



POsite

(Optical and Power Composited Cable)

Solution and Products

*Connecting Wonderful Life
with Optic-Electric Network!*

www.zttcable.com

Contents

01

What kind of POsite Solution ZTT Provide?

02

ZTT POsite Products

03

Typical Case

04

Advantages and Ability

05

Conclusion

01

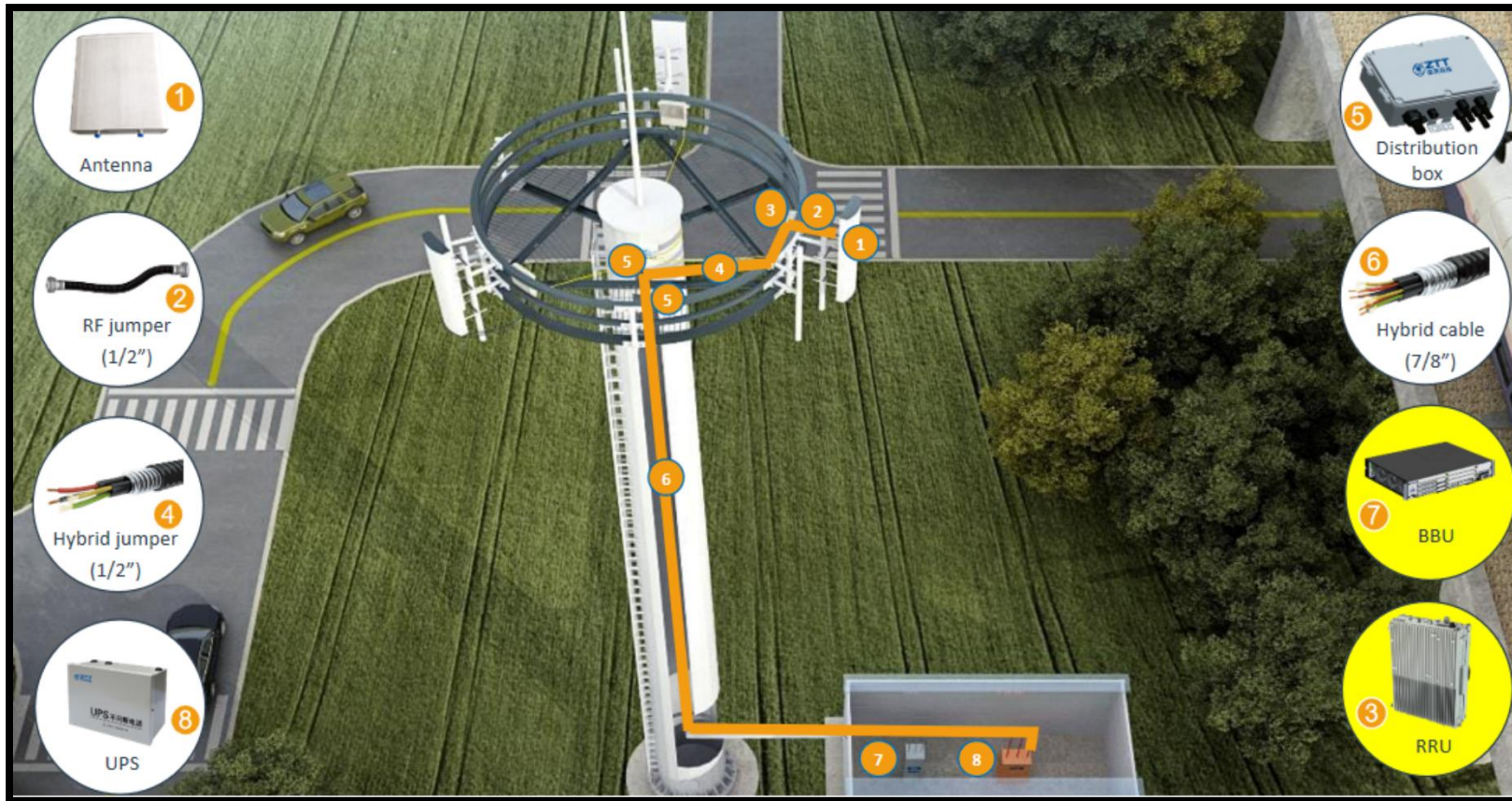
What kind of POsite Solution ZTT Provide?

POsite Cable Solution

- 1.1 *Outdoor BTS POsite Solution*
- 1.2 *In-Building Active POsite Solution*
- 1.3 *Access Network POsite Solution*

POsite Solution

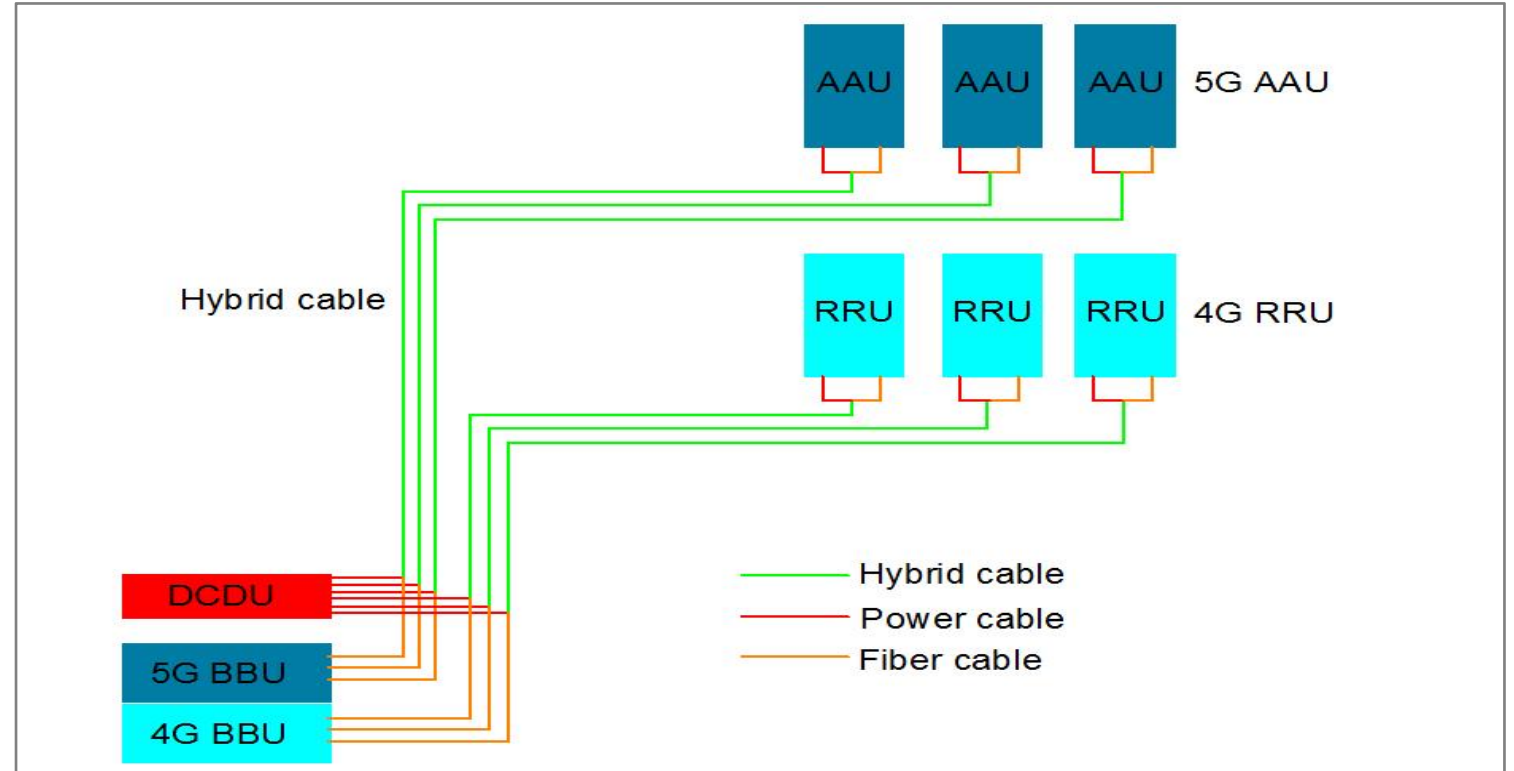
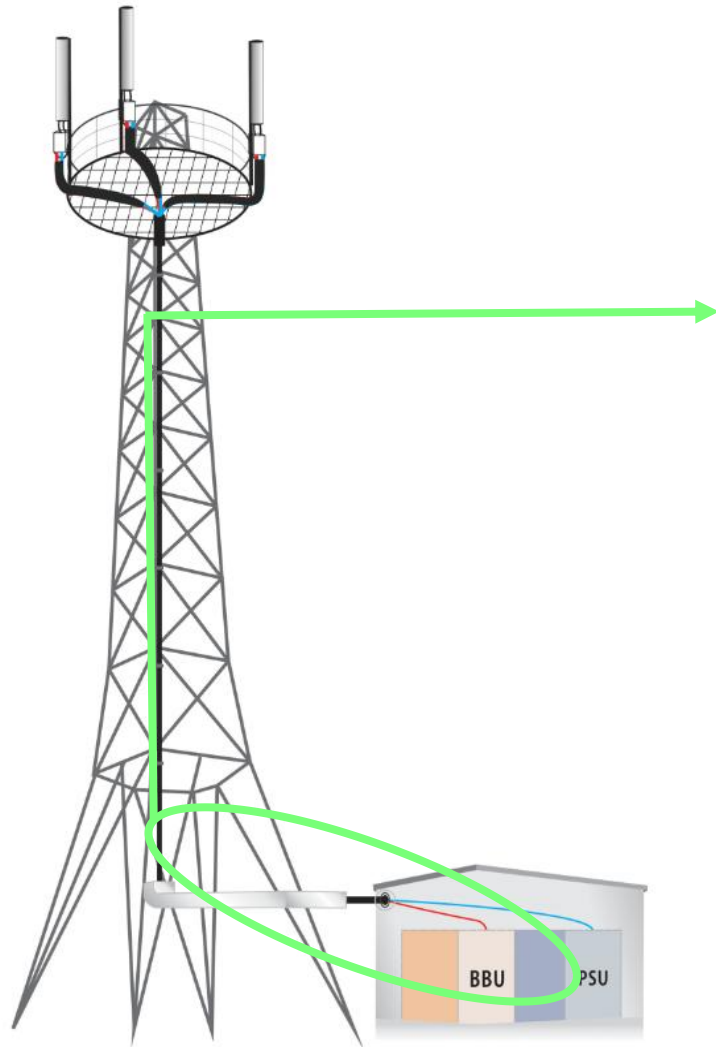
POsite deployments are now the preferred method for new and upgraded sites.



