



Antenna Specifications

SHENZHEN SUNWAY COMMUNICATION CO., LTD.

X80 T-shape Antenna product specification sheet

Revision History

Part Number	1100023025
Description	Antenna Specification for X80 T-Shape Antenna (TSW)(15inch)
Initiated by	Sunway Development Team

Revision	Description	Authored by	Date	Notes
01	X80 T-shape Antenna (120mm cable for TSW model) Antenna Specification	Fulong Yang; Zikang wang;	1/27/2024	Initial version
02	X80 T-shape Antenna (120mm cable for TSW model) Antenna Specification	Fulong Yang; Lidaoyong;	11/11/2024	Updated antenna functional data to 15inch machine
03	X80 T-shape Antenna (120mm cable for TSW model) Antenna Specification	Fulong Yang; Lidaoyong;	06/18/2025	Replace with the Cable and Plug for the IPEX sample preparation
04	X80 T-shape Antenna (120mm cable for TSW model) Antenna Specification	Fulong Yang; Lidaoyong;	10/24/2025	Modify the frequency unit to dbi

Sunway Team

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Approved	Prepared By
Mingling Ma Disk Liu	Daoyong Li Fulong Yang

Customer Approval

Approved	Issued

X80 T-shape Antenna (120mm cable for TSW model)

Antenna report version: V3.0

Product Description

1. Product Name and Part Number

- Product name:X80 T-shape Antenna
- Part number:1100023025
- Product series: JB101-W6

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 TSW model.



General Specification

Characteristics	Specifications	
Product name	X80 T-shape Antenna	
Part number	1100023025	
FPC Type	7.0mm X 35.0mm 0.25mm, Single layer	
Outline Dimensions	127.00mm X 35.0mm X 2.0mm	
Cable length	120mm	
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	
Polarization	Linear	
Gain	<4.93 dBi@2.4-2.5GHz	<5.88 dBi@5.15-7.125GHz(5/6E)
Working Temp/ Relative humidity	-40℃-85℃ /< 85%	



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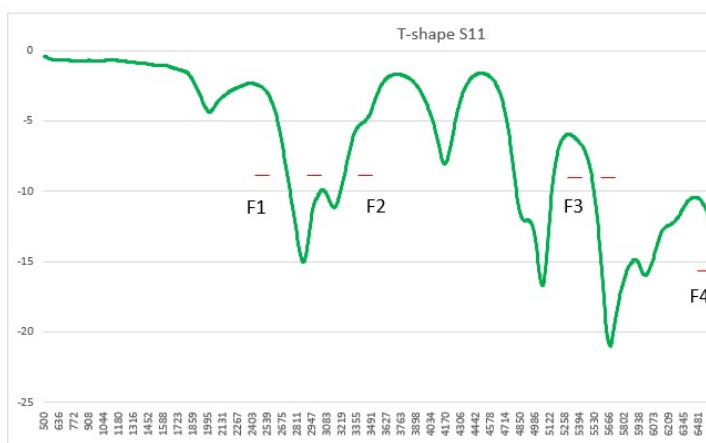
Storage Temp/
Relative humidity

-40°C-85°C /< 85%

Measurement Results

Single antenna return loss

S11 Plot



Control spec

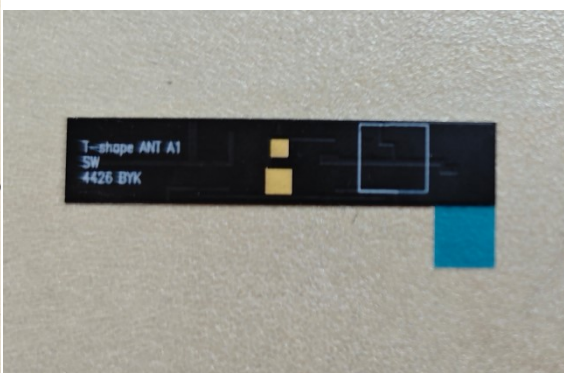
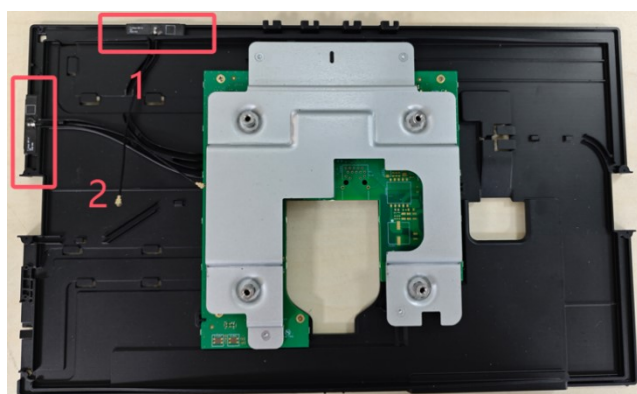


