Specification For Approval

Customer	
Supplier	Kenbongtong Technologies Co. Ltd.
Customer P/N	100402182
Production Name	4G Antenna
Production Number	TQX-071427HK22

Supplier Signature		
Engineer	Checked by	Approved by
Ye Zhang	Zhenyu Chan	Zhilong Feng

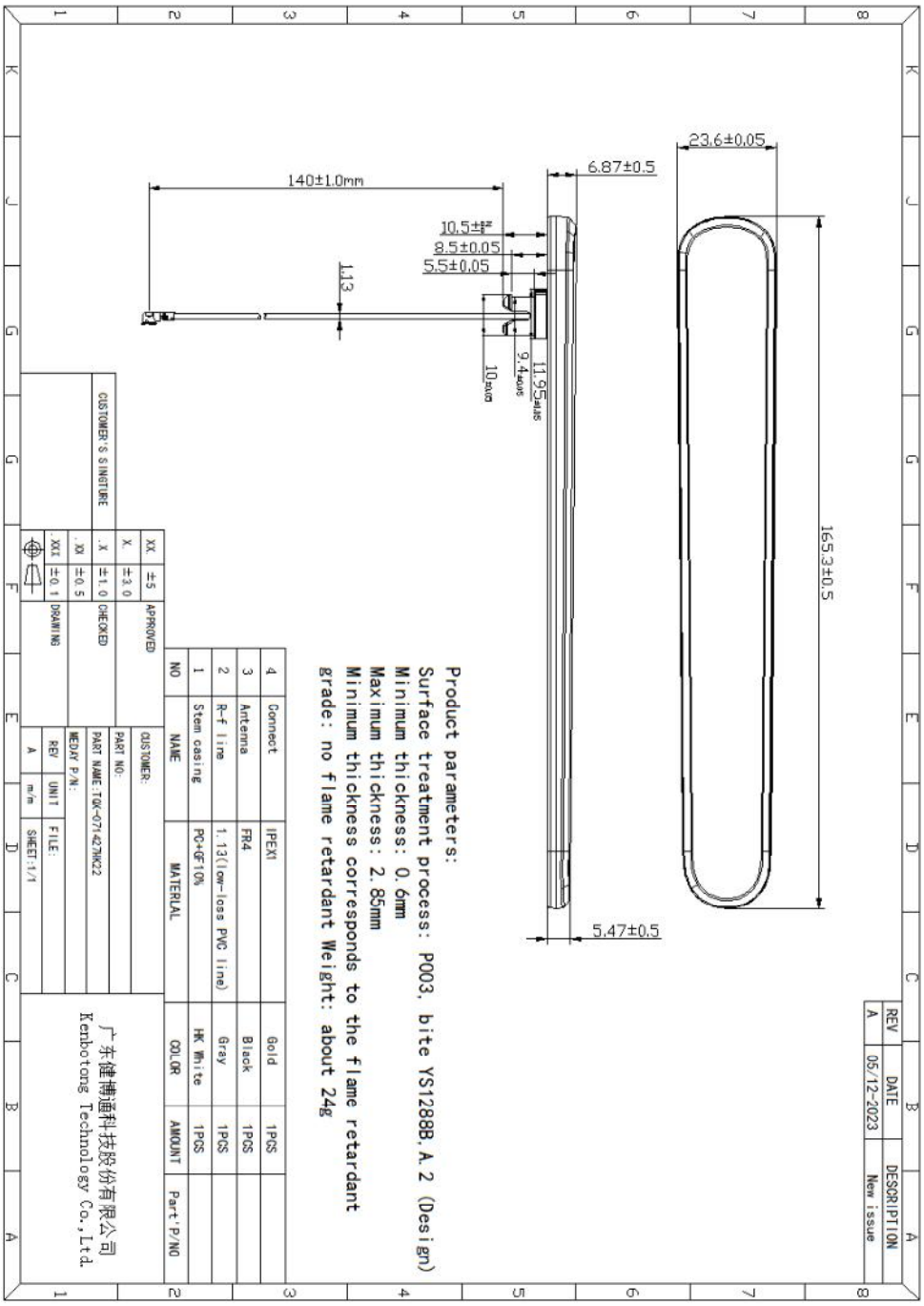
Customer Signature		
Engineer	Checked by	Approved by