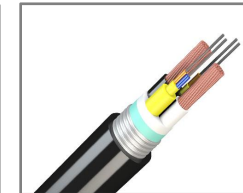
Why Choose POsite Solution?

- ❑ Slimmer and lighter, reduce tower load
- ❑ Reduce infrastructure complexity and cost
- ❑ Quicker to deploy, convenient installation
- ❑ Fiber bandwidth enable future upgrade.

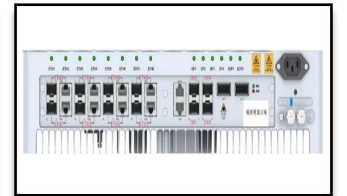
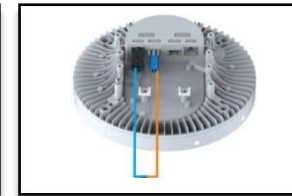
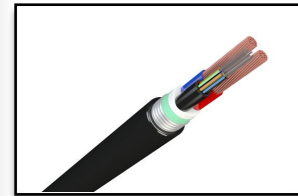
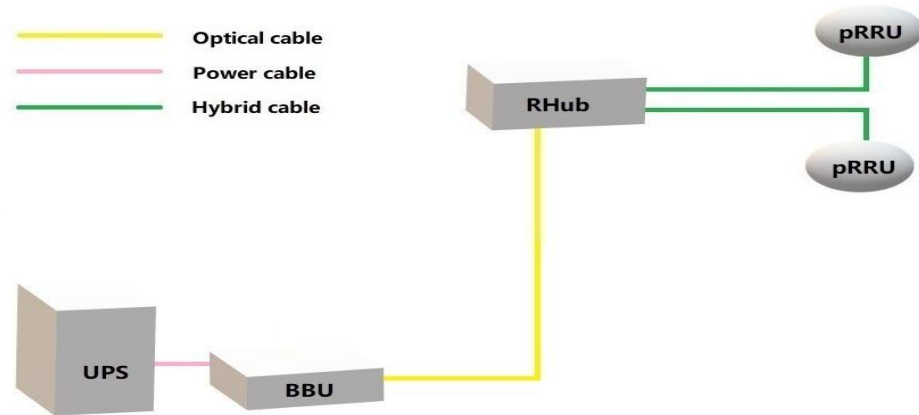
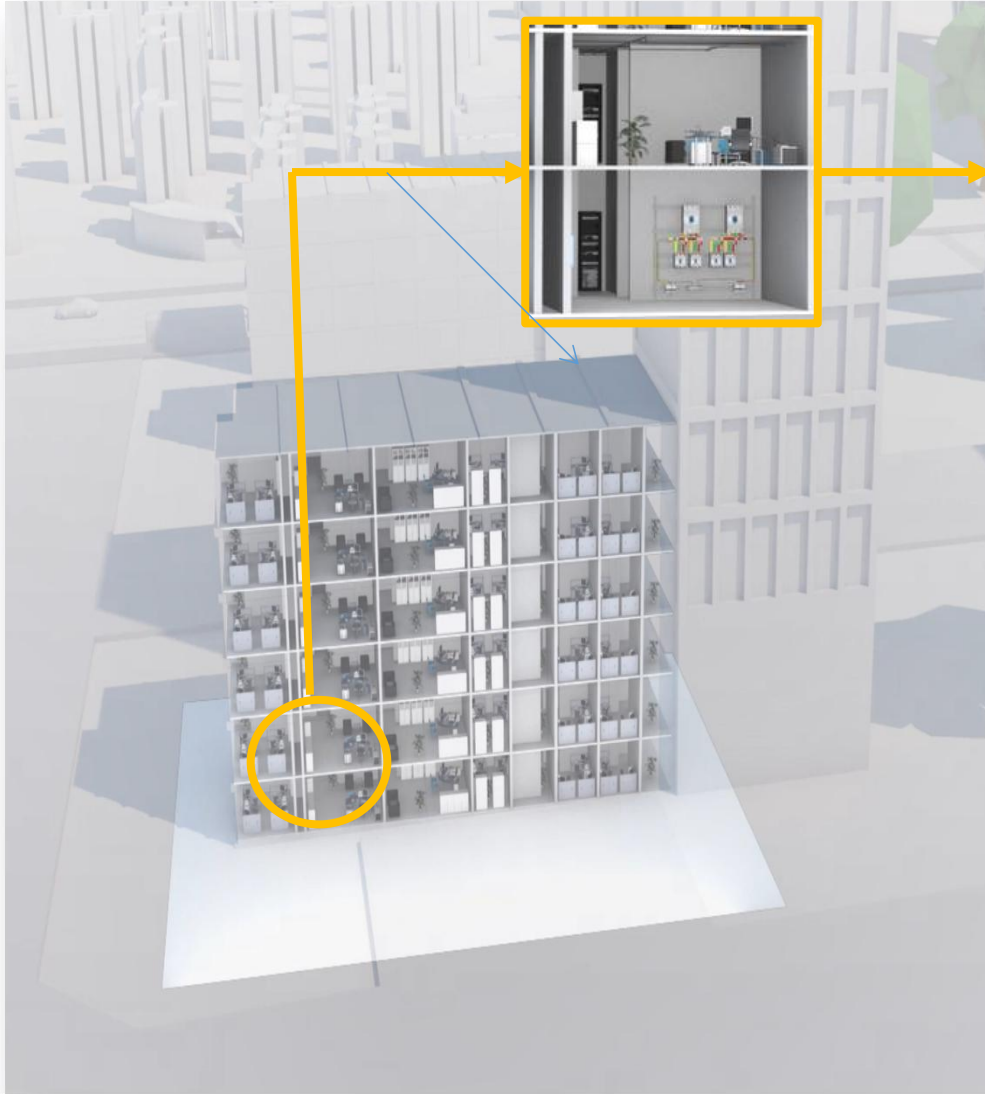
1.1 Outdoor BTS POsite Solution



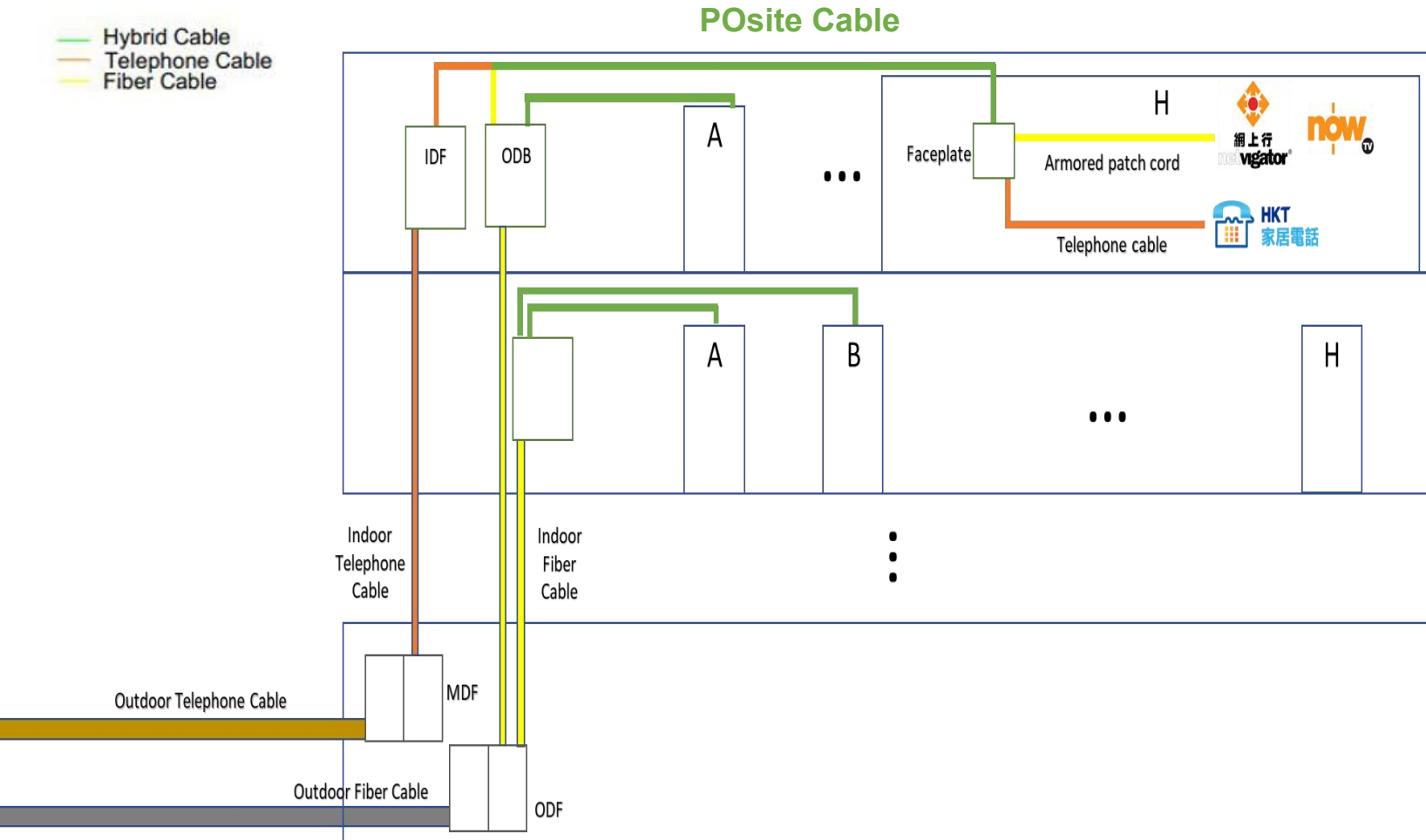
Application Scenario: Outdoor Base Station
Solution Purpose: 4/5G Wireless Communication
Cable Type: Outdoor POsite Cable



