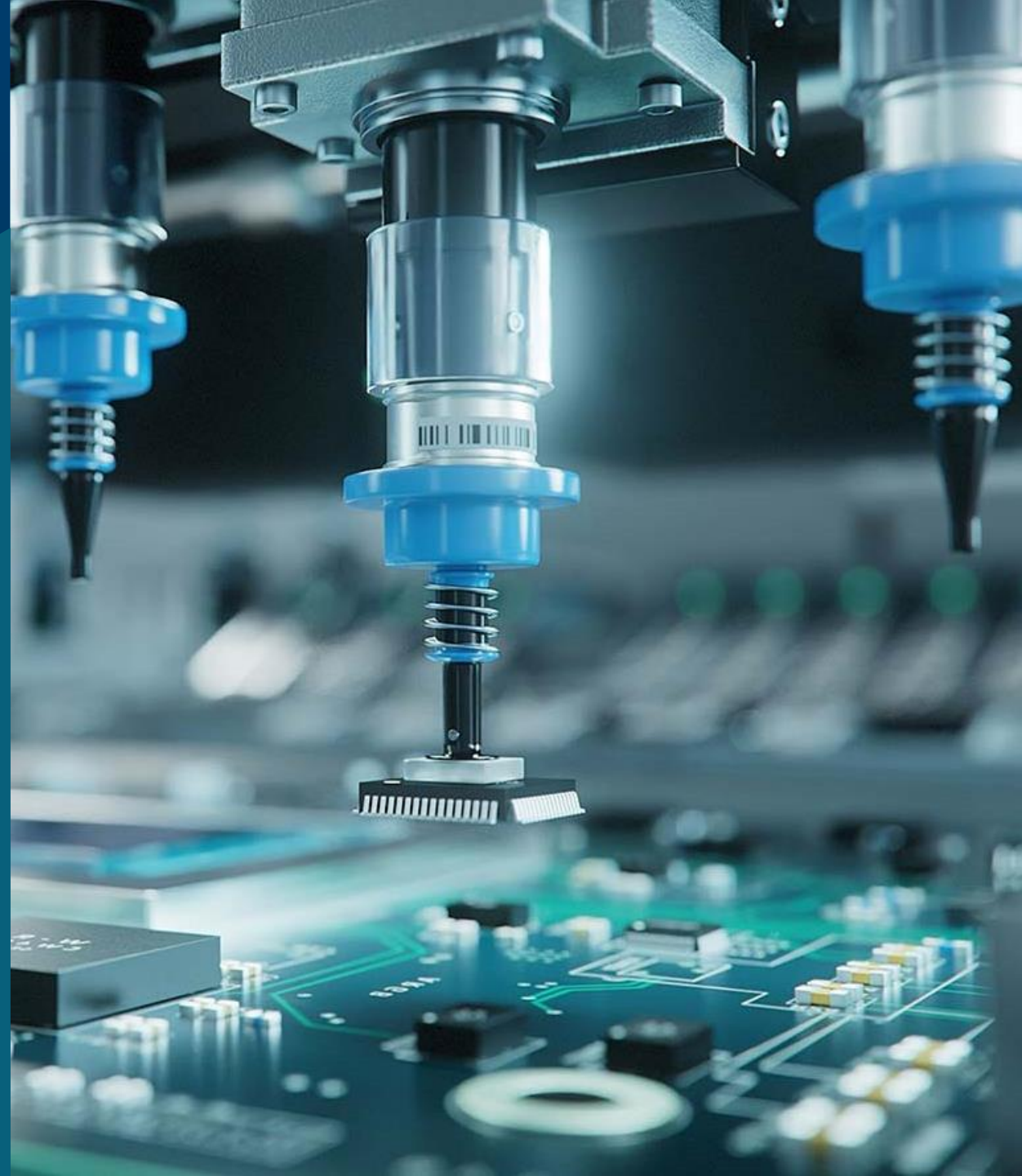


INDUSTRIAL DIVISION

TSW antenna performance

Ethan Cheng
2024/8/9

JABIL

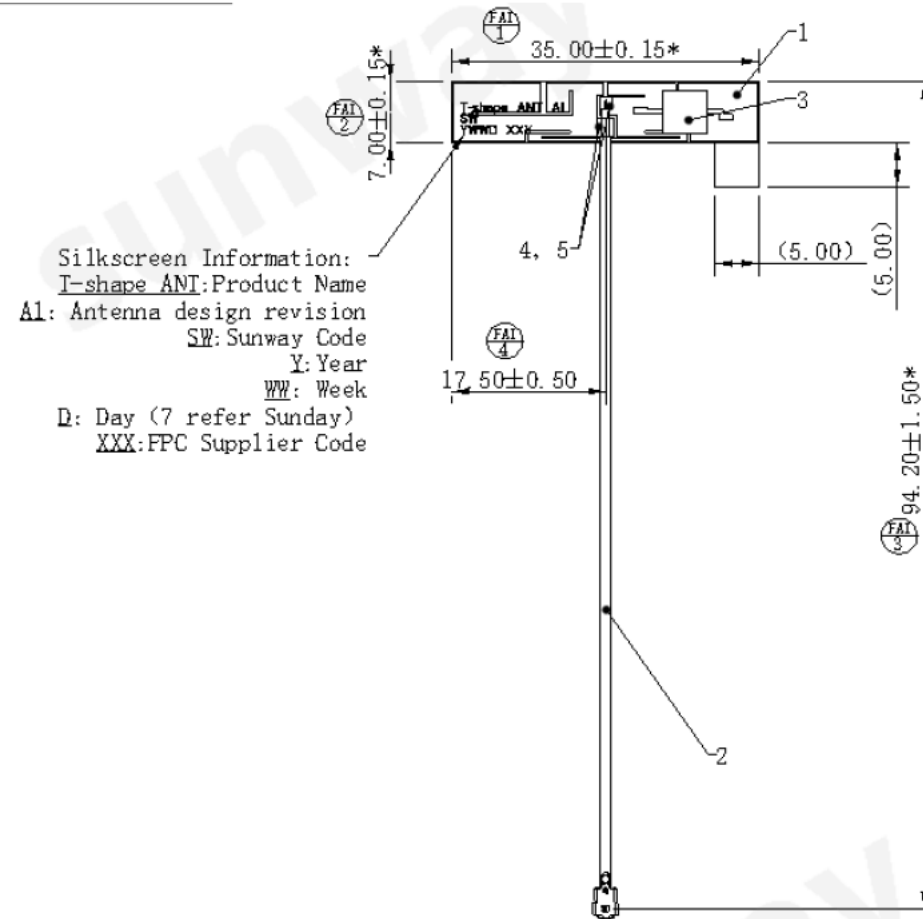


T shape specification

Characteristics	Specifications
Product name	X80 T-shape Antenna
Part number	1100018790
FPC Type	7.0mm X 35.0mm 0.25mm, Single layer
Outline Dimensions	94.2mm X 35.0mm X 2.0mm
Cable length	90mm
Cable diameter	Ø1.13mm
Cable Type	Shenyu Ø1.13 Low Loss Cable
Ground Plane	

