

SPECIFICATION

Shenzhen Guandetong Electronic Limited



Shenzhen Guandetong Electronics Co., Ltd.

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(2.4G FPC antenna, 1.13 mm diameter, 80 mm length,
with one set of terminals)Product Specification Document

Client	Shenzhen Xinsuo	Frequency range	2400MHz-2500MHz
Wire Name		Edition	A1
Customer Part Number		Guan Detong Material Number	
Guan Detong Number			
RF design	Xiao Bin	Radio Frequency Manager	Liu Liang
Architectural design	Wang Dong	Structure Manager	Wang Hua
Technical Director	PUTER	Date	2024-12-19

Customer Confirmation:

Is the assembly compliant with your company's requirements? ☐ OK ☐ NG

Security Requirements

Our company possesses proprietary technical information, which must be strictly confidential and may not be disclosed to any individual or entity without the prior written consent of Shenzhen Guandetong Electronics Co., Ltd.

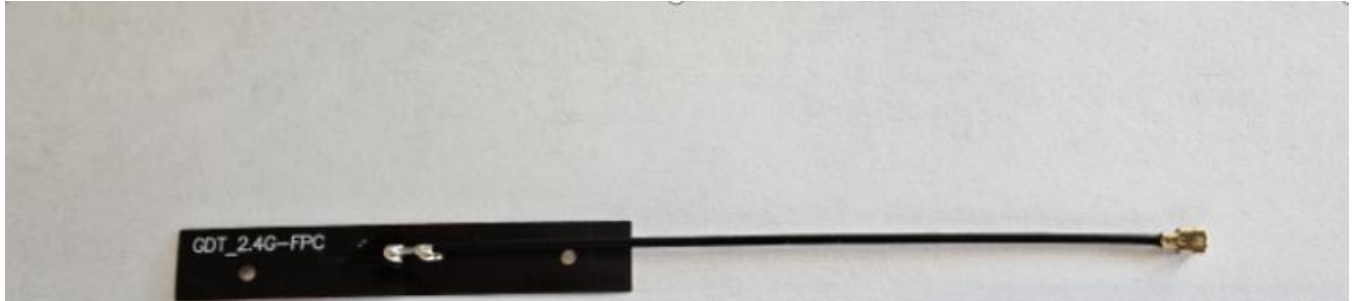
Catalogue

Cover.....	1
catalogue.....	2
I. Product Images.....	3
II. Product Parameters.....	3
III,S11 Data.....	4
IV. Product Structure Diagram.....	4
V. Antenna Gain/Efficiency/3D Chart.....	5
VI. Environmental Reliability Test Report.....	5

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I. Product Images



II. Product Parameters

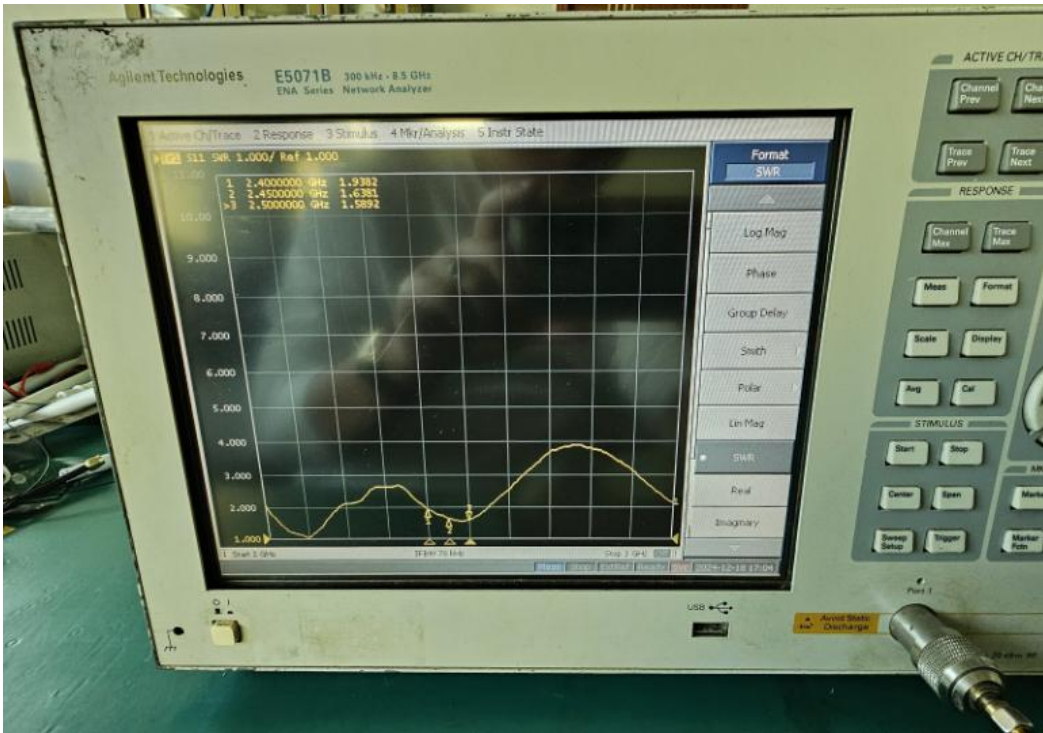
Product Testing Parameters			
Product Name	2.4G FPC antenna	Product Model(Model Type)	GDT-P2.4G-80
Electrical Specifications			
Frequency Range	2400MHz-2500MHz	Polarization Method	Perpendicular
Input impedance(Impedance)	50 Ω	Radiation direction	Omnidirectional
VSWR	≤ 2.0	Power Capacity (Power)	50W
Gain (Gain)	1.02dBi	Bandwidth	100MHz
Mechanical Specifications			
Dimensions	50*8mm	Antenna Color(Chassis Color)	Black
Connector Model (Connector)	First-generation IPEX terminal	Lead length(Cable Length)	80 $\pm$ 5mm
Antenna Material(Chassis Material)	FPC material quality	Wire color	1.13 black
Working temperature (Working Temperature)	-40 $^{\circ}$ C-+85 $^{\circ}$ C	Storage temperature (Limit Temperature)	-40 $^{\circ}$ C-+85 $^{\circ}$ C