1.2 In-Building Active POnsite Solution

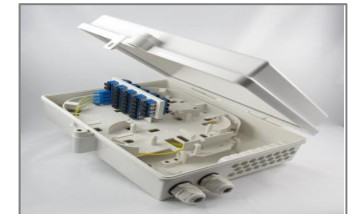
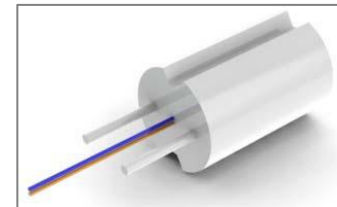


1.3 Access Network POsite Solution



Provides services:

- ⚙ Telephone Voice Signal
- ⚙ Broadband Service
- ⚙ Television Service



02

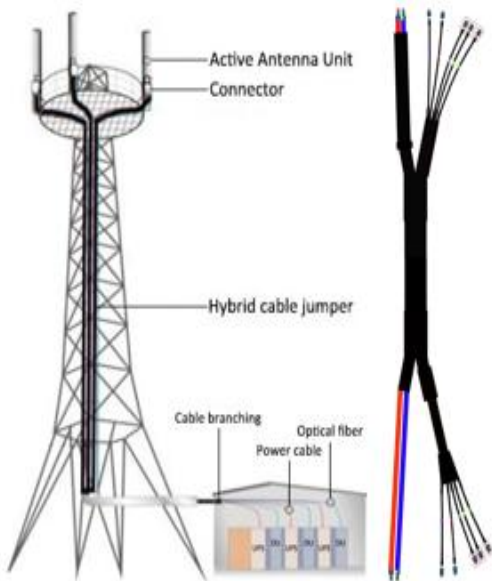
ZTT POsite Products

POsite Cable Solution

- *2.1 BTS Break Out Product Solution On Top Of Tower*
- *2.2 Products of Outdoor BTS POsite Solution*
- *2.3 Products of Outdoor BTS POsite Solution*
- *2.4 Products of In-Building Active POsite Solution*
- *2.5 Products of Access Network POsite Solution*
- *2.6 POsite Assembly Jumper Products*

2.1 BTS Break Out Product Solution On Top Of Tower

①



Prefabricated End Solution

②



Distribution Box Solution

③



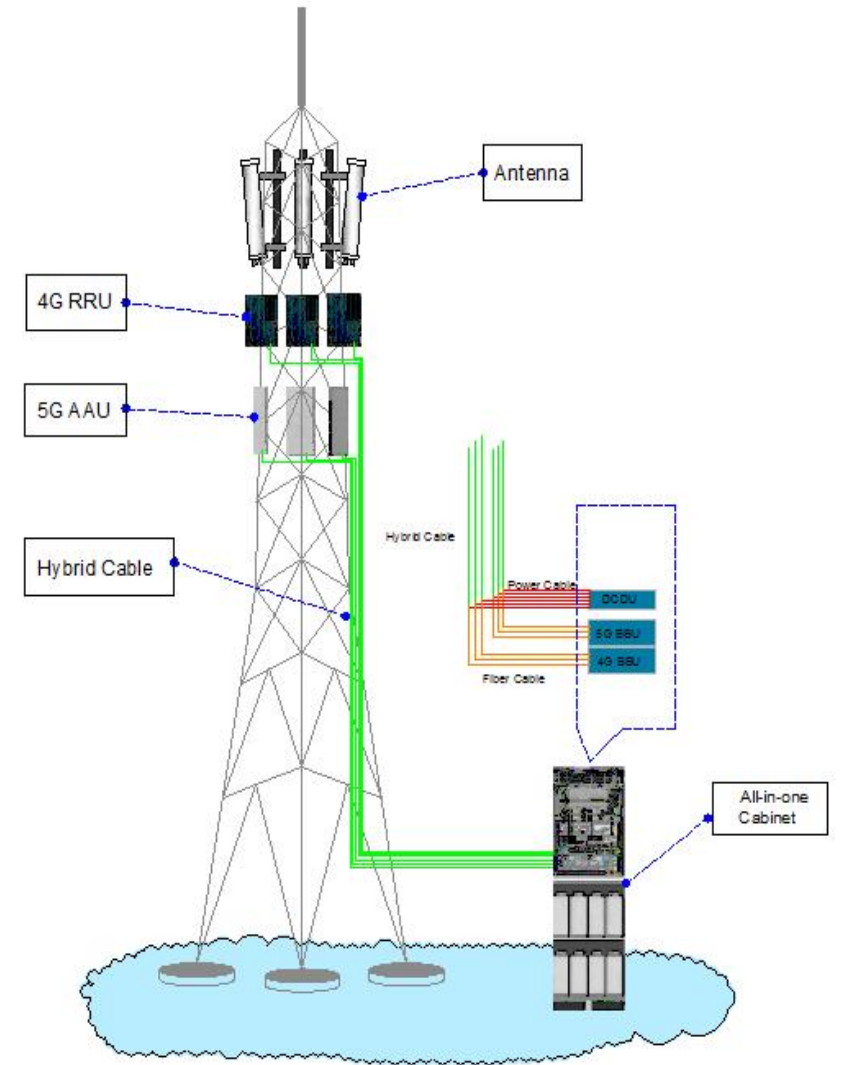
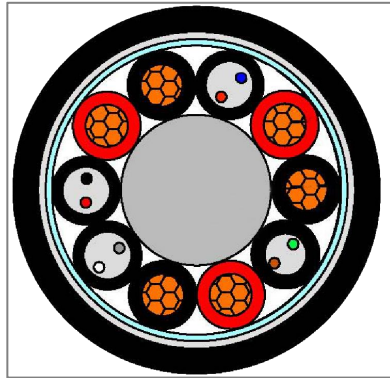
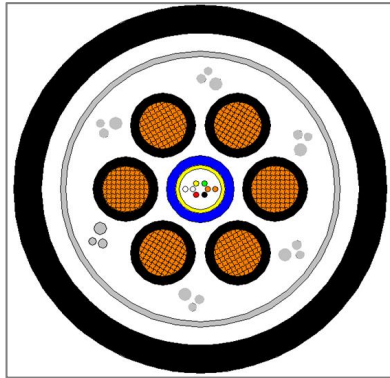
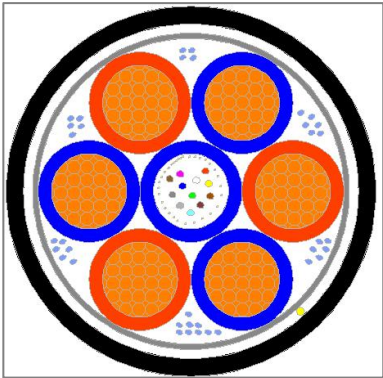
Quick Plug Solution

Advantage & Benifit	①	②	③
Easy Production	●	○	○
Low Cost	●	●	○
Customizable	●	●	●
High waterproof and dustproof	○	●	●
Package Convenience	●	○	●
Tower Load	●	○	●
Installation Time	●	○	●

2.2 Products of Outdoor BTS POsite Solution

Outdoor BTS POsite Cable for 3 RRU

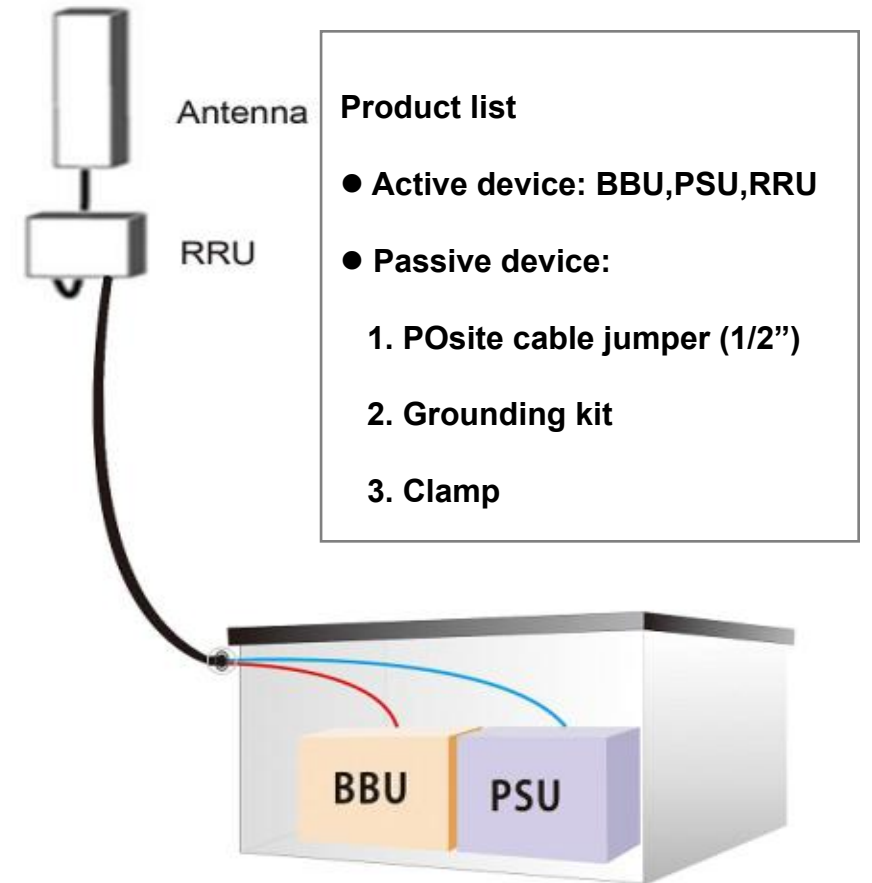
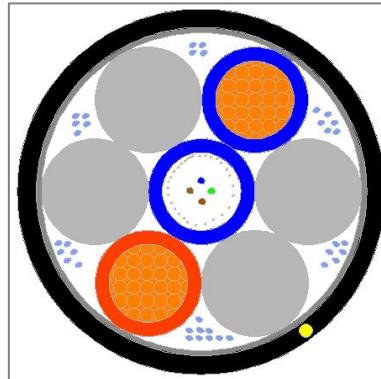
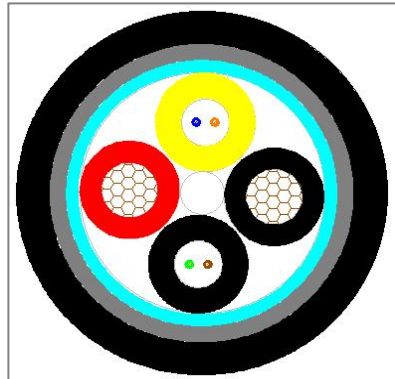
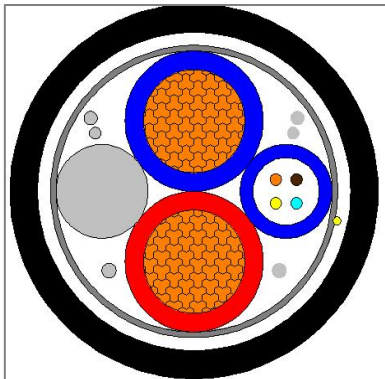
- ⚙ All power & optical cables in one single outer corrugated aluminum armor.
- ⚙ Cable outer diameter same to 7/8" RF feeder, traditional accessories could be used.
- ⚙ High performance stability & long service life.