Description Record

Version	Content Revised	Modifier	Date
REV1.0	Initial release	Ye Zhang	2023-11-26
REV2.0	Change the line length from 125mm to 140mm	Ye Zhang	2023-12-05

Catalogue

1、Antenna structure drawing（mm）



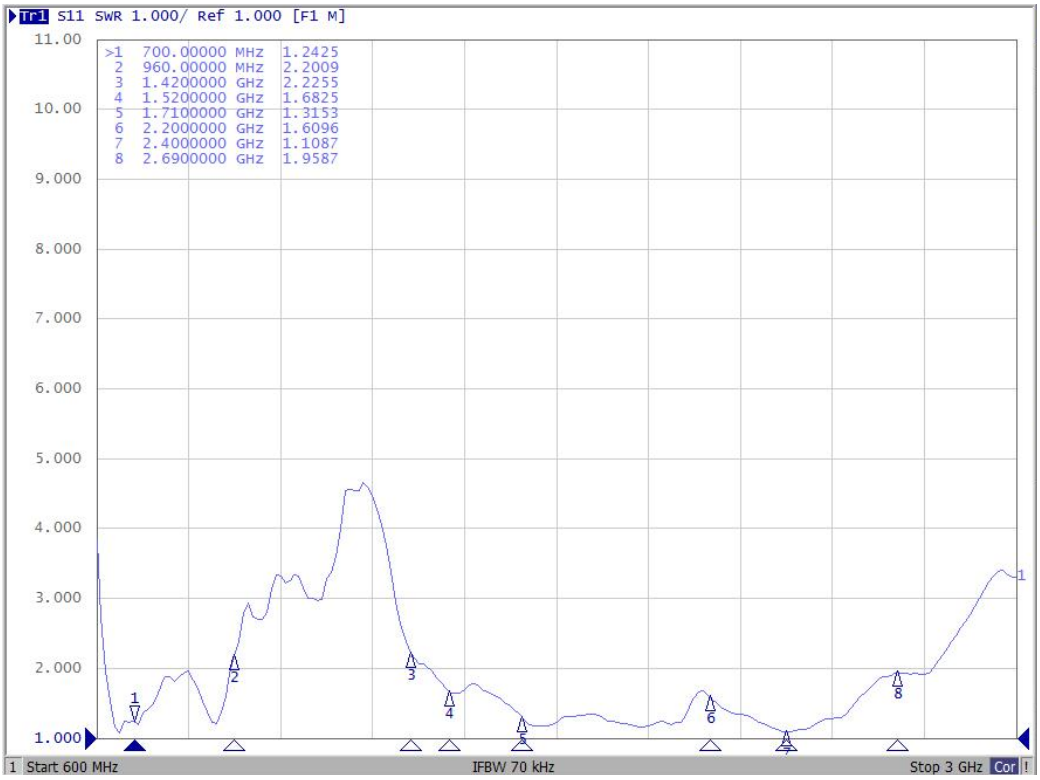
2、Antenna physical image

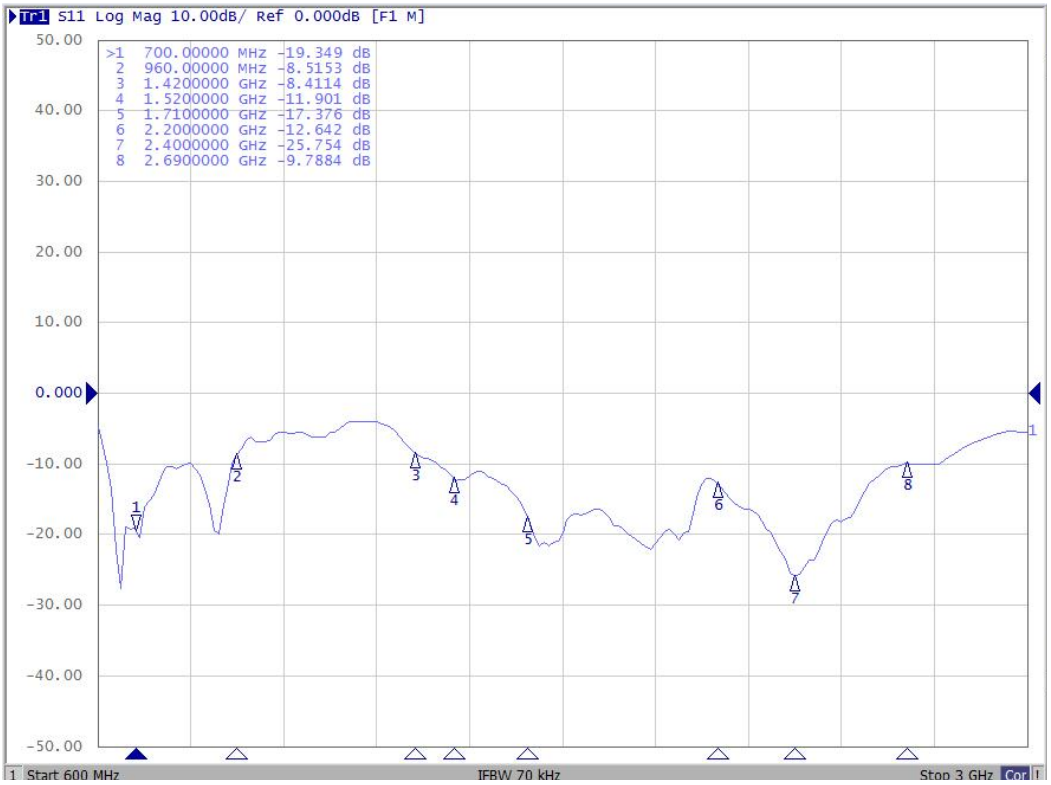
3、Antenna property table

Parameter	
Antenna	External rubber rod omnidirectional antenna
Working Frequency	700-960/1400-1500/1700-2700
VSWR	≤2.5
impedance	50Ω
Radiation Parameter	
Gain	0.24-3.41
Antenna efficiency	48.31-70.96
Polarization	Linear polarization
Axial Ratio	/
Radiation pattern	Omnidirectional
Mechanical Parameter	
Cable material	PVC
Interface	IPEX-1
Overall dimensions	165.3*23.6
Weight	about 24g
Glue model	Customized adhesive
Detection Parameter	
Ingress Protection rating	IP67
Air tightness	50Kpa/20S without leakage（Full inspection）
Environment Parameter	
Operation Temp	-45-75
Storing Temp	-45-75

