

# Direct-Attach Cable

## -Active Optical Cables

### 10G SFP+ Active Optical Cable

#### Features

- ◆ Compliant with SFF-8431 SFP+ Multi-Source Agreement
- ◆ 10Gbps SFP+ Active Optical Cable length up to 300meters on OM3 MMF
- ◆ No Cleanliness issue on optical connectors
- ◆ Cost-optimized
- ◆ Less than 0.9W(Each end consumption)
- ◆ Up to 300 meters on OM3 MMF

#### Applications

- ◆ 10 Gigabit Ethernet
- ◆ 4G and 8G Fibre Channel Applications
- ◆ 1x InfiniBand QDR,DDR,SDR
- ◆ High-performance computing clusters
- ◆ Server, Switches, Storage and Host Bus Adapters



#### Ordering Information

Part Number	Product Description
WSS-MDO100-001C	1 meter SFP+ Active Optical Cable
WSS-MDO100-003C	3 meter SFP+ Active Optical Cable
WSS-MDO100-005C	5 meter SFP+ Active Optical Cable
WSS-MDO100-007C	7 meter SFP+ Active Optical Cable
WSS-MDO100-0010C	10 meter SFP+ Active Optical Cable
WSS-MDO100-0015C	15 meter SFP+ Active Optical Cable
WSS-MDO100-xxxC	10G SFP+ Active Optical Cable up to 300m on OM3 MMF
xxx:001-300, 1-300 meters in length(OM3 Fiber is available)	

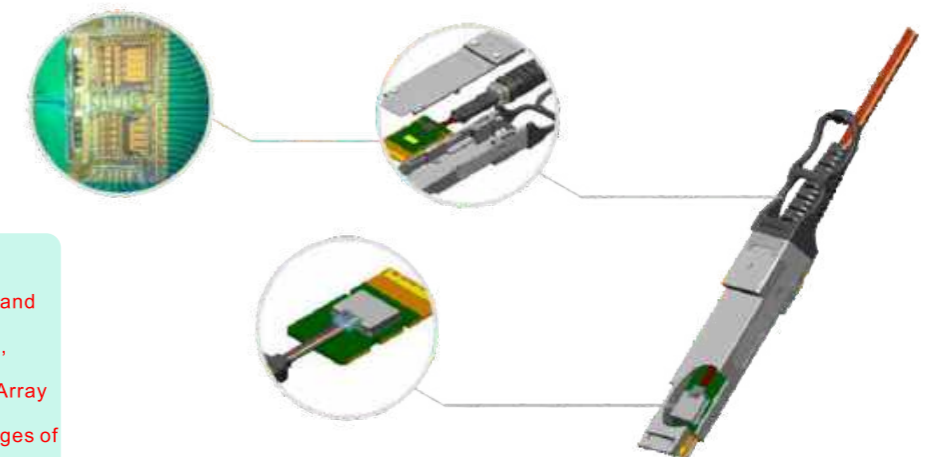
### 40G QSFP+ Active Optical Cable

#### Features

- ◆ Compliant with SFF-8436 QSFP+ MSA
- ◆ 40Gbos QSFP+ Active Optical Cable are a cost-effective solution for high bandwidth fabrics in Data Centers.
- ◆ It complies with QSFP MSA and IEEE P802.3ba 40GBASE-SR4,each lane up to 10Gbps, Aggregate bit rates up to 40Gbps.
- ◆ Up to 100 meters on OM3 MMF
- ◆ Less than 1.5W(Each end consumption)

#### Applications

- ◆ 40G Ethernet
- ◆ InfiniBand QDR
- ◆ 8x Fibre Channel
- ◆ SAS/SATA
- ◆ PCIe3
- ◆ Proprietary High Speed Interconnections



Bare die bonding to package, it is suitable for high-density bonding and high-frequency signal connection, Chip-on-board for VCSEL or PIN Array and Driver IC, it has the advantages of small size and high integration.

## 40G QSFP+ to 4x 10G SFP+ Breakout Active Optical Cable

### Features

- ◆ Compliant with QSFP+ SFF-8436 and SFP+ SFF-8431 MSA
- ◆ The QSFP+ to 4\*SFP+ AOC provide 40GbE systems the ability to connect to 10GbE switches or adapter cards
- ◆ It provides connectivity between devices using QSFP+ port on one end and multiple SFP+ ports on the other end.
- ◆ Up to 100 meters on OM3 MMF
- ◆ 40G QSFP+ less than 1.5W, 10G SFP+ less than 0.9W(each end consumption )

### Applications

- ◆ 40 Gigabit Ethernet
- ◆ Fibre Channels Applications
- ◆ InfiniBand QDR,SDR,DDR
- ◆ High-performance computing clusters
- ◆ Servers, switches, storage and host card adapters



### Ordering Information

Part Number	Product Description
WQP-MDO400-xxxC	40G QSFP+ to 4x 10G SFP+ Active Optical Cable
	xxx: 001~030, 1-30 meters in length on OM2 MMF
	xxx: 001~100, 1-100 meters in length on OM3 MMF
Further details are available from any Wiitek sales representative	