III. S11(VSWR, Return Loss, Smith)Data

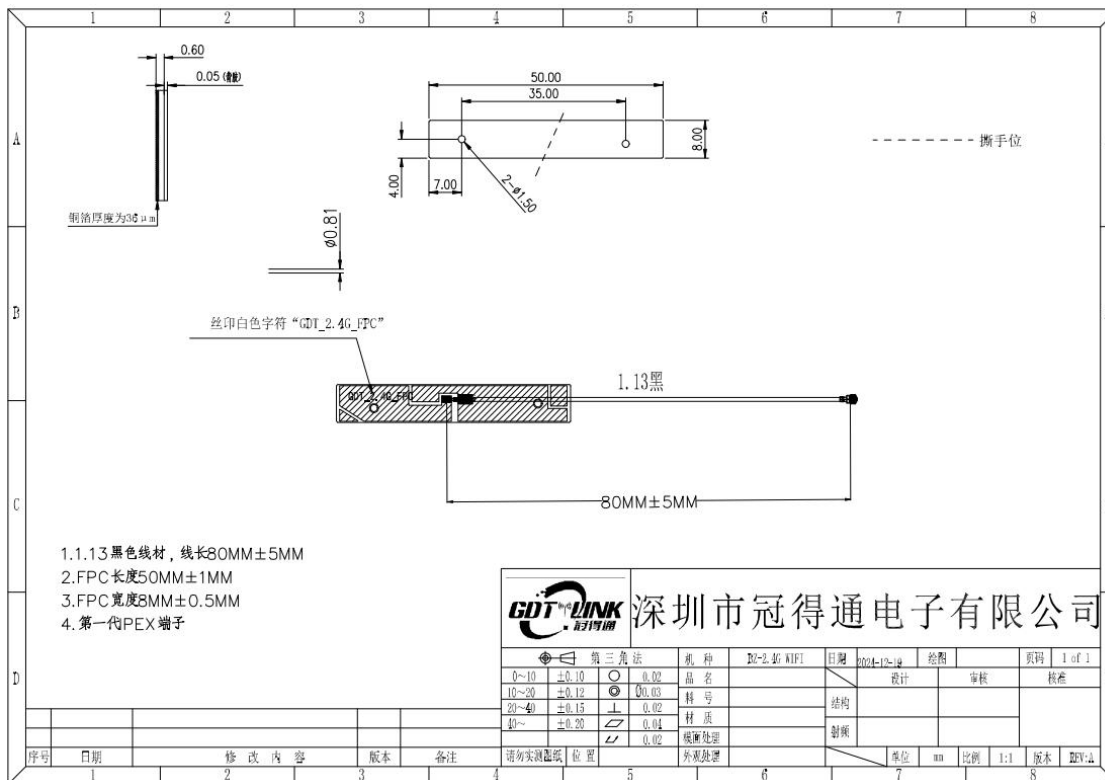
Company Address: 3rd Floor, Building D, Huanguan Nanmaoyuan Industrial Park, Guanhu Street, Longhua District, Shenzhen City Tel: 0755-88298396 Fax: 0755-89733896