2.3 Products of Outdoor BTS POsite Solution

Outdoor BTS POsite Jumper for 1 RRU

- ⚙ All power & fiber optics in one single outer corrugated aluminum armor.
- ⚙ 1 pair of power cable.
- ⚙ 2 pairs fiber optics cable (one for spare).
- ⚙ Cable outer diameter same to the 1/2" RF feeder, traditional accessories could be used.



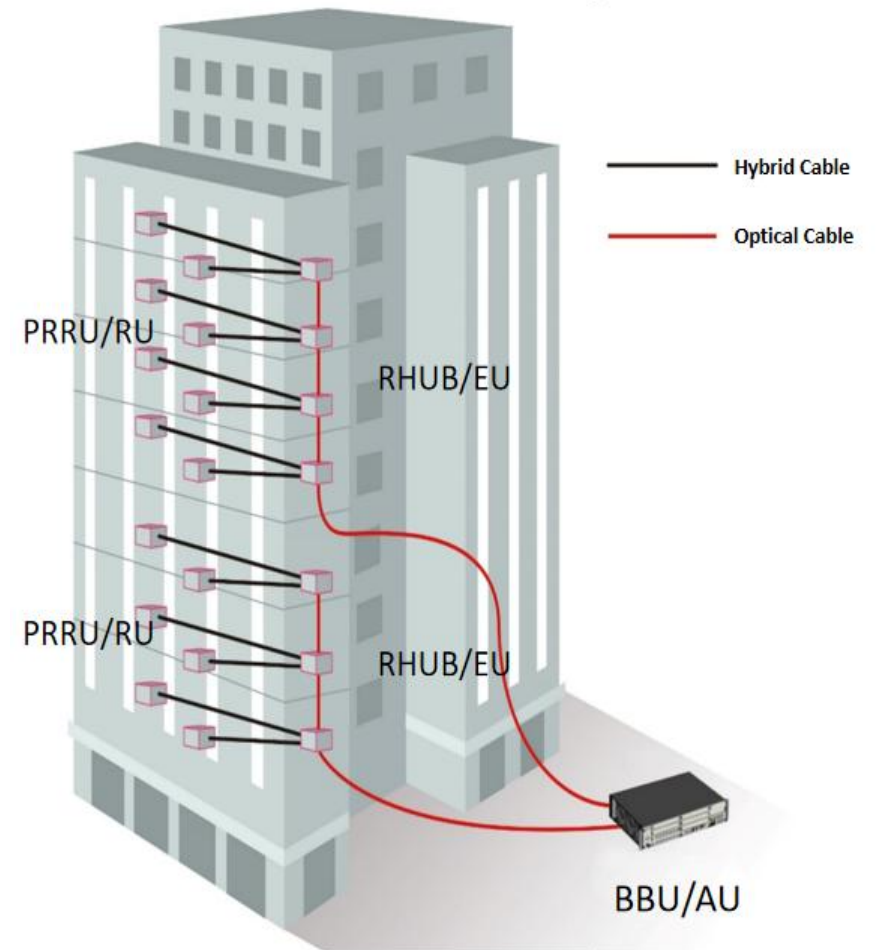
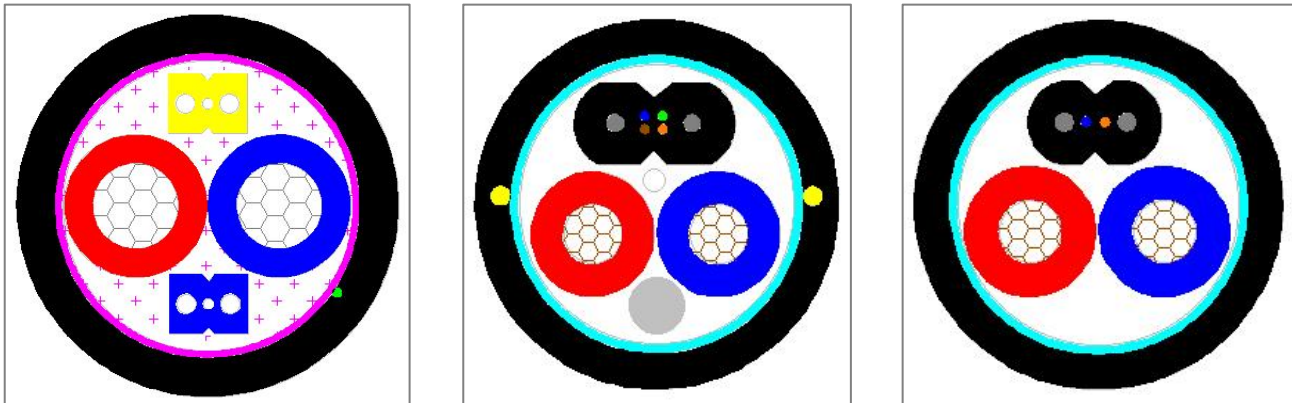
Product list

- Active device: BBU,PSU,RRU
- Passive device:
 1. POsite cable jumper (1/2")
 2. Grounding kit
 3. Clamp

2.4 Products of In-Building Active POnsite Solution

Indoor POnsite Cable for Active IBS

- ⚙ Integrated to avoid secondary wiring and reduce engineering costs.
- ⚙ Small outer diameter, light weight and small footprint.
- ⚙ Good bending performance and pressure resistance performance.
- ⚙ Photoelectric transmission technology solve the problem of electricity consumption in network construction.
- ⚙ Meet the future BTS upgrade and expansion requirement.

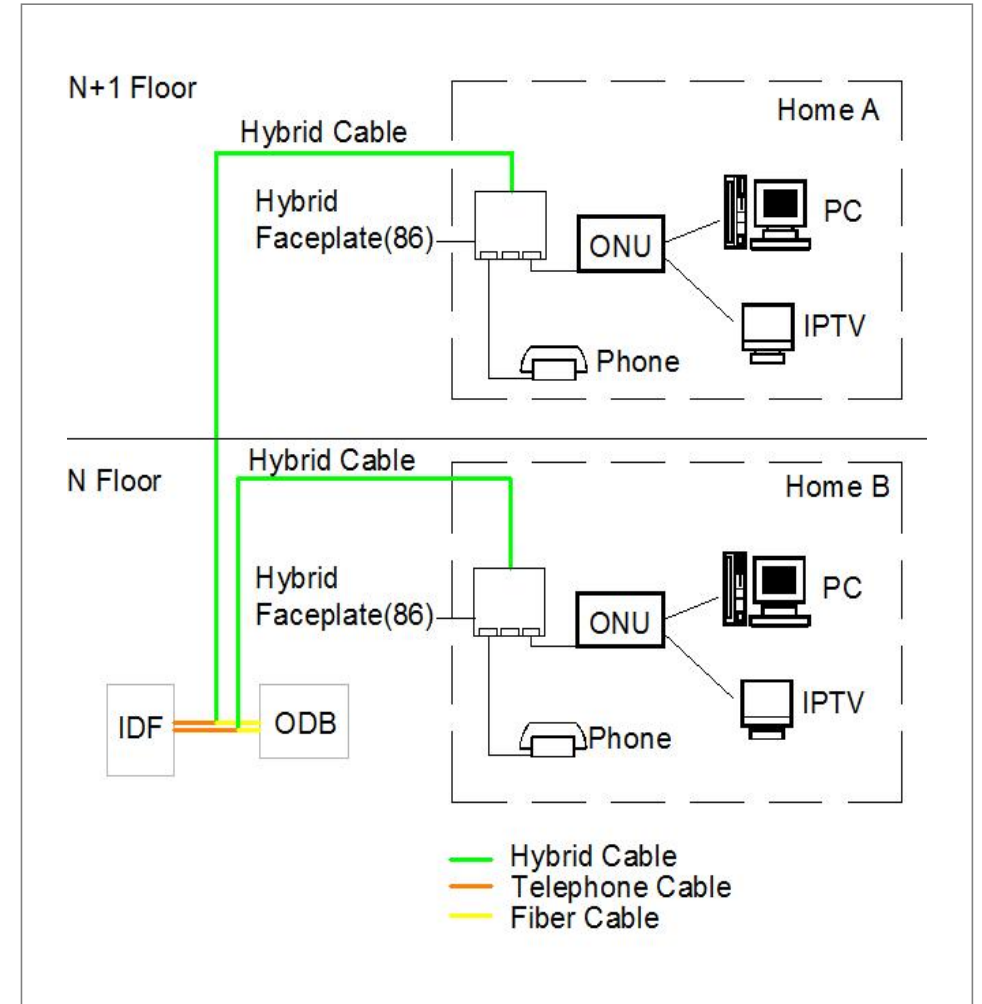
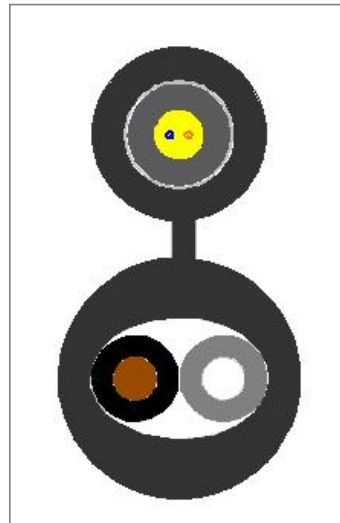
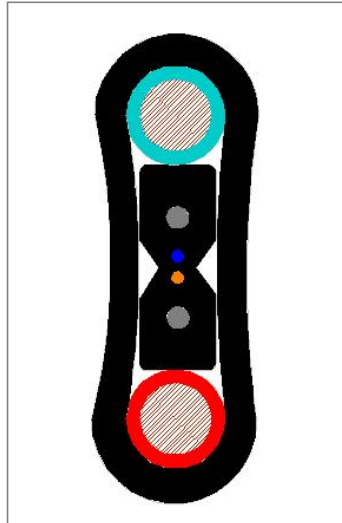
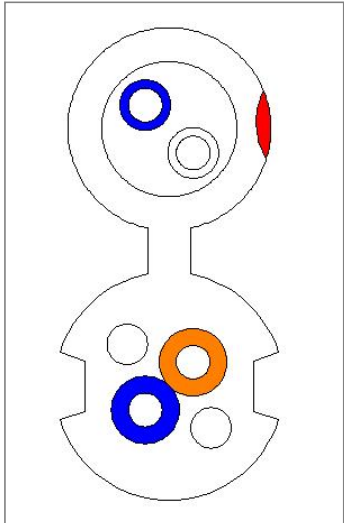


2.5 Products of Access Network POsite Solution

Access Network POsite Cable for FTTH

Mainly used for user access, realizing services such as IPTV, Internet access, multimedia telephony, and voice communication.