The diagram illustrates the Sunway system architecture. It features a central computer running 'Sunway software'. This computer is connected to an 'IT server (MES)' via a solid line. A 'Scanner' is connected to the computer via a solid line. A 'Keysight E5071C' is connected to the computer via a solid line. The 'Keysight E5071C' is also connected to a 'Result Alerter' via a solid line. The 'Result Alerter' is connected to the computer via a dashed line. The computer is connected to the Internet via an 'Internet line'.



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Return Loss



Efficiency and Max Gain

Freq(MHz)	TSW1-Effi(%)	TSW2-Effi(%)	Freq(MHz)	TSW1-Effi(%)	TSW2-Effi(%)
2400	50.65	48.91	5900	70.56	58.09
2410	51.76	49.47	5950	74.35	58.09
2420	52.13	49.87	6000	76.23	59.68
2430	51.57	48.67	6050	76.46	61.26
2440	51.89	48.32	6100	75.23	62.57
2450	51.75	47.43	6150	72.83	60.29



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2460	51.01	46.33	6200	74.97	61.09
2470	50.78	45.46	6250	68.37	56.36
2480	51.67	45.55	6300	69.12	58.57
2490	50.67	44.26	6350	65.18	56.08
2500	50.57	44.33	6400	64.79	58.31
5150	53.55	54.08	6450	65.33	58.26
5200	55.64	53.99	6500	64.37	57.53
5250	58.22	54.7	6550	64.53	60.43
5300	60.01	55.89	6600	65.47	63.35
5350	60.94	57.38	6650	63.94	60.72
5400	62.9	57.85	6700	63.55	58.89
5450	65.48	58.56	6750	64.39	59
5500	65.27	58.97	6800	62.32	57.29
5550	67.59	62.27	6850	59.65	55.23
5600	63.95	60.11	6900	51.69	49.28
5650	66.67	61.71	6950	47.37	46.06
5700	69.67	63.31	7000	43.82	43.09
5750	70.47	62.23	7050	43.04	42.27
5800	66.53	58.25	7100	40.31	39.61
5850	72.07	62.09	7150	37.38	36.85

Freq(MHz)	TSW1-G ain(dBi)	TSW2-G ain(dBi)	Freq(MHz)	TSW1-G ain(dBi)	TSW2-G ain(dBi)
2400	2.91	2.71	5900	4.83	4.34
2410	3.04	2.75	5950	4.76	4.61
2420	3.07	2.75	6000	4.97	4.78
2430	3.02	2.6	6050	5.07	4.78
2440	3.05	2.5	6100	5.19	4.94
2450	3.05	2.34	6150	4.57	4.22
2460	3	2.16	6200	4.45	4.5
2470	2.93	1.94	6250	4.51	4.28
2480	2.96	1.87	6300	4.59	4.7
2490	2.77	1.7	6350	4.42	4.77
2500	2.62	1.66	6400	4.5	5.32
5150	4.18	3.97	6450	4.58	5.23
5200	4.18	4.32	6500	4.45	5.3



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5250	4.44	4.7	6550	4.57	5.61
5300	4.5	4.92	6600	4.61	5.88
5350	4.32	4.93	6650	4.46	5.58
5400	4.35	4.85	6700	4.47	5.24
5450	4.43	4.85	6750	4.51	4.94
5500	4.33	4.69	6800	4.23	4.49
5550	4.83	4.66	6850	3.71	3.79
5600	4.58	4.41	6900	2.72	2.73
5650	4.07	4.65	6950	1.93	2.63
5700	4.17	4.9	7000	1.4	1.92
5750	4.39	4.71	7050	1.47	1.32
5800	4.22	4.22	7100	1.45	1.22
5850	4.71	4.58	7150	1.22	1.13

