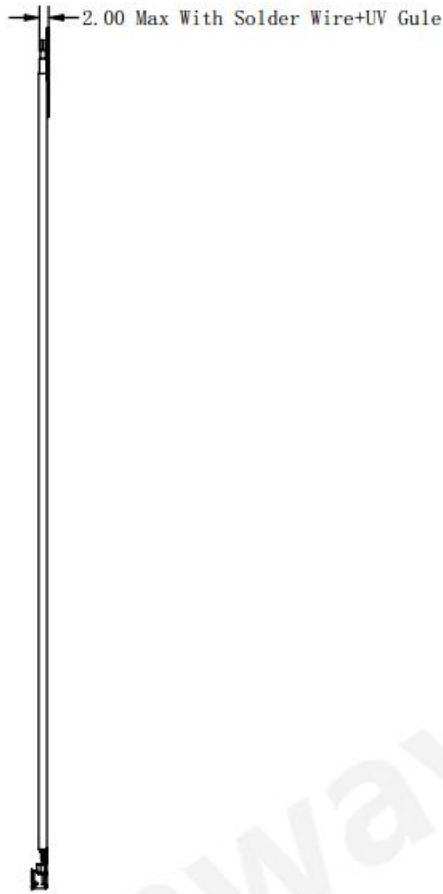
TS 110mm





Antenna Specifications

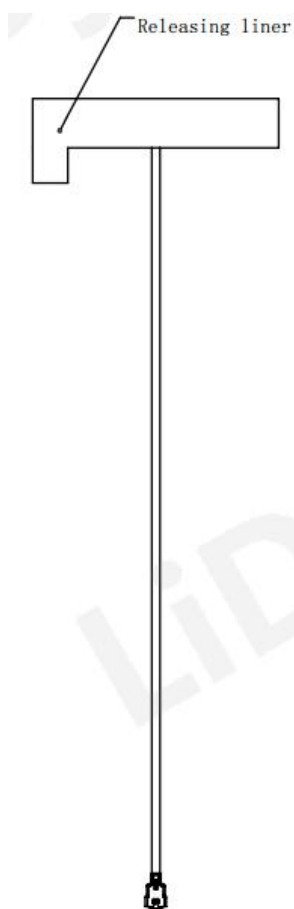
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5	UV胶水	3100014592	0.0001	UV胶水
4	锡线_M705	3100004503	0.0002kg	锡线
3	Barcode_5X5mm	3100002857	1	不锈钢
2	JB101-W5-Cable	3100047884	1	Cable
1	JB101-W4-FPC	3100039672	1	FPC
NO. 序号	PART NAME 部件名称	PART NO. 部件料号	Q'TY 数量	REMARK备注



Antenna Specifications

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Barcode information

Antenna Barcode information(17 digits)		
X80	Model code	X80=X80
SWY	Vendor code	SWY=Sunway
T1 T2	Product code	T1=T-Shape Antenna 70mm T2=T-Shape Antenna 110mm
D	Version	T for Proto,H for HVT,E for EVT,D for DVT,P for PVT,M for MP
Y	Year	4=2024year
WW	Week	02=02week
D	Date	7=Sun.
NNNN	Track No.	0000~FFFF



Reliability Test

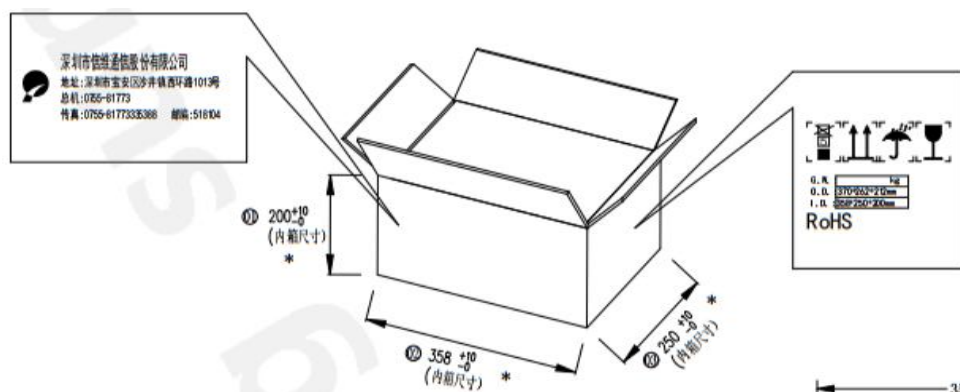
N o	Test Item	Test Condition	Criteria	Test cycle time	Test Qty	Start Date	Finished date	Results
1	HTHH	1. Conditions: 65°C / 90%RH 2. Duration: 96hrs Non-Operational	No cosmetic and S11 failures found	96Hrs	3pcs	2024/11/4	2024/11/8	PASS
2	Thermal Shock Test	1. High Temp 75°C 2. Low Temp: -30°C 3. Dwell time: 23 minutes 4. Transfer time 18°C/mins. 300 cycles	No cosmetic and S11 failures found	260Hrs	3pcs	2024/11/4	2024/11/15	PASS
3	Low Temp	1. Low Temp: -40°C 2. Uncontrolled RH 3. Duration: 96hrs	No cosmetic and S11 failures found	96Hrs	3pcs	2024/11/4	2024/11/8	PASS
4	Salt Spray	Exposure Time: 48hrs Concentration: 5wt% NaCl Temperature: 35°C	No cosmetic and S11 failures found	48Hrs	3pcs	2024/11/4	2024/11/6	PASS

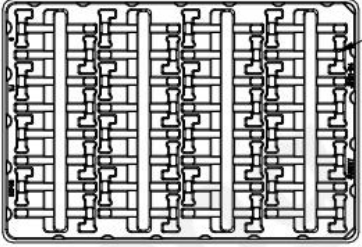
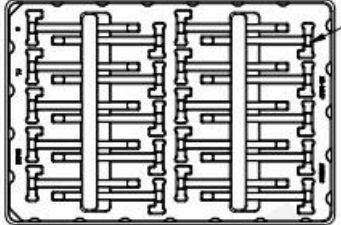


Packing information

TS 70mm/110mm

Packing Carton
Packing Process



● No.	● Package	● Note
● 1	70mm  110mm 	● 70mm: 32PCS/tray ● 110mm: 20PCS/tray



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2		26 Tray/BOX. - The top one is empty. 70mm: Total products 800 PCS. 110mm: Total products 500 PCS.
3		Put up and down tray with cellophane tape # shaped banding.
4		Put it in to the PE bag , put the desiccant in to the PE bag too.
5		- Put 2 partition on the outside of the bag, one on the top and one on the bottom. - Put the bag in to box.
6		Enclosed the carton and Labeled.