- ⚙ Copper wire can withstand a certain tensile force as a conductive unit.
- ⚙ Butterfly or figure-8 structure to provide excellent stripping performance.
- ⚙ Has good mechanical and environmental properties.
- ⚙ Flame retardant meets IEC-60332-1 and CPR certificate is available.

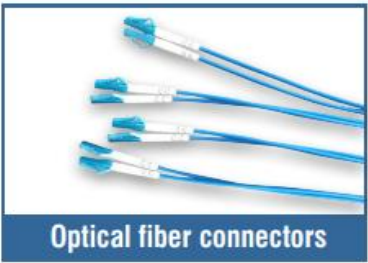


2.6 POnsite Assembly Jumper Products

POnsite Assembly Solution

Not only POnsite cables, but also **cable assembly** is also available to be provided.

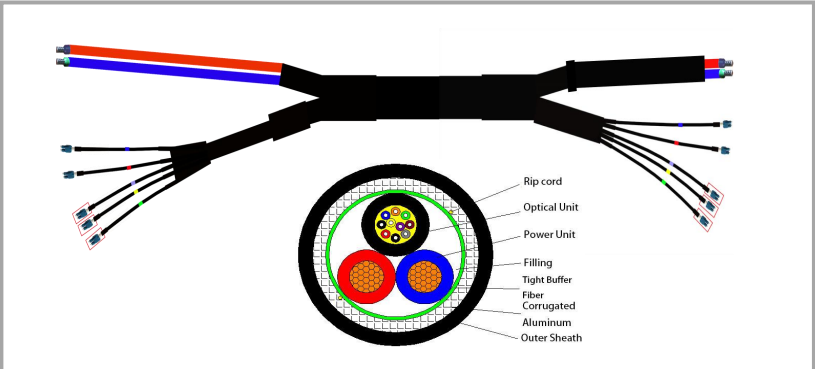
ZTT provide POnsite assembly solution with prefabricated optical connectors and power connectors applied in indoor Small-Cell, outdoor BTS and other applications according to customers' requirements.



Optical fiber connectors can choose FC,SC,LC and DLC connectors,
Insertion loss $\leq 0.3\text{dB}$.



Power cable connectors adopt Anderson terminal end.



Use the branch structure, protected by metal corrugated pipe
and heat shrinkable tube, level of environmental protection above IP67.

2.6 P0site Assembly Jumper Products

P0site Asembly Solution

Hybrid Enclosure

- High compatibility
- Strong enough
- Cost effrctive
- Wall-mounting
- Available with PLC



Prefabricated End Assembly

- Easy construction
- Reduce construction cost
- Easy installation
- High performance stability
- Long service life



Fast Connector Protection

- UV resistant
- Water proof, dust proof
- The connector can be selected according to customer wiring needs



Patchcord IPFULLX

- Branch armored (aluminum tape)
- 12 core G657A2 bundle cable
- 4pcs 6.8 XLPE cable



03

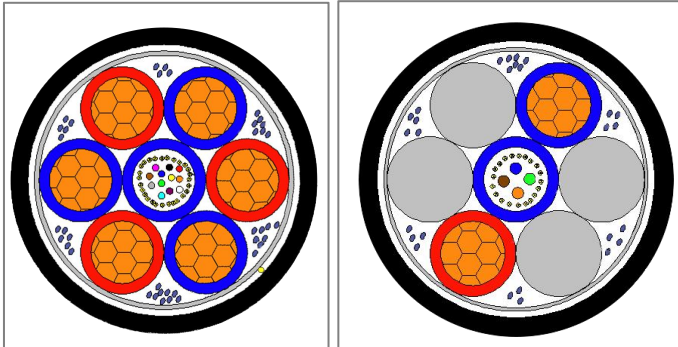
Typical Case

- *3.1 POsite Cable Certificate from Indonesia Operator*
- *3.2 POsite cable for Taiwan Mobile 5G Construction*
- *3.3 POsite cable for Huawei Lampsite project*
- *3.4 ZTT POsite Cable for Nokia Siemens*
- *3.5 ZTT POsite Cable for Canada ROGERS*
- *3.6 New POsite Cable for Australian Market*

3.1 POsite Cable Certificate from Indonesia Operator

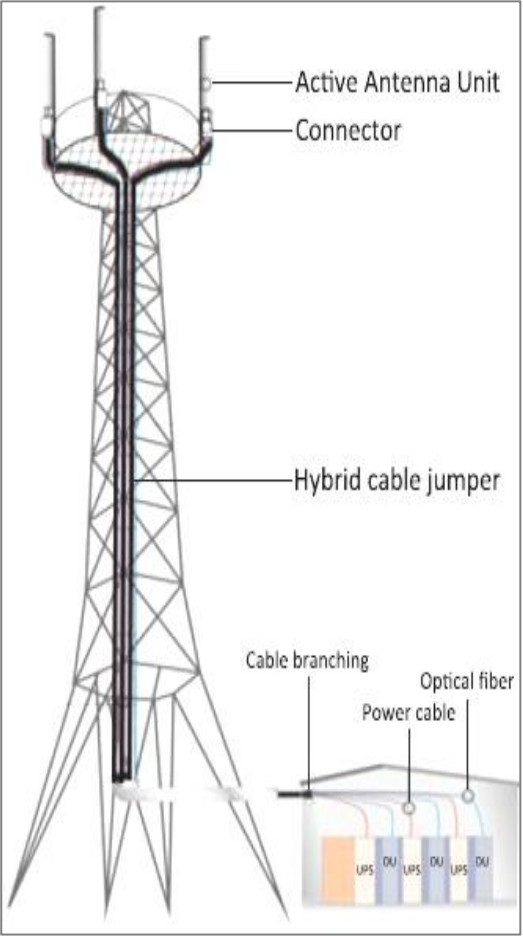
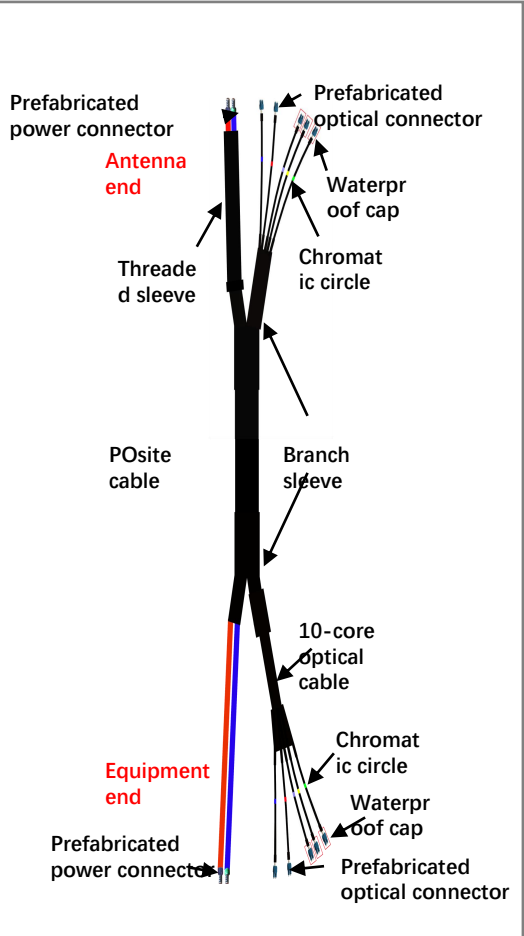
Certificate by Telkom Indonesia

The image shows two copies of a Telkom Indonesia POsite Cable Certificate. The certificates are in Indonesian and contain technical details about the cable installation, including the name of the company (PT. PRIMA MITRATAMA SEJATI), the location (GREEN VILLE - JAKARTA BARAT), and the date (09 FEBRUARI 2017).



3.2 POsite Cable for Taiwan Mobile 5G Construction

Exclusively design & supply by ZTT



Bid supply list—POsite jumper

No.	Product Type	Quantity(PCS)
1	1/2" POsite Feeder Cable 25M	9560
2	1/2" POsite Feeder Cable 35M	8251
3	1/2" POsite Feeder Cable 45M	3372
Total amount		21183

Advantages:

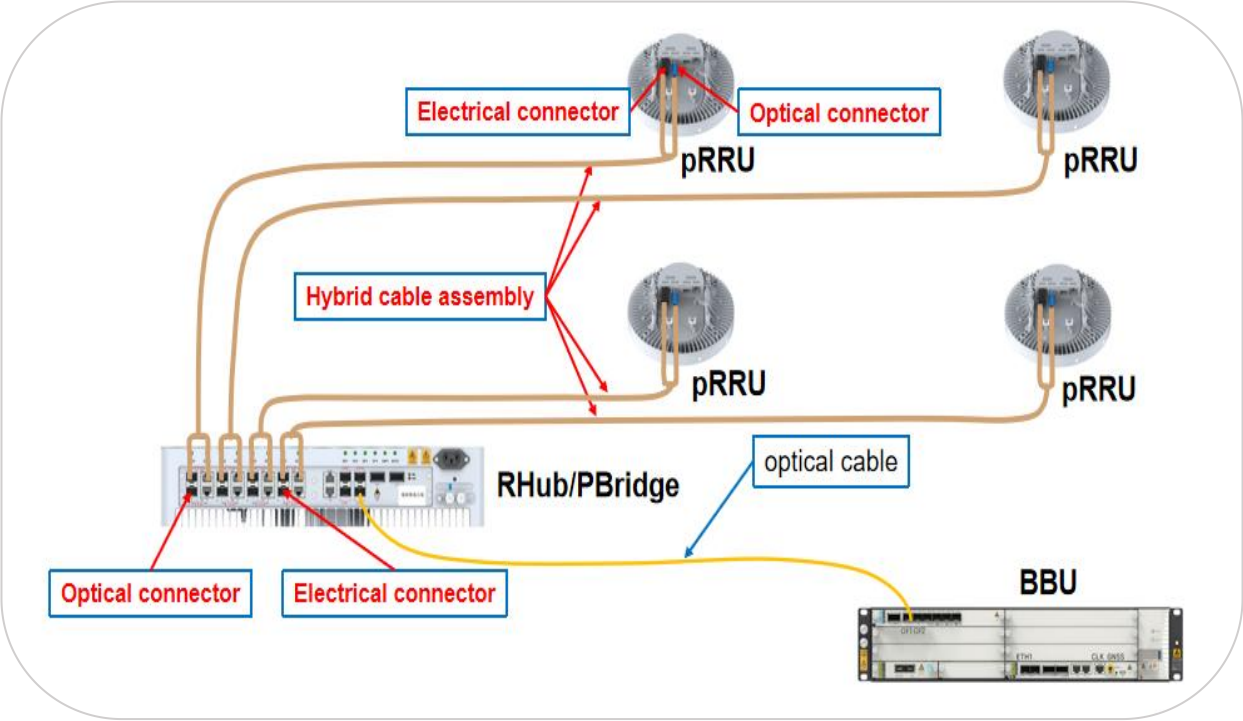
- ⚙ Easy construction, reduce construction cost.
- ⚙ Easy installation, no need for professional operation.
- ⚙ High performance stability & long service life.
- ⚙ Free maintenance, reduce maintenance cost.

3.3 POsite Cable for Huawei & ZTE Active IBS project

ZTT Worked with Huawei & ZTE, supplied
64118 km Hybrid cables for 5G application



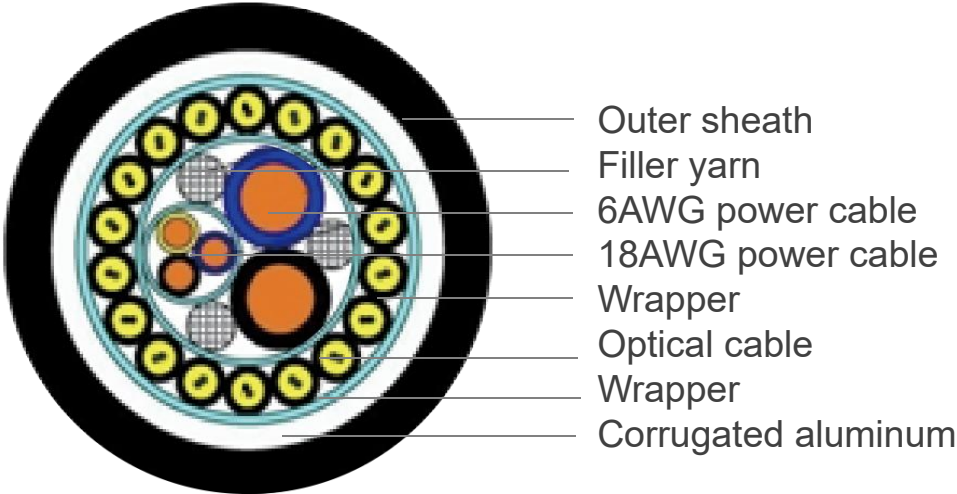
No.	Product Type	PO Year	Unit	Quantity
1	1P1F-GDVV 2G.657A2(Bow-type)+2×1.5mm^2(RV)	2020	km	4100
2	1P1F-GDVV 2G.657A2(Bow-type)+2×1.5mm^2(RV)	2021	km	41078
3	1P1F-GDVV 2G.657A2(Bow-type)+2×1.5mm^2(RV)	2022	km	18940



Hybrid cable using in the 5G new active In-building Solution

3.4 ZTT P0site Cable for Nokia Siemens

Customized sample



F/O & Power cable structure
6 AWG x 2 conductors
#18AWGx 3 conductors
18 pairs of SM fiber

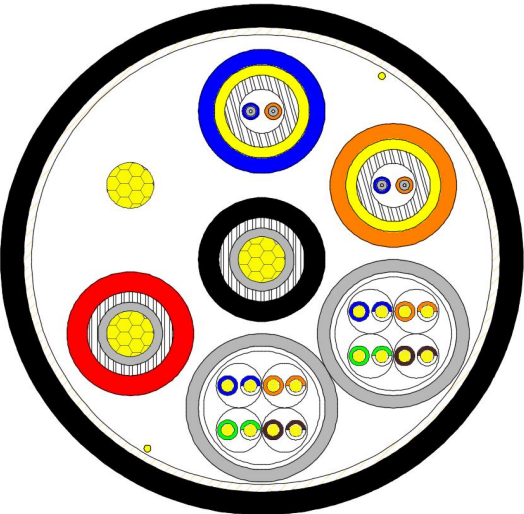


Nokia Siemens
Networks



Structure	Specifiation
Outer Jacket	PE
Outer Jacket color	Black
UV Resistance	UV Resistance
Outer conductor Armor	Corrugated aluminum
Cable Diameter	7/8"

3.5 ZTT P0site Cable for Canada Rogers



Number	Structure	Instructions
1	Optical Unit	1 pairs, SM, OS2, armoured, GJSFJH-2
2	Power Unit	1 pairs, 14 awg, single conductor, shield, double jacket, black/ red
3	Ehthernet Unit	2 cables, cat 5e SFTP, 24 awg
4	Filler	Non-hygroscopic material
5	Drain Wire	14 awg stranded bare copper
6	Ripcord	2-ply nylon 840
7	Shielding	Copper Foil
8	Outer Jacket	Black LSZH, OD. 20.0±0.5mm

First Pilot Supply list

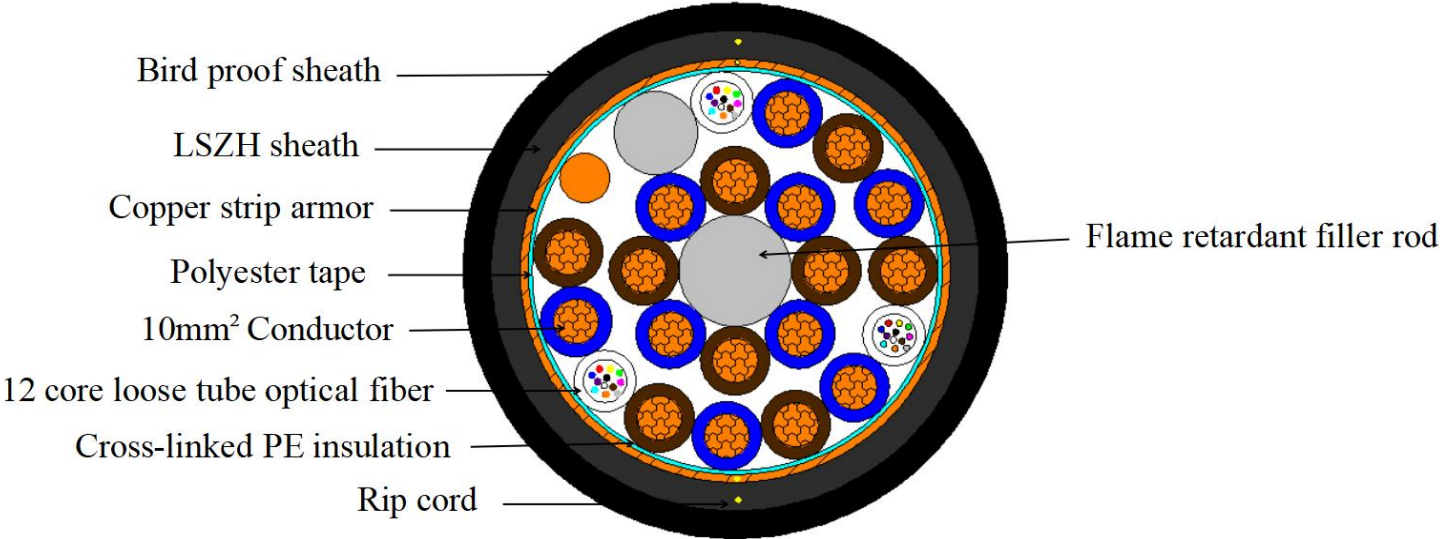
No.	Description	Length (m)	QTY.	Unit
1	EN-OHC-2DC2CAT5E4SM-50M Outdoor M/W Hybrid Cable--2 x 14 AWG + 2 x VRSFJH-2B1 + 2 x CAT 5E SFTP + DRAIN WIR+Copper Foil Shielding+LSZH Jacket, Assembly L. 50 M	50	9	PCS
2	EN-OHC-2DC2CAT5E4SM-70M Outdoor M/W Hybrid Cable--2 x 14 AWG + 2 x VRSFJH-2B1 + 2 x CAT 5E SFTP + DRAIN WIR+Copper Foil Shielding+LSZH Jacket, Assembly L. 70 M	70	5	PCS
3	EN-OHC-2DC2CAT5E4SM-100M Outdoor M/W Hybrid Cable--2 x 14 AWG + 2 x VRSFJH-2B1 + 2 x CAT 5E SFTP + DRAIN WIR+Copper Foil Shielding+LSZH Jacket, Assembly L. 100 M	100	2	PCS

At present, the small-scale pilot has officially passed customer verification, and bulk supply will be carried out next.



3.6 New POsite Cable for Australian Market

Diagram of POsite cable



Fiber & Power cable structure

10mm² x 18 conductors

12 core loose tube optical fiber x 3 pairs

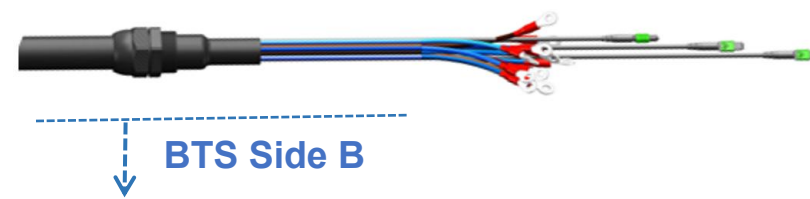
Structure	Specifiation
Outer Jacket	LSZH
Outer Jacket color	Black
UV Resistance	UV Resistance
Outer conductor Armor	Copper foil
Approx. Cable weight	2.83kg/m

3.6 New P0site Cable for Australian Market

Structure of P0site cable assembly



4*AARC-4 optical connector+9*M28 electrical connector Break-out 9/18 10mm² trunk tail conductors



3 x MASTERLINE MTP+9 x 10mm² blunt cut+1 x 10mm² common drain wire+M50 x 1.5mm cable gland Break-out cable



AARC

LC 5.5mm 4Fibers
G657A2 LSZH CABLE

- Stable insertion and loss performance.
- Resistance to ambient temperature of -40 °C to +85 °C .
- Anti mouse, anti bird, easy installation



M28

Electrical Connector Jumper

- Stable current and voltage performance.
- Resistant to ambient temperature from -40 °C to +105 °C .
- Fireproof, rodent and bird resistant, easy install.