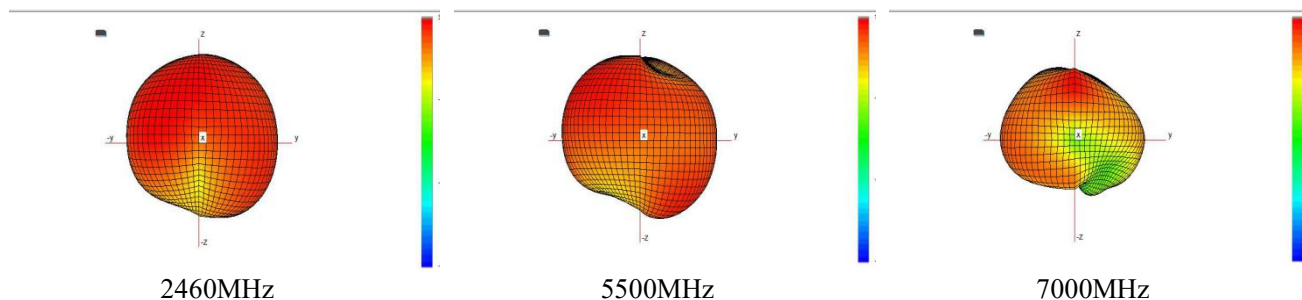
The location of the antenna in the chamber