Antenna Drawing of Sunway

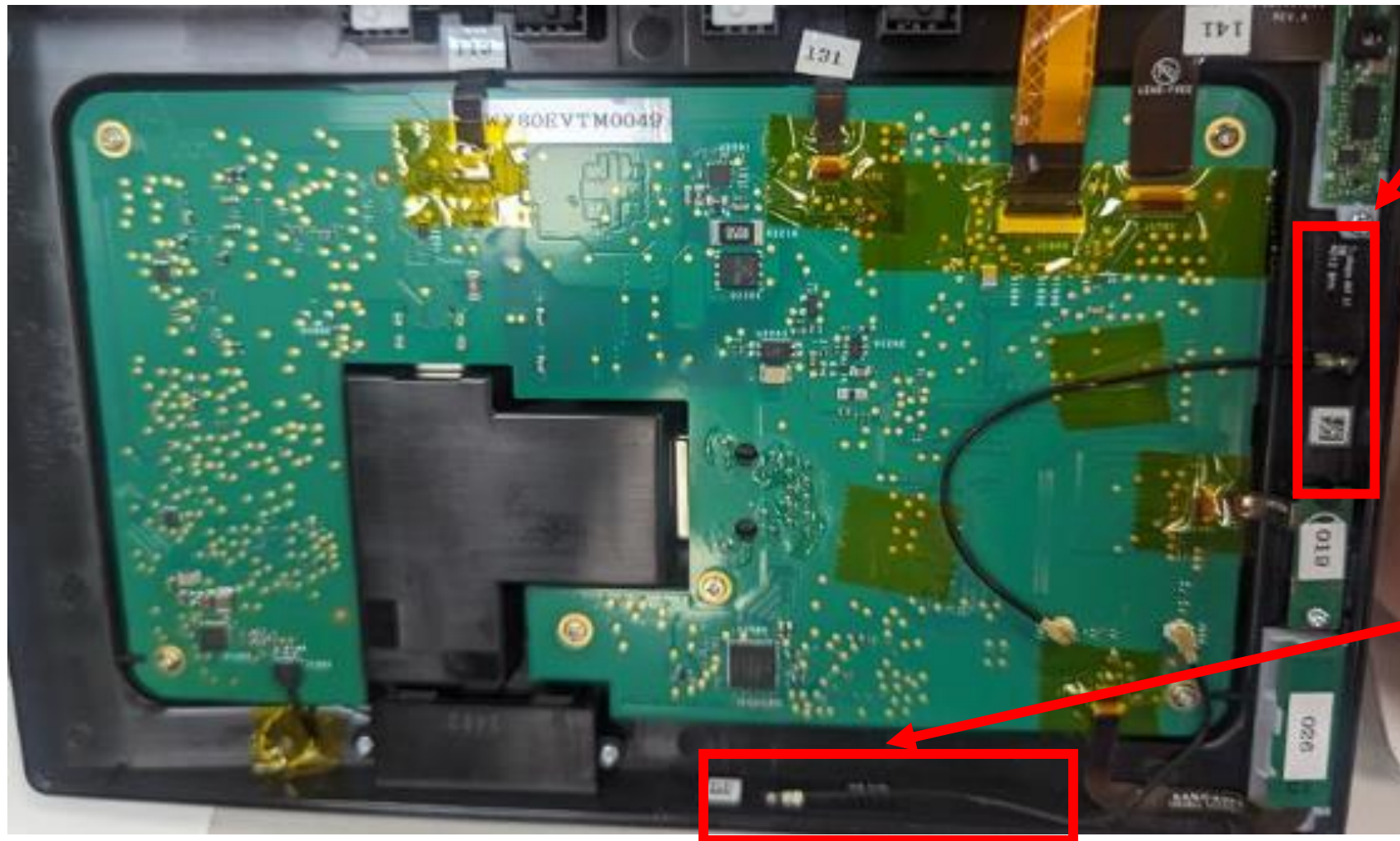
Product Drawing



L-shape Antenna specification of Sunway

Characteristics	Specifications
Product name	X80 I-shape Antenna (85mm & 155mm)
Part number	1100021776/1100021777
FPC Type	8.0mm X 35.0mm 0.25mm, Single layer
Outline Dimensions	94.2mm X 35.0mm X 2.0mm
Cable length	85mm/155mm
Cable diameter	Ø1.13mm
Cable Type	Shenyu Ø1.13 Low Loss Cable

Antenna Placement



Diversity antenna
(T shape)

Main antenna
(L shape)

Antenna performance in 8 inch

- ☐ Efficiency and peak Gain
- ☐ Radiation pattern of antenna

T shape antenna in 8 inch(Aux)

Frequency	2412	2437	2642	2480	5180	5500	5745	5805	5955	6135	6455	6750	7015
Ant. Port Input Pwr. (dB)	0	0	0	0	0	0	0	0	0	0	0	0	0
Tot. Rad. Pwr. (dB)	-5.96	-5.71	-5.96	-6.54	-2.57	-2.76	-2.97	-3.07	-3.36	-3.41	-3.41	-2.00	-2.73
Peak EIRP (dB)	1.15	1.20	2.83	2.18	3.03	1.84	3.02	2.72	2.29	2.27	2.41	5.20	3.85
Directivity (dBi)	7.11	6.91	8.78	8.72	5.61	4.60	5.99	5.79	5.65	5.67	5.82	7.69	6.58
Efficiency (dB)	-5.96	-5.71	-5.96	-6.54	-2.57	-2.76	-2.97	-3.07	-3.36	-3.41	-3.41	-2.00	-2.73
Efficiency (%)	25.35	26.86	25.37	22.17	55.30	52.93	50.42	49.35	46.08	45.64	45.64	50.06	53.37
Gain (dBi)	1.15	1.20	2.83	2.18	3.03	1.84	3.02	2.72	2.29	2.27	2.41	5.20	3.85
NHPRP $\pm\pi/4$ (dB)	-7.91	-7.71	-8.20	-8.81	-4.03	-4.26	-4.52	-4.61	-4.85	-4.87	-4.94	-4.17	-3.96
NHPRP $\pm\pi/6$ (dB)	-9.73	-9.60	-10.19	-10.81	-5.92	-6.17	-6.39	-6.47	-6.71	-6.74	-6.92	-6.28	-5.89

L shape antenna in 8 inch(main)