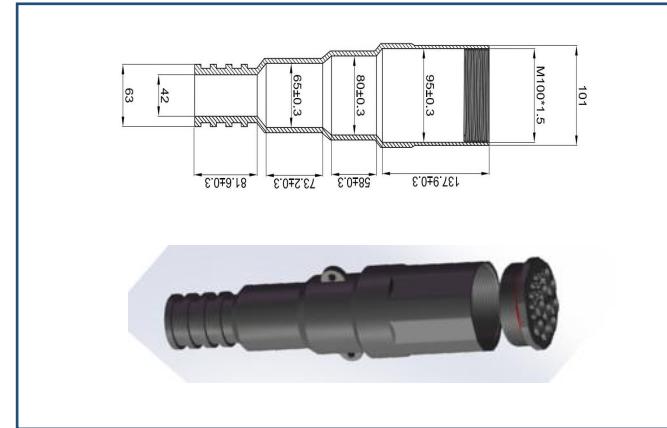
3.6 New POrsite Cable for Australian Market

Comparison of POrsite cable branching devices

ZTT Version

During the development process of ZTT, the positions of light and electricity correspond to interface positions of connectors, eliminating the role of empty tubes in branching devices.

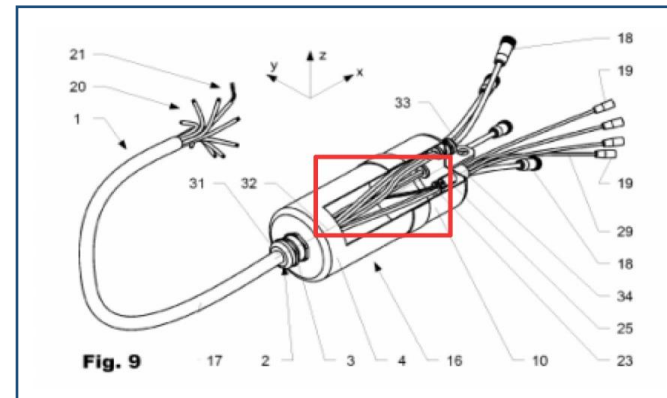
- ✓ Reduce total costs
- ✓ Customized design of product systems



VS

H&S Version

This diagram shows the cabling structure of H&S, and it is clear that multiple empty tubes are attached inside the branching device to complete the function of the branching signal.



04

Advantages and Ability

- *4.1 Professional Production & Manufacturing Capabilities*
- *4.2 ZTT Product R&D Capabilities*
- *4.3 Quality Control Capability*
- *4.4 Authentication certificate*

4.1 Professional Production & Manufacturing Capabilities

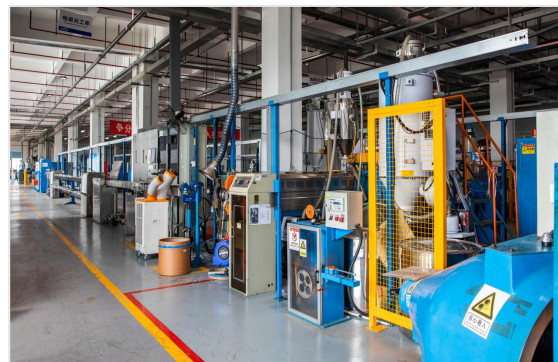
ZTT has imported international production lines for optical and power units, as well as the entire process of cable and sheath products, with an annual production capacity of up to **70,000 km.**



Optical unit production processes



Power unit production processes



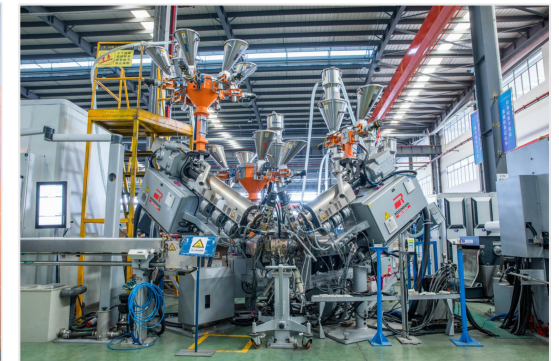
Sheath process



Single strander



Cage strander



Wire drawing machine

4.1 Professional Production & Manufacturing Capabilities

ZTT also has advanced equipment and mature processes in the production of hybrid cable assembly.



With annual production of **120000** optical jumpers,
120000 electrical jumpers.

High-low temp.
cycling tester

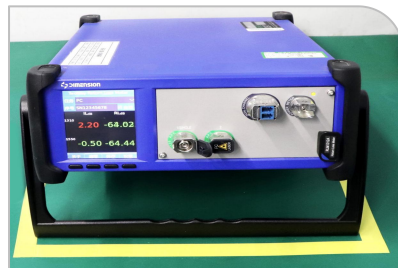
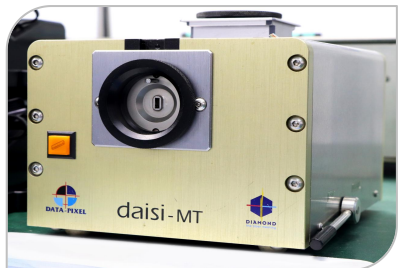


Fully auto-plug
and unplug tester

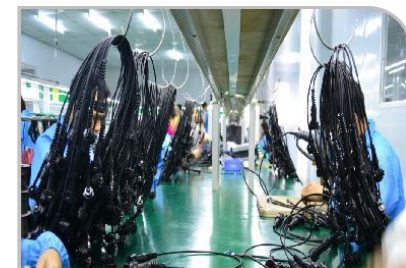


4.1 Professional Production & Manufacturing Capabilities

ZTT also has advanced equipments and mature processes in the production of optical and power composited cable assembly, with an annual production capacity of up to **60,000 pieces**.



Advanced testing equipments



Mature production process

4.2 ZTT Product R&D Capabilities

➤ International Standard



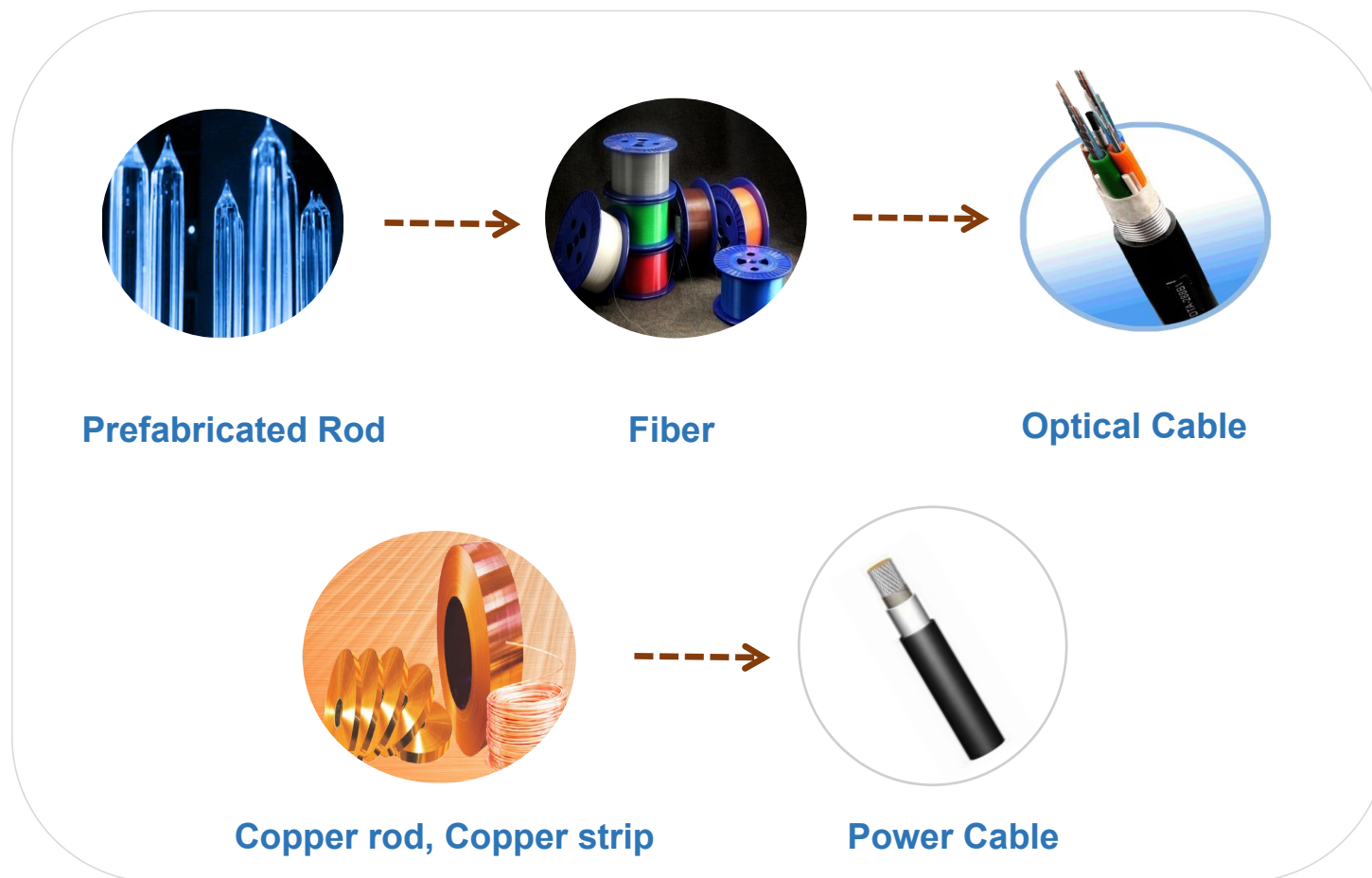
- International standard high-quality products

Leading by excellent performance management, participate in formulating the international standards.