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IV. Structural Drawings



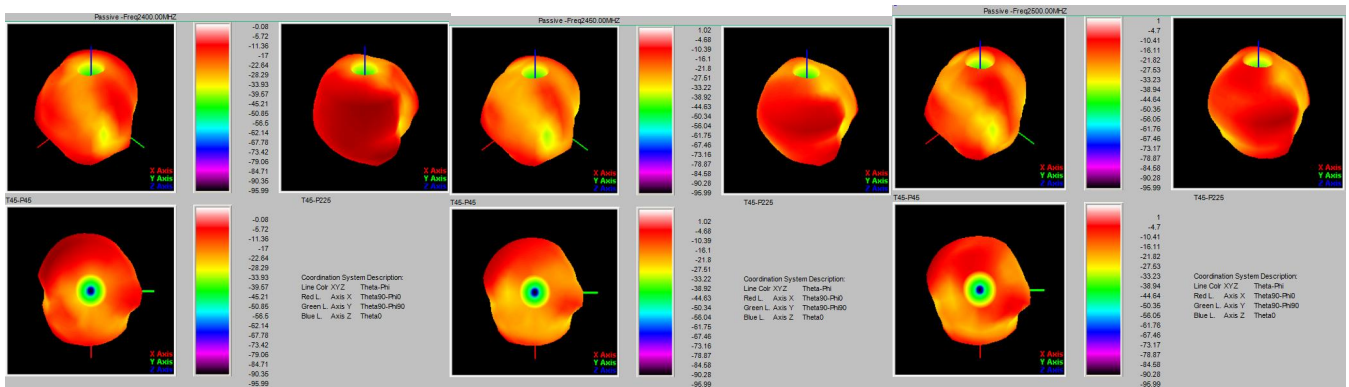
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V. Antenna Gain/Efficiency/3D Diagram

Test Point ID	Freq. (MHz)	TRP (dBm)	Gain (dBi)	Directivity (dBi)	Efficiency (%)	Efficiency (dB)	Max (dBm)	Theta of Max	Phi of Max	Min (dBm)	Theta of Min	Phi of Min	AVG (dBm)	Max/Min (dB)	Max/AVG (dB)	Min/AVG (dB)
1	2400.0	2400.00	-0.08	4.10	38.2%	-4.18	-0.08	9000	15180	-95.99	0	0	-4.33	95.91	4.26	-91.66
2	2410.0	2410.00	-0.45	4.29	33.6%	-4.74	-0.45	9000	15180	-95.99	0	0	-4.65	95.54	4.20	-91.34
3	2420.0	2420.00	0.54	4.70	38.4%	-4.16	0.54	9000	15180	-95.99	0	0	-3.84	96.53	4.38	-92.15
4	2430.0	2430.00	0.86	4.82	40.1%	-3.97	0.86	9000	15180	-95.99	0	0	-3.50	96.85	4.35	-92.49
5	2440.0	2440.00	0.47	4.71	37.6%	-4.25	0.47	9000	15180	-95.99	0	0	-3.83	96.46	4.30	-92.16
6	2450.0	2450.00	1.02	4.87	41.2%	-3.85	1.02	9000	15180	-95.99	0	0	-3.46	97.01	4.48	-92.53
7	2460.0	2460.00	0.41	4.74	36.9%	-4.33	0.41	9000	15180	-95.99	0	0	-3.92	96.40	4.33	-92.07
8	2470.0	2470.00	0.74	4.59	41.3%	-3.84	0.74	9000	15180	-95.99	0	0	-3.64	96.73	4.38	-92.35
9	2480.0	2480.00	1.00	4.29	46.8%	-3.29	1.00	9000	15180	-95.99	0	0	-3.46	96.99	4.45	-92.53
10	2490.0	2490.00	0.41	4.08	43.0%	-3.67	0.41	9000	15180	-95.99	0	0	-3.85	96.40	4.26	-92.14
11	2500.0	2500.00	1.00	4.20	47.9%	-3.20	1.00	6000	6180	-95.99	0	0	-3.45	96.99	4.45	-92.54



VI. Environmental Performance Testing

Project	Test condition	Specifications
Storage Environment	Test temperature, humidity, and air pressure as follows unless otherwise specified: 1. The temperature ranges from -30°C to +80°C. 2. The relative humidity ranges from 45% to 85%. 3. The air pressure is 86 kPa to 106 kPa.	The electrical machinery is operating normally.
Thermocycling	Perform 5 cycles between 70°C and 40°C, then observe the visual quality under normal conditions for 1–2 hours.	The dimensions shall comply with the specified requirements and meet the mechanical and electrical performance specifications.
Humidity to constant humidity and temperature test	Relative humidity: 95±3%; Test temperature: 40°C. After continuous exposure for 2 hours, measure the electrical performance within 5 minutes after removing the sample. Under normal conditions, expose the sample for 1–2 hours and inspect its visual quality.	The dimensions shall comply with the specified requirements and meet the mechanical and electrical performance specifications.
Vibration test	Frequent range: 10–55 Hz; Displacement amplitude: 0.35 mm; Acceleration amplitude: 50.0 M/S, number of sweep cycles: 30 times	The electrical machinery is operating normally.
Fall-down test	The object was dropped freely three times from a height of 1 meter along mutually perpendicular axes.	The electrical machinery is operating normally.

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