4、Antenna performance testing

1、SWR&Return loss





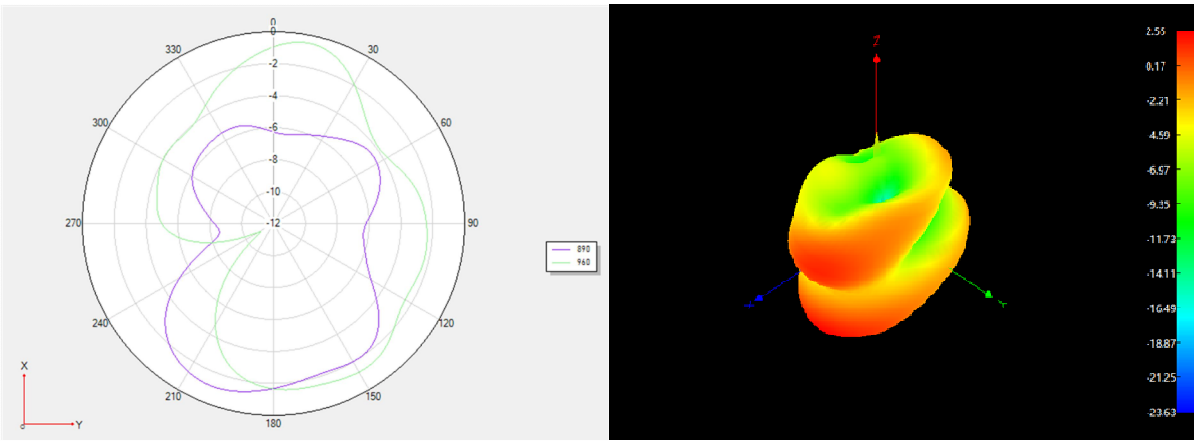
2、Efficiency

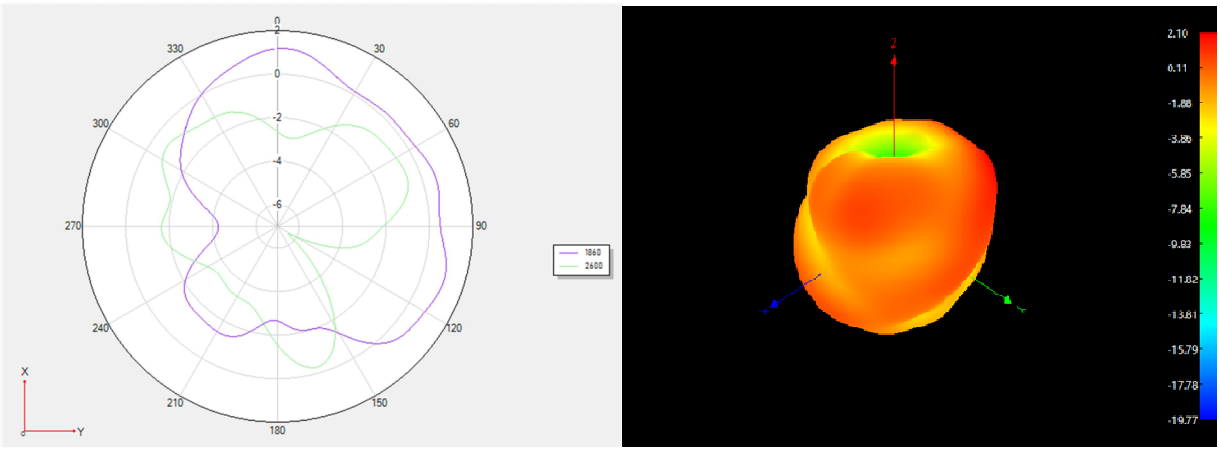
Frequency / MHz	Gain/ dB	Efficiency / %		Frequency / MHz	Gain/ dB	Efficiency / %		Frequency / MHz	Gain/ dB	Efficiency / %
700	5.1	61.85		940	2.31	57.28		1610	2.86	61.78
710	4.79	59.62		950	2.19	54.2		1620	1.82	66.37
720	3.71	55.79		960	1.8	48.31		1630	1.34	64.39
730	3	55.77		1400	0.87	50.35		1640	2.26	62.61
740	2.62	54.12		1410	1.69	56.49		1650	2.77	63.62
750	1.61	53.46		1420	1.25	53.58		1660	2.5	65.87
760	1.68	51.05		1430	1.8	55.85		1670	2.5	66.66
770	1.35	53.09		1440	1.6	54.2		1680	2.72	67.3
780	1.2	54.33		1450	2.06	59.02		1690	2.89	65.15
790	1.24	52.24		1460	1.46	56.75		1700	3.1	67.14
800	0.24	49.89		1470	1.61	58.34		1710	3.09	68.39
810	0.5	53.09		1480	1.25	56.62		1720	3.32	66.53
820	0.99	57.15		1490	1.29	57.81		1730	3.19	67.3
830	1.58	60.81		1500	1.32	58.61		1740	3.49	64.71
840	1.97	60.53		1510	1.33	59.02		1750	3.13	64.71
850	1.68	61.24		1520	1.48	61.09		1760	3.55	66.68
860	1.33	58.08		1530	1.48	60.81		1770	3.32	69.18
870	0.65	56.1		1540	1.8	64.42		1780	3.96	61.78
880	0.6	53.83		1550	2.04	65.46		1790	3.74	60.79
890	0.67	53.7		1560	2.29	68.39		1800	4.36	62.95
900	1.03	54.45		1570	2.26	68.23		1810	3.96	60.96
910	1.56	56.1		1580	2.5	65.79		1820	4.65	62.61
920	1.93	57.15		1590	2.61	60.96		1830	4.59	61.94
930	2.46	58.48		1600	3.04	64.47		1840	5.28	65.16