Model	線點_8吋 TSS_下天線_Gain_FS_2412-7015MHz_(Cont 15)												
Test / Position	Gain /Free Space												
Frequency	2412	2437	2462	2480	5180	5500	5745	5805	5955	6135	6455	6750	7015
Ant. Port Input Pwr. (dB)	0	0	0	0	0	0	0	0	0	0	0	0	0
Tot. Rad. Pwr. (dB)	-2.22	-1.77	-1.41	-1.40	-2.64	-2.76	-3.08	-2.85	-2.60	-3.13	-2.74	-2.73	-3.15
Peak EIRP (dB)	5.67	5.66	5.80	5.75	4.90	4.19	4.61	4.53	4.41	4.24	5.06	4.63	4.42
Directivity (dBi)	7.89	7.43	7.21	7.15	7.53	6.95	7.69	7.38	7.00	7.36	7.80	7.36	7.57
Efficiency (dB)	-2.22	-1.77	-1.41	-1.40	-2.64	-2.76	-3.08	-2.85	-2.60	-3.13	-2.74	-2.73	-3.15
Efficiency (%)	59.98	66.48	72.26	72.43	54.48	52.91	49.26	51.88	55.01	48.70	53.25	53.34	48.44
Gain (dBi)	5.67	5.66	5.80	5.75	4.90	4.19	4.61	4.53	4.41	4.24	5.06	4.63	4.42
NHPRP $\pm\pi/4$ (dB)	-3.20	-2.78	-2.46	-2.47	-4.32	-4.34	-4.69	-4.47	-4.15	-4.70	-4.48	-4.58	-4.82
NHPRP $\pm\pi/6$ (dB)	-4.55	-4.12	-3.81	-3.83	-6.07	-5.87	-6.32	-6.12	-5.77	-6.36	-6.08	-6.18	-6.21

Antenna performance in 10 inch

- ☐ Efficiency and peak Gain
- ☐ Radiation pattern of antenna

T shape antenna in 10 inch(Aux)

Model	綠點_10吋T-Shape_FS_2412-7015MHz_Main(Cont 30)												
Test / Position	Gain /Free Space												
Frequency	2412	2437	2642	2480	5180	5500	5745	5805	5955	6135	6455	6750	7015
Ant. Port Input Pwr. (dB)	0	0	0	0	0	0	0	0	0	0	0	0	0
Tot. Rad. Pwr. (dB)	-3.87	-3.54	-5.67	-6.25	-1.99	-1.82	-1.83	-1.98	-2.23	-1.98	-1.90	-2.45	-2.02
Peak EIRP (dB)	0.57	0.73	-1.00	-1.62	3.83	4.18	4.84	4.67	3.22	3.47	4.20	4.55	5.62
Directivity (dBi)	4.44	4.28	4.67	4.63	5.82	6.00	6.67	6.65	5.45	5.45	6.11	7.01	7.64
Efficiency (dB)	-3.87	-3.54	-5.67	-6.25	-1.99	-1.82	-1.83	-1.98	-2.23	-1.98	-1.90	-2.45	-2.02
Efficiency (%)	41.04	44.23	27.10	23.70	63.28	65.76	65.59	63.43	59.80	63.45	64.52	56.84	62.82
Gain (dBi)	0.57	0.73	-1.00	-1.62	3.83	4.18	4.84	4.67	3.22	3.47	4.20	4.55	5.62
NHPRP $\pm$ Pi/4 (dB)	-5.58	-5.20	-7.39	-7.99	-3.79	-3.78	-3.64	-3.80	-4.18	-3.90	-3.92	-4.36	-3.79
NHPRP $\pm$ Pi/6 (dB)	-7.29	-6.89	-9.08	-9.69	-5.69	-5.79	-5.52	-5.69	-6.19	-5.90	-5.90	-6.22	-5.70

L shape antenna in 10 inch(Main)

Model	纜點_10吋 TSS_下天線_Gain_FS_2412-7015MHz_(Cont 15)												
Test / Position	Gain /Free Space												
Frequency	2412	2437	2462	2480	5180	5500	5745	5805	5955	6135	6455	6750	7015
Ant. Port Input Pwr. (dB)	0	0	0	0	0	0	0	0	0	0	0	0	0
Tot. Rad. Pwr. (dB)	-3.31	-2.71	-2.10	-2.32	-2.89	-2.41	-2.43	-2.34	-2.16	-2.45	-2.32	-2.82	-2.91
Peak EIRP (dB)	1.64	2.55	2.61	3.05	4.09	4.91	5.95	6.33	5.96	5.90	6.00	5.46	5.36
Directivity (dBi)	4.94	5.26	4.71	5.37	6.97	7.32	8.38	8.67	8.12	8.36	8.64	8.28	8.27
Efficiency (dB)	-3.31	-2.71	-2.10	-2.32	-2.89	-2.41	-2.43	-2.34	-2.16	-2.45	-2.32	-2.82	-2.91
Efficiency (%)	46.72	53.56	61.61	58.63	51.43	57.45	57.10	58.36	60.75	56.84	58.67	52.22	51.14
Gain (dBi)	1.64	2.55	2.61	3.05	4.09	4.91	5.95	6.33	5.96	5.90	6.00	5.46	5.36
NHPRP $\pm\pi/4$ (dB)	-4.73	-4.12	-3.40	-3.73	-4.62	-4.06	-4.11	-4.03	-4.13	-4.41	-4.25	-4.40	-4.47
NHPRP $\pm\pi/6$ (dB)	-6.34	-5.73	-4.84	-5.34	-6.35	-5.85	-5.89	-5.79	-5.81	-5.99	-5.84	-6.07	-5.86