

Founded in 2003, **Xi'an Longtrox RF Scien-Tech Co., Ltd.** is a specialized RF coaxial connectors and cable assemblies manufacturer in Xi'an, China.

Coaxial connectors or microwave connectors are universal in telecommunications, broadcast equipment, military, radar, aviation, space, medical equipment and test & measurement application.

Longtrox boasts of experienced designer and trained workers.

Longtrox team independently designs connector, MMCX, MCX, SMP, SMA, BMA, SMC, SSMC, SMP, BNC, TNC, N, HN, QN, 1.0mm, 1.85mm, 2.4mm, 2.92mm, 3.5mm, 7/16, L9 etc as well as between series adaptor to meet every customer needs. Tailored cable assembly is available too.

Our products are researched and developed, produced strictly according to MIL-C-39012, IEC, and DIN. Longtrox is ISO9001:2000 and GJB9001C-2007(China Military Coaxial Connector standard) certified. Traceable control covers every step from design raw material choice, components plating, assembly, test, package and shipping.

Compulsory procedures and 100% test during every step guarantee the quality. Our ERP (Enterprise Resource Planning) system allows an efficient management and speedy service.

Just mail to market@longtroxrf.com to get connected and see how you are supported.

Cable Assembly Features

Frequency: DC-110GHz

Outer diameter: 1.13mm-15mm

Working temperature: -65C~+220°C

1. Low loss: 52mm outer diameter, 1.1dB@18GHz/m, to achieve optimal energy transmission;
2. Stable Phase: 18GHz cable assembly, mechanical phase stability $\pm 3^\circ$;
3. Small standing wave: maximum 1.25 for 40GHz cable assembly, transmission quality guaranteed;
4. High power: 2000W@3GHz, cable outer diameter 14.7mm, used in high-power electronic countermeasures;
5. Super flexible: fit for stringent wiring condition, easy to move accordingly;
6. Light weight: reduce the take-off weight of the aircraft;
7. Customization: custom development to meet to specific needs;

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Flexible Cable Assembly

Applied in
Mechanical scanning radar; rotary
table; frequent bending; high
temperature vacuum environment;
tight wiring



High temperature
Flexible, high temperature

Working temperature: 55-240°C
Cable color: orange

No	Frequency	OD	Length	Loss	VSWR	Connector Option	Armour Option
1	26.5GHz	5.2mm	1m	<2.1dB	<1.30	SMA/N/TNC	PTFE/PUR

Stable Phase, Flexible

Working temperature: 55-85°C
Cable color: dark blue; lake green

No	Frequency	OD	Length	Loss	VSWR	Connector Option	Armour Option
1	50GHz	2.5mm	1m	<6.8dB	<1.35	2.4/2.92/3.5/SM P/SSMP/SMA	PTFE/PUR
2	26.5GHz	5.0mm	1m	<3.0dB	<1.25	SMA/N/...	PUR

Economic
Flexible

Working temperature: 55-85°C
Cable Color: black

No	Frequency	OD	Length	Loss	VSWR	Connector Option	Armour Option
1	26.5GHz	2.5mm	1m	<4.6dB	<1.30	3.5/SMA/N /TNC...	PTFE/PUR

Low Loss, Stable Phase

Applied in

Phased array radar; early warning radar;
Synthetic aperture radar; fire control radar;
Unmanned radar; quantum communication
Photoelectric error measurement, 5G, 6G
Operating temperature: -55- 165°C



Low Loss

No	Frequency	OD	Length	Loss	VSWR	Connector Option	Armour Option
1	110GHz	1.6mm	1m	<16.3dB	<1.50	1.0mm/1.85mm	PTFE
2	50GHz	3.6mm	1m	<4.0dB	<1.30	2.4/2.92/3.5/ SMA/N...	PTFE
3	26.5GHz	5.2mm	1m	<1.6dB	<1.25	2.4/2.92/3.5/ SMA/N/TNC...	PTFE/PUR

Stable Phase

Frequency	Mechanical phase	Temperature phase	Amplitude
110GHz	±20°	800mpm	<±0.20dB
50GHz	±8°	1100mpm	<±0.10dB
26.5GHz	±5°	500mpm	<±0.05dB

PTFE Armour

OD: 3.9-7.7mm



PUR Armour

OD: 6.0-1.6mm



High Shielding Cable Assembly



Application: dense wiring
environment;
anechoic chamber
Working temperature: -55~165°C

No	Frequency	Efficiency	OD	Length	Loss	VSWR	Connector Option
1	26.5GHz	>100dB	5.2mm	1m	<2.0dB	<1.30	SMA/N/...