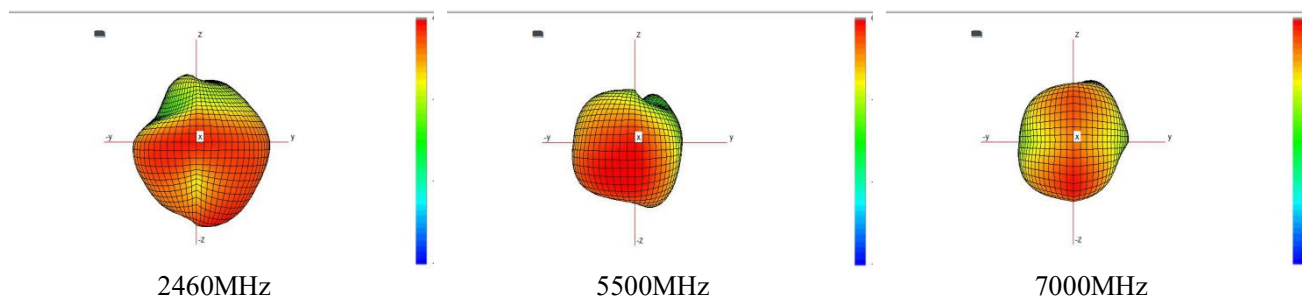


Three-dimensional radiation pattern

15inch-T-shape TSW1



15inch-T-shape TSW2



Product structural information

Product Drawing



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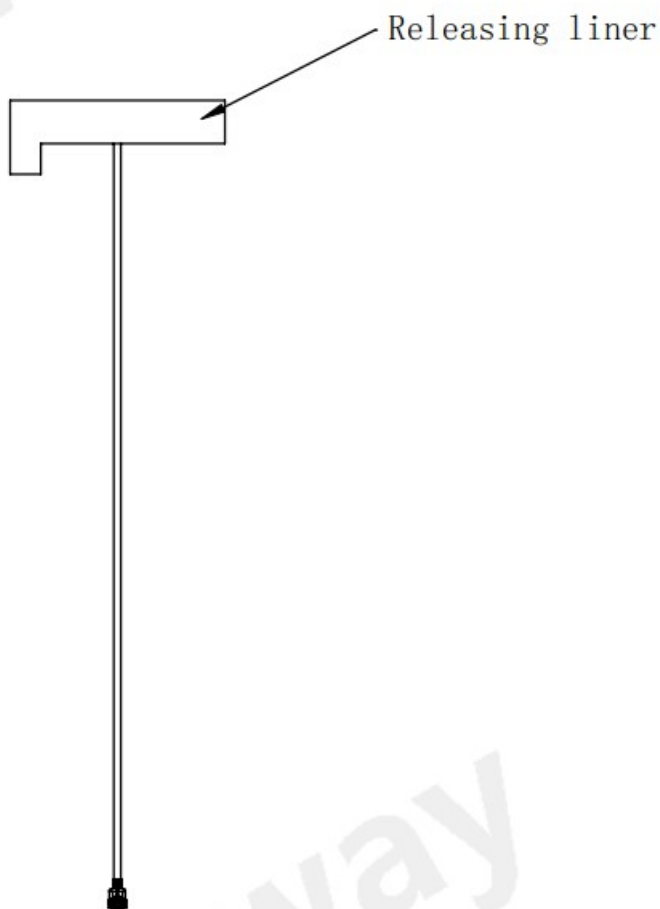
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5	UV Glue	3100014592	0.0001	
4	Solder Wire_M705	3100004503	0.0002kg	
3	Barcode_5X5mm	3100002857	1	
2	JB101-W1-Cable	3100034856	1	
1	JB101-W1-FPC_A1	3100034854	1	
NO. 序号	PART NAME 部件名称	PART NO. 部件料号	Q'TY 数量	REMARK备注



Barcode information

Antenna Barcode information(17 digits)		
X80	Model code	X80=X80
SWY	Vendor code	SWY=Sunway
T4	Product code	T4=T-shape-120mm
E	Version	P 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



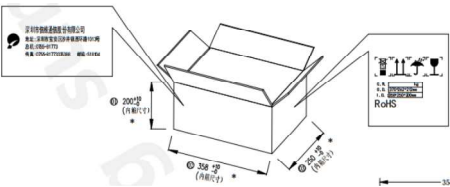
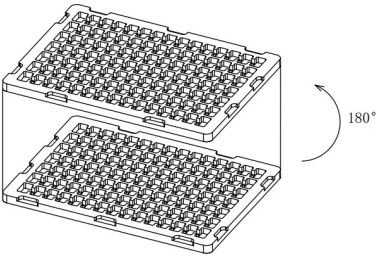
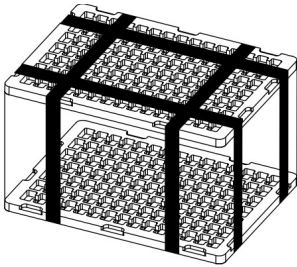
Reliability Test

N o	Test Item	Test Condition	Criteri a	Test cycle time	Tes t Qty	Start Date	Finishe d date	Result s
1	HTHH	1. Conditions: 65°C / 90%RH 2. Duration: 96hrs Non-Operational	No cosmeti c and S11 failures found	96Hrs	3pcs	2025/1/1 3	2025/1/17	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 cosmeti c and S11 failures found	260Hr s	3pcs	2025/1/1 3	2025/1/24	PASS
3	Low Temp	1. Low Temp: -40°C 2. Uncontrolled RH 3. Druation: 96hrs	No cosmeti c and S11 failures found	96Hrs	3pcs	2025/1/1 3	2025/1/17	PASS
4	Salt Spray	Exposure Time: 48hrs Concentration: 5wt% NaCl Temperature: 35°C	No cosmeti c and S11 failures found	48Hrs	3pcs	2025/1/1 3	2025/1/14	PASS



Packing information

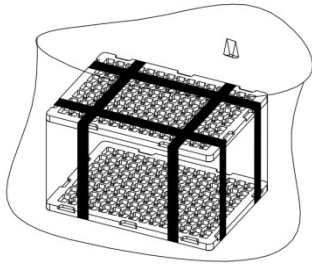
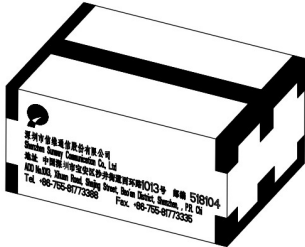
Packing Carton Packing Process

● No.	● Package	● Note
● 1		● 20 PCS/tray
● 2		● 26 Tray/BOX. ● The top one is empty. ● Total products 600 PCS.
● 3		● Put up and down tray with cellophane tape # shaped banding.



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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.