No.	Project No.	Standard/Project Description
1	ITU-T L.30	Marking methods for shallow water optical cables
2	ITU-T L.28	External protection of coastal optical cables
3	IEEE 1138 2009	IEEE Standard for Testing and Performance for Optical Ground Wire for Use on Electric Utility Power Lines
4	IEEE 1595	standard for testing and performance for optical phase conductor(OPPC) for use on electrical utility power lines
5	IEC 62807-2	Sectional specification for optoelectronic hybrid cables for communication - Indoor composite cables

4.2 ZTT Product R&D Capabilities

➤ Industry Chain



➤ Communication industry chain

(creating an integrated industry chain of rods, fibers, and cables)



➤ Power grid industry chain

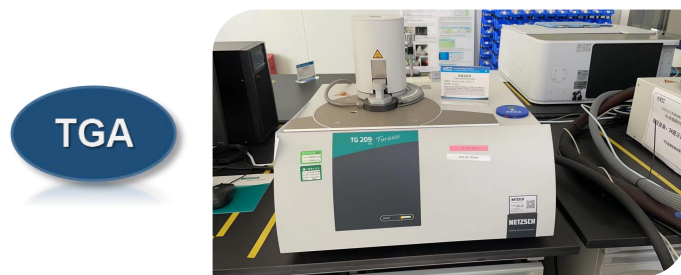
(creating an integrated conductor, insulation, and flame retardant sheath)

4.3 Quality Control Capability

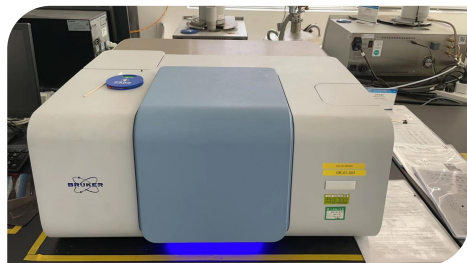
- Imported high-end FTIR, DSC, TGA, and accurately test raw materials to ensure product stability.



DSC

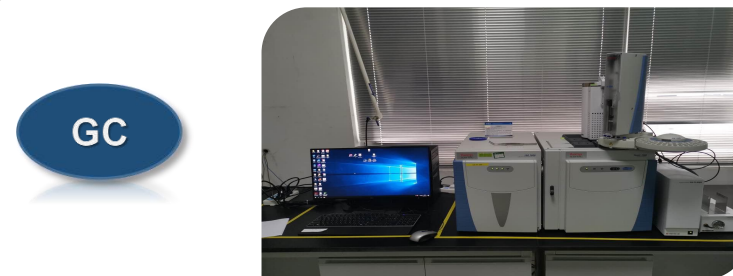


TGA



FTIR

- Imported high-end GC, HPLC, XRF, and regularly control the ROHS2.0 environmental performance.



GC

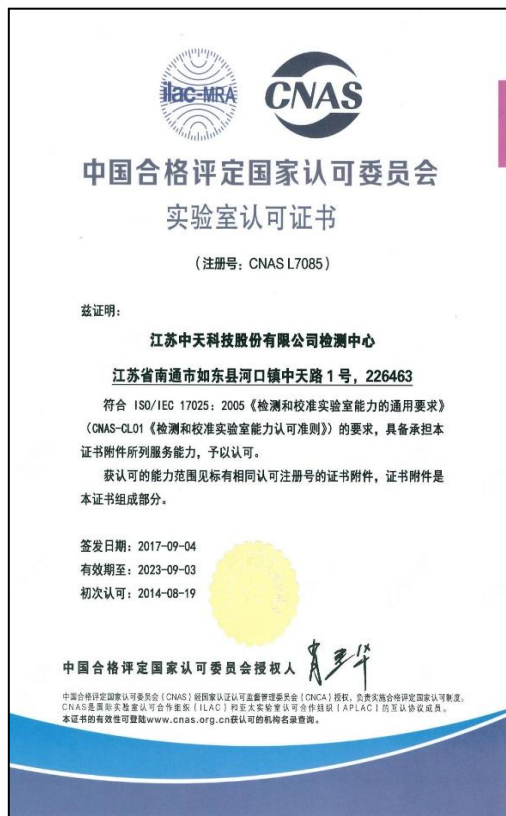


HPLC



XRF

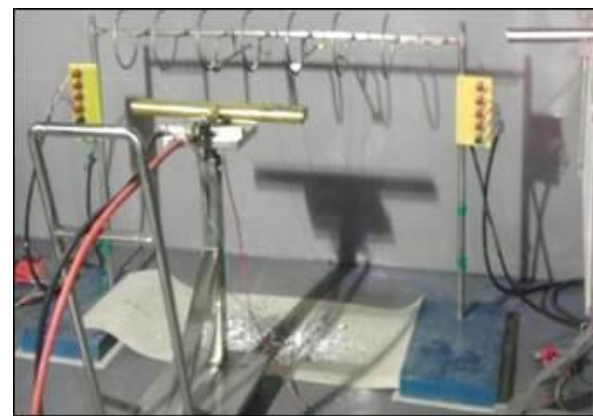
4.3 Quality Control Capability



**Various laboratories meet
IEC standard certification
and testing capabilities**



Optical Performance



Fire Performance



Mechanical Properties



Material Properties

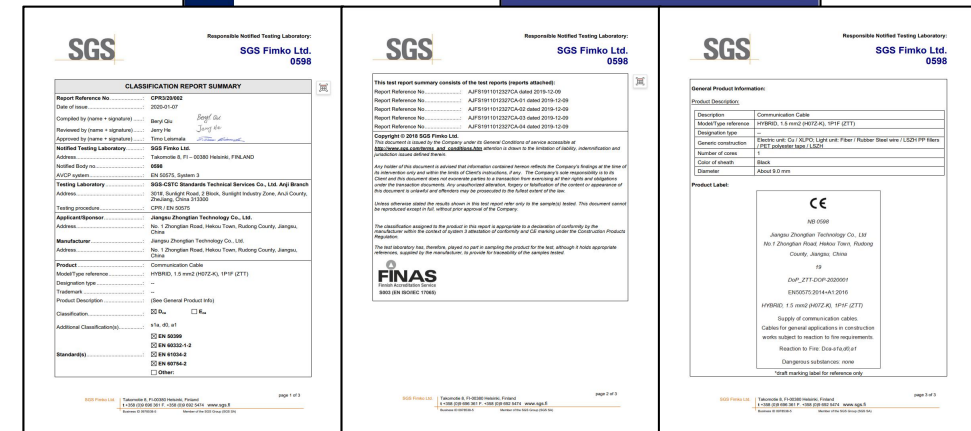
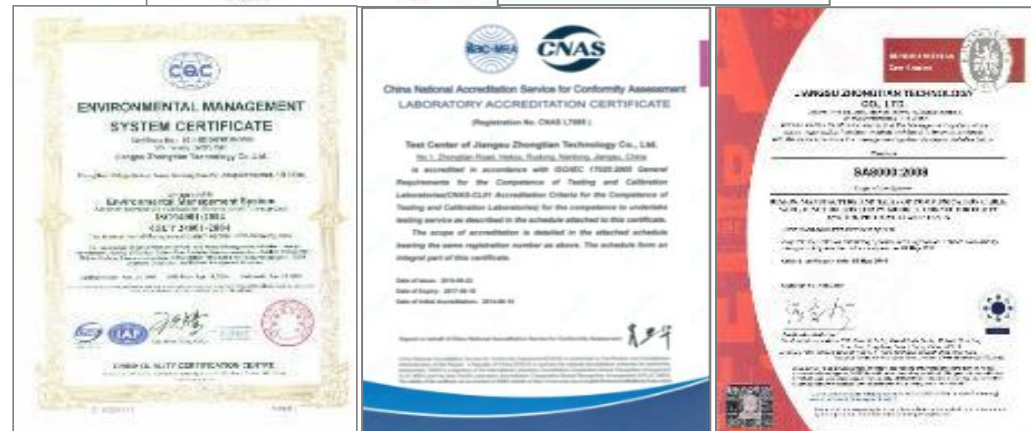


Withstand Voltage Insulation



Temperature Cycling

4.4 Quality Control Capability



Certified through quality management system

- ISO9001, ISO14001
- OHSAS18001, CNAS, TL 9000

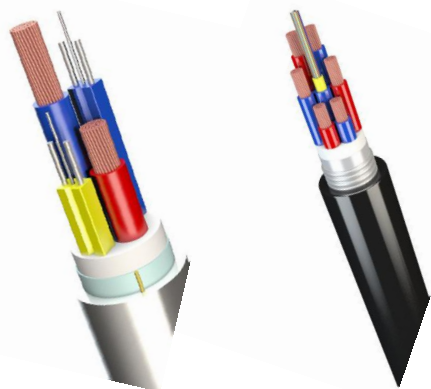
CE certified (product)

- LVD
- CPR

04

Conclusion

Conclusion



Outdoor BTS

What solutions and advantages ZTT have on POsite cabling solution?

- With **design ability** of 3 different POsite Solutions for releavant scene.
- Provide **package solution** except active device.
- Both POsite **cable** and cable **assembly** are available to be provided.
- Available to provide **Installation instruction** and service.
- With **complete industry chain** of optical and power products.

Active IBS Project

FTTH Acss Network

Complete industry chain of optical and power products



Fiber Preform, Optical Fiber and Optical Fiber Cable



Copper Alloy and Power Cablee

Hybrid Cable Capability Demonstration From ZTT

ZTT POsite Cable for **Taiwan Mobile** 5G

Construction, **Huawei & ZTE** Active IBS project and
Canada Rogers.



Optical unit production



Power unit production



ZTT has imported international optical and electrical unit production lines, with an annual production capacity of **70000** km of hybrid cables, **120000** optical jumper, and **120000** electrical jumper.

Country	Customer	Product	Quantity
China	HUAWEI&ZTE	Hybrid Cable	64118
Taiwan	TAIWAN Mobile	POsite jumper	21183
Canada	ROGERS	Hybrid Cable	220



Certified through quality management system

- ISO9001, ISO14001
- OHSAS18001, CNAS, TL 9000



CE certified (product)

- LVD
- CPR

Thanks!