PUR Armour

OD: 11.0mm

SS Armour

OD: 8.4mm



Economic Cable Assembly

Applied in :
 Optimal choice for performance and cost;
 cabinet interconnection;
 Civil radar;
 5G and 6G interconnection
 Operating temperature: -55 - 125°C



Low loss

No	Frequency	OD	Length	Loss	VSWR	Connector Option	Armour Option
1	26.5GHz	2.6mm	1m	<4.2dB	<1.30	2.92/3.5/SMP/SMA/N/TNC..	Null
2	18GHz	5.2mm	1m	<1.5dB	<1.25	3.5/SMA/N/TNC ...	Null

Ordinary

No	Frequency	OD	Length	Loss	VSWR	Connector Option	Armour Option
1	40GHz	2.8mm	1m	<6.1dB	<1.3	2.92/3.5/SMP/SMA/N/TNC..	Null

Semi flex Cable Assembly



Low cost and easy manual bending

No Jacket

No	Frequency	OD	Length	Loss	VSWR	Connector Option	Armour Option
1	18GHz	2.2mm	1m	<4.2dB	<1.3	2.92/3.5/SMA/SMP	tin immersed braid

No Jacket



Blue



Red



Yellow



Black



Semi-rigid Cable Assembly

Applied in:
 High shielding, anti-interference
 Stable bending
 Instrumentation internal connection
 Operating temperature: -55-250°C
 Shielding efficiency: >165dB



Low loss, semi rigid

No	Frequency	OD	Length	Loss	VSWR	Connector Option	Armour Option
1	40GHz	3.05mm	1m	<2.92dB	<1.30	2.92/SMA...	Seamless copper tube

Standard semi rigid

No	Frequency	OD	Length	Loss	VSWR	Connector Option	Armour Option
1	40GHz	2.2mm	1m	<4.4dB	<1.35	2.4/2.92/3.5/SMA/SMP...	Seamless copper tube

Bare Copper,
Seamless

Sn-Ag-Cu Plated,
Seamless



IPEX Cable Assembly

Applied in:
 Bend center feeder;
 Internal Portable terminal connection;
 5G and 6G module testing;
 WIFI module connection;

Operating temperature: -40-85°C



No	Frequency	OD	Length	Loss	VSWR	Connector Option	Armour Option
1	6GHz	1.13mm	1m	<7.3dB	<1.25	SMA/IPEX-1/2//4/5	Black/ grey

Hirose IPEX

Daiichiseiko IPEX



High-power Cable Assembly

Applied in
 High-power transmission;
 Electronic counter measures;
 Long-distance transmission;
 Electromagnetic interference
 Operating temperature: -55-165°C



No	Frequency	Avg. Power	OD	Length	Loss	VSWR	Connector Option
1	3GHz	2000W	14.7mm	1m	<1.0dB	<1.25	L27/L29
2	3GHz	1500W	12.0mm	1m	<1.1dB	<1.25	L27/L29/SC

VNA Cable Assembly

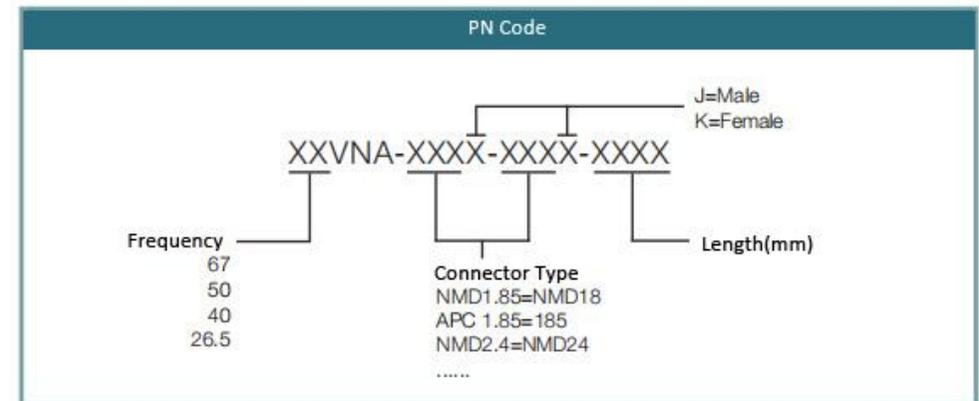
Application in :
 Virtual Network analyzer special test cable
 Operating temperature: - 55- 125°C