Frequency / MHz	Gain/ dB	Efficiency / %	Frequency / MHz	Gain/ dB	Efficiency / %	Frequency / MHz	Gain/ dB	Efficiency / %
1850	5.03	63.96	2100	3.11	67.27	2290	2.21	60.08
1860	5.39	64.47	2110	2.72	61.12	2300	2.13	62.11
1870	5.2	66.56	2120	2.59	61.78	2310	2.18	61.61
1880	5.41	66.74	2130	2.35	66.99	2320	1.94	63.28
1890	5.29	67.09	2140	2.74	61.78	2330	2.14	62.78
1900	5.35	68.34	2150	2.35	64.71	2340	1.89	65.86
1910	5.15	65.99	2100	3.11	67.27	2350	1.91	61.61
1920	4.81	65.91	2110	2.72	61.12	2360	1.47	61.78
1930	4.61	67.6	2120	2.59	61.78	2370	1.91	61.29
1940	4.56	68.35	2130	2.35	66.99	2380	1.62	61.45
1950	4.68	67.14	2140	2.74	61.78	2390	1.96	67.76
1960	4.79	63.35	2150	2.35	64.71	2400	1.72	69.18
1970	4.65	69.62	2160	2.59	63.24	2410	2.17	67.92
1980	4.75	68.7	2170	2.79	61.66	2420	2.01	69.02
1990	4.54	68.7	2180	3.2	63.83	2430	2.38	67.61
2000	4.62	66.21	2190	3.11	62.23	2440	2.31	61.45
2010	4.28	63.79	2200	3.1	61.94	2450	2.71	63.11
2020	4.28	64.64	2210	3.38	66.22	2460	2.51	62.78
2030	3.74	61.61	2220	3.53	69.82	2470	2.63	61.61
2040	3.67	61.78	2230	3.6	61.45	2480	2.65	62.44
2050	3.29	65.18	2240	3.19	69.02	2490	3	63.11
2060	3.46	64.99	2250	3.14	70.96	2500	2.96	62.78
2070	3.38	64.82	2260	2.83	61.12	2510	3.16	61.94
2080	3.41	67.8	2270	2.81	61.29	2520	2.87	60.96
2090	3.11	62.61	2280	2.21	61.34	2530	3.22	61.78

Frequency / MHz	Gain/ dB	Efficiency / %	Frequency / MHz	Gain/ dB	Efficiency / %	Frequency / MHz	Gain/ dB	Efficiency / %
2540	3.13	69.5	2600	3.23	68.55	2660	2.89	65.01
2550	3.22	67.76	2610	3.34	67.76	2670	3.7	63.83
2560	3.12	67.76	2620	3.16	68.08	2680	3.66	61.66
2570	3.4	68.55	2630	3.02	67.3	2690	3.5	58.34
2580	3.2	67.76	2640	2.99	68.55	2700	3.37	57.15
2590	3.24	66.22	2650	2.97	66.07			

3、Directional diagram





5、Cable specifications

Shenzhen Kaibo Communication Wire and Cable Co., Ltd

The first floor of Building 62 Baotong South Road, Xikeng Community, Henggang Town, Shenzhen

Tel:(755)28211693 **Fax:(755)89737181**

Product specification

Material code: 811303001/02
Product name: coaxial cable
Product model: RF1.13 Double tin PVC gray/black
Specifications: 7/0.08TC

version number	Revision date	revised contents	Revised	date of issue
A	2023-6-28	new increase	xiuyinluo	2023-06-23
B				
C				
D				
E				
F				