VNA Cable Assembly Length: 630mm

No	Frequency	OD	Length	Loss	VSWR	Connector Option	Bending
1	67GHz	<5.0dB	<1.35	<±10°	<±0.2dB	NMD1.85mm/ APC1.85-K	50000
2	40GHz	<2.5dB	<1.30	<±5°	<±0.05dB	NMD .92mm/ APC 2.92-K	80000

PN Code



Test Cable Assembly

Applied in:

Network analyzer testing;

Mass production test systems;

Laboratory and field work testing;

RF and microwave test instrumentation



PTFE Armoured Test Cable Length:1M

No	Frequency	OD	Loss	VSWR	Mechanical phase	Amplitude	Connector Option	Bending
1	110GHz	3.9mm	<16.8dB	<1.50	<±25°	<±0.25dB	NMD1.85mm/ APC 1.85-K	10000
2	50GHz	6.1mm	<4.0dB	<1.35	<±8°	<±0.1dB	NMD 2.92mm/ APC 2.92-K	30000
3	26.5GHz	6.1mm	<2.8dB	<1.25	<±4°	<±0.04dB	NMD 2.92mm/ APC 2.92-K	80000

PUR Armoured Test Cable Length:1M

No	Frequency	OD	Loss	VSWR	Mechanical phase	Amplitude	Connector Option	Bending
1	26.5GHz	10.08mm	<3.2dB	<1.30	<±5°	<±0.15dB	3.5/SMA/N...	30000

Armourless Test Cable Length:1M

No	Frequency	OD	Loss	VSWR	Mechanical phase	Amplitude	Connector Option	Bending
1	26.5GHz	4.85mm	<3.2dB	<1.30	<±5°	<±0.15dB	3.5/SMA/N...	10000

Armour Option

Applied to:

Protect cable

Improve resistance to twist, compression and extend life span end the service life of the cable

PTFE Armour



Smooth, Pressure resistant, wearable
Armour OD:3.9-7.7mm
Bending times:50000

PUR Armour



Flexible, Pressure resistant
Waterproof
Armour OD:6.0~16mm
Bending times:50000

SS Armour



Pressure resistant, not water proof
Armour OD:6.0~12mm
Bending times:50000

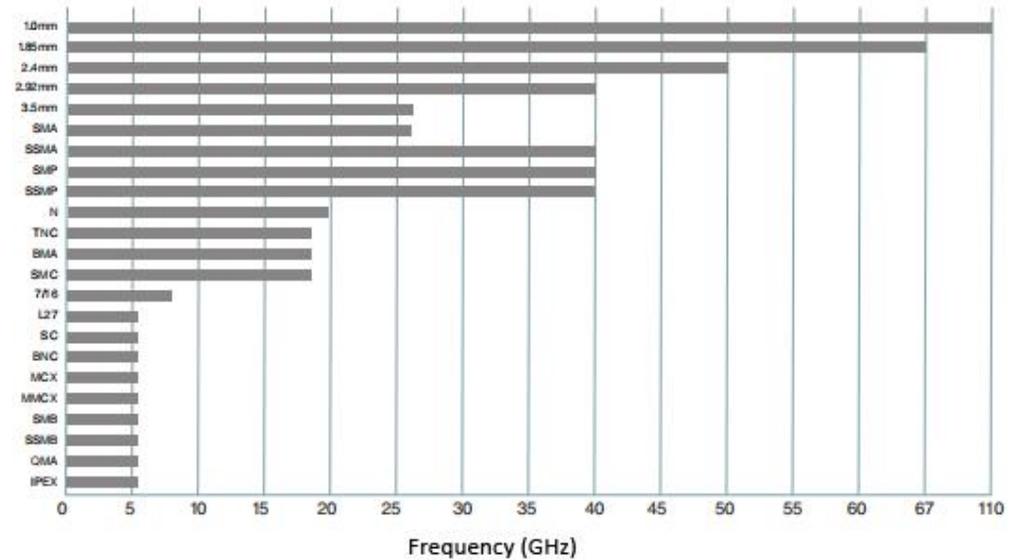
Transparent PVC Armour



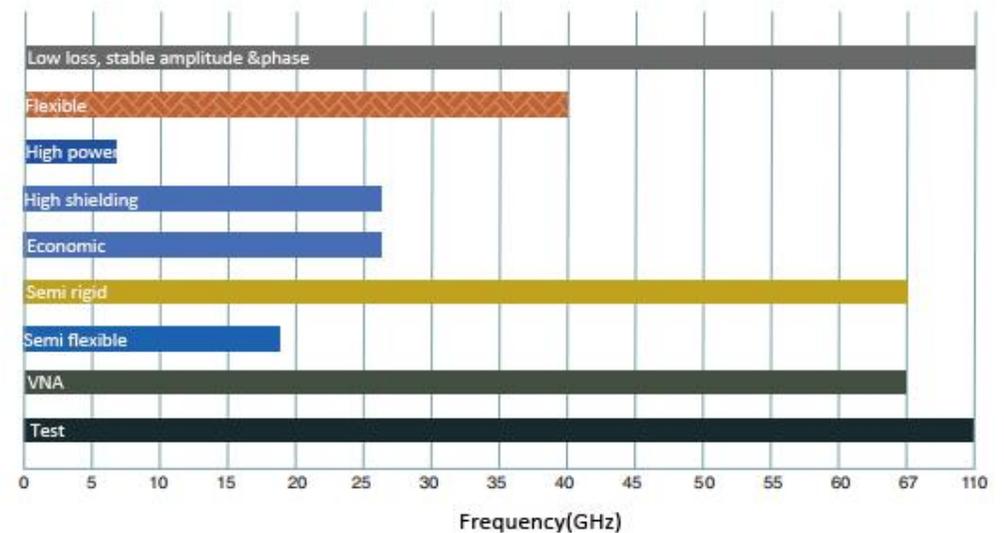
Low cost, water proof,
Armour OD:11mm
Bending times:30000

Reference

Connector Frequency



Cable Assembly Frequency



Standing Wave & Return Loss

VSWR	Return Loss(dB)
1.01	46.06
1.02	40.09
1.03	39.61
1.04	34.15
1.05	32.26
1.06	30.71
1.07	27.42
1.08	28.30
1.09	27.32
1.10	26.44
1.12	24.94
1.14	24.69
1.16	22.61
1.18	21.66
1.20	20.83
1.22	20.08
1.25	9.08

VSWR	Return Loss(dB)
1.28	18.22
1.30	17.69
1.33	16.98
1.35	16.54
1.39	15.94
1.40	15.56
1.45	14.72

Frequency Range

Frequency	Wave length	Band Abbr.	Metric length in
3-30MHz	100-10m	HF	10m
30-300MHz	10-1m	VHF	m
30-1000MHz	100-30cm	UHF	10cm
1-2GHz	30-15cm	L	10cm
2-4GHz	15-7cm	S	10cm
4-8GHz	74cm	C	cm
8-12GHz	4-2.5cm	X	cm
12-18GHz	2.5-17cm	Ku	cm
18-27GHz	1.7-1cm	K	cm
27-40GHz	10-7.5mm	Ka	mm
40-75GHz	7.5-4mm	V	mm
75-110GHz	4-2.7mm	W	mm

Insulation Material Characteristics

Material	Permittivity	Capacitance	Temperature °C
PTFE	207	95.9	-75 to +250
Poyethylene	2.3	101.1	-65 to +80
Foam Polyethylene	129-164	75.72-85.38	-65 to +100
Polyvinylchloride	3.0-80	115.43-188.56	-50 to +105
Poyamide	3.5-4.6	124.72-254.73	-60 to +120
Silicone Rubber	2.1-3.5	99.61-124.72	-70 to +250
Ethylene Propylene	2.24	99.8	-40 to +105
FEP	2.1	96.6	-70 to +200
Low Density PTFE	138-173	78.3-87.7	-75 to +250
Foam FEP	145	80.3	-75 to +200
Polyimide	3.0-3.5	115.5-124.7	-75 to +300
PFA	2.1	96.6	-75 to +260
ETFE	2.6	107.5	-75 to +150
ECTFE	25	105.4	-65 to +150
PVDF	78	186.2	-75 to +125

Sheath Working Temperature

Material	Working Temperature
PTFE	-75°C to +250°C
FEP	-70°C to +200°C
Silicone Rubber	-70°C to +200°C
ETFE	-65°C to +150°C
Poly amide	-40°C to +105°C
PUR	-55°C to +85°C
PVC	-50°C to +85°C
PE	-65°C to +80°C