Preparation	auditor	approver
xianweiluo	xiaoquanzeng	xiuyinluo

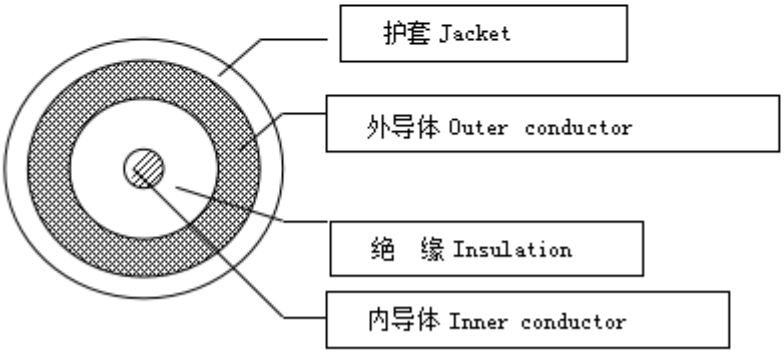
1. product description

1.1 This product is soft Teflon insulation series coaxial cable. Is suitable for the microwave equipment, wireless communication systems and equipment。

1.2 Product features: Excellent flexi-ability, good V.S.W.R, good shielding performance.

2. Cable with data and structure diagram:

2.1structure diagram



2.2 Specification of cable:

Item		NO	Materials and size
Inner conductor	Material	/	镀锡铜线 Tinned copper wire
	Composition	mm	7/0.08±0.02
	OD	mm	Φ0.24
Insulation	Material	/	Teflon FEP(200 degree perfluoroethylene propylene resin) Teflon FEP(200 degrees of fluorinated ethylene propylene resin)
	Thickness	mm	0.21
	OD	mm	Φ0.68±0.03
	Color	/	transparent color
Outer conductor	Material	/	Tinned copper wire
	Form	/	Weave 16*4*0.05
	Density	%	93%(25 目 (Mesh); 64 编 (Coding 16*4/0.05mm))
	OD	mm	Φ0.88±0.05
Jacket	Material	/	Teflon PVC Teflon FEP(200 degrees of fluorinated ethylene propylene resin)
	Thickness	mm	0.125
	OD	mm	Φ1.13±0.03
	color of sheath	/	Gray or black (Can also be processed according to customer requirements)

3. The cable properties

3.1 Electrical properties

test project	Standard value		Note
Rated temperature / voltage	-55℃~+200℃ / 30V		/
Insulation resistance	3000MΩ.Km		Resistance tester
Conductor resistance	482Ω/Km 20℃		/
Pressure	2KV		Withstand voltage tester
Insulation	Unaged	Tensile Strength	2500 PSI MIN. (1.76Kg/mm²)
		Elongation	200% MIN
	Aged	Tensile Strength	2500 PSI*75%(168HRS*232℃)
		Elongation	200% MIN*75%(168HRS*232℃)
Jacket	Unaged	Tensile Strength	2500 PSI MIN. (1.76Kg/mm²)
		Elongation	200% MIN
	Aged	Tensile Strength	2500 PSI*75%(168HRS*232℃)
		Elongation	200% MIN*75%(168HRS*232℃)
characteristic impedance	50±2Ω		Analysis of network analyzer The TRK tester
Capacitance	96±3 PF/M		Digital capacitance meter
Velocity	69%		Analysis of network analyzer
Propagation Delay	4.8ns/m		/
Shielding attenuation	100dB		/
Bending radius	＜7mm		/
Flame retardant	passed		VW-1 provides material report
Attenuation(dB/0.1m)	test frequency	Attenuation	Sea level to 20 DEG C test
	1GHz	0.45	
	2GHz	0.55	
	3GHz	0.75	
	4GHz	0.9	
	5GHz	1.25	
	6GHz	1.55	
VSWR	0.3—3GHz	≤1.30	
	3—6GHz	≤1.55	

6、Interface specifications