## 40G QSFP+ to 8xLC Connector Breakout Optical Cable



### Features

- ◆ Compliant with SFF-8436 QSFP+ Multi-Source Agreement
- ◆ QSFP to 8x LC connectors breakout Active optical cable are suitable for short distances and offer highly cost-effective way to connect within racks and across adjacent racks.
- ◆ These breakout cables connect to a 40G QSFP+ port of a switch on one end and to four 10G SFP+ Transceivers of a switch on the other end.
- ◆ Up to 100 meters on OM3 MMF



## 56G QSFP+ InfiniBand Active Optical Cable

### Features

- ◆ Full duplex 4 channels 850nm parallel active optical cable
- ◆ Transmission data rate up to 14.025Gbps per channels
- ◆ SFF-8436 QSFP+ compliant
- ◆ Hot pluggable electrical interface
- ◆ Differential AC-coupled high speed data interface
- ◆ 4 channels 850nm VCSEL array
- ◆ 4 channels PIN photo detector array
- ◆ Maximum link length of 100m on OM3 Multimode Fiber
- ◆ Low power consumption(>1.5W)
- ◆ Housing isolated from connector ground
- ◆ Operating case temperatures 0°C to 70°C
- ◆ 3.3V power supply voltage
- ◆ RoHS 6 compliant



### Ordering Information

Part Number	Product Description
WQS-MDO560-XXXX	XXX=different cables lengths on OM3 Multimode Fiber(MMF)
XX(X)	Cable Length on OM3 Multimode Fiber(MMF)
3	003=3m
5	005=5m
10	010=10m
20	020=20m
50	050=50m
100	100=100m

## 120G CXP Active Optical Cable

### Features

- ◆ Compliant with CXP industry standards SFF-8642 and InfiniBand Architecture standard volume 2 release 1.2.1 -Annex A6 standards
- ◆ CXP active optical assemblies are fully duplex 12 channel cable assemblies that supports signal transmission rate up to 10Gbps per channels.
- ◆ The CXP AOC is ideal for high density signal transmissions typically seen in most data centers and in high performance computing applications
- ◆ Up to 120Gbps aggregate bandwidth
- ◆ Currently offers cables in lengths of 300 meters on OM3 MMF
- ◆ InfiniBand SDR, DDR and QDR transmission speed compliance secure inter-operability
- ◆ Less than 2W(each end consumption)



### Applications

- ◆ 100G Ethernet
- ◆ InfiniBand transmission at 12ch SDR,DDR and QDR
- ◆ Hubs, switches, routers, servers

Bare die bonding to package, it is suitable for high-density bonding and high-frequency signal connection. Chip-on-board for VCSEL or PIN Array and Driver IC, it has the advantages of small size and high integration.



## 120G CXP to 3x QSFP+ Active Optical Cable

### Features

- ◆ QSFP+ End compliant to SFF-8436
- ◆ CXP End compliant to SFF-8642 and IBTA V2 Revision 1.2.1 Annex A6
- ◆ Full duplex 12 channels 850nm parallel active optical cable
- ◆ Transmission data rate up to 10.3Gbit/s per channel
- ◆ Hot pluggable electrical interface
- ◆ Differential AC-coupled high speed data interface
- ◆ 12 channels PIN photo detector array
- ◆ Up to 100m on OM3 MMF
- ◆ 3.3V power supply voltage
- ◆ Low power consumption: CXP End<2W, QSFP End<1W
- ◆ Operating case temperature 0°C to +70°C
- ◆ RoHS 6 compliant



### Applications

- ◆ InfiniBand 12xSDR, 12xDDR, 12xQDR
- ◆ Ethernet 10G, 40G, 100G
- ◆ Rack-to-Rack, Shelf-to-Shelf Interconnect
- ◆ Networking, NIC
- ◆ Storage: DAS, SAN, NAS
- ◆ Hubs, switches, routers, servers



## Direct-Attach Cable -Passive Copper Cables

## 6G Mini SAS Internal & External Cable

### Features

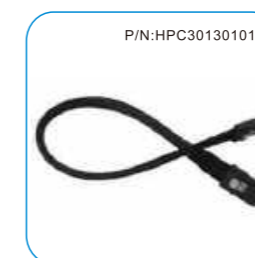
- ◆ Wiitek External & Internal Mini SAS (Serial Attached SCSI) cable module is a passive 4-way high speed signal transmission cable
- ◆ Each road speed can reach 3Gbps, in full compliance with SAS 2.1 protocol standards
- ◆ Supports External SATA (Serial-Attached-ATA) require each 1.5Gbps, 3Gbps, 6Gbps rate of application

### Applications

- ◆ Servers
- ◆ RAID systems
- ◆ Storage Racks
- ◆ External Storage Systems
- ◆ SAS/SATA HBA systems
- ◆ Direct-attached storage (DAS)



P/N:HPC30630101  
High Routability Internal 36Pin Mini SAS Cable



P/N:HPC30130101  
Internal 36Pin Mini SAS Cable



P/N:HPC30230051  
Mini SAS to 4 SATA Cable



P/N:HPC30330051  
Mini SAS to SAS(7+7+15pin) with 4 power Cable



P/N:HPC30430101  
External 26Pin Mini SAS Cable



P/N:HPC31130101  
External Mini SAS to 4 SAS (SFF-8482) Cable



P/N:HPC30530101  
External Mini SAS to 4 SATA Cable



P/N:HPC30930101  
External Mini SAS to Mini SAS(SFF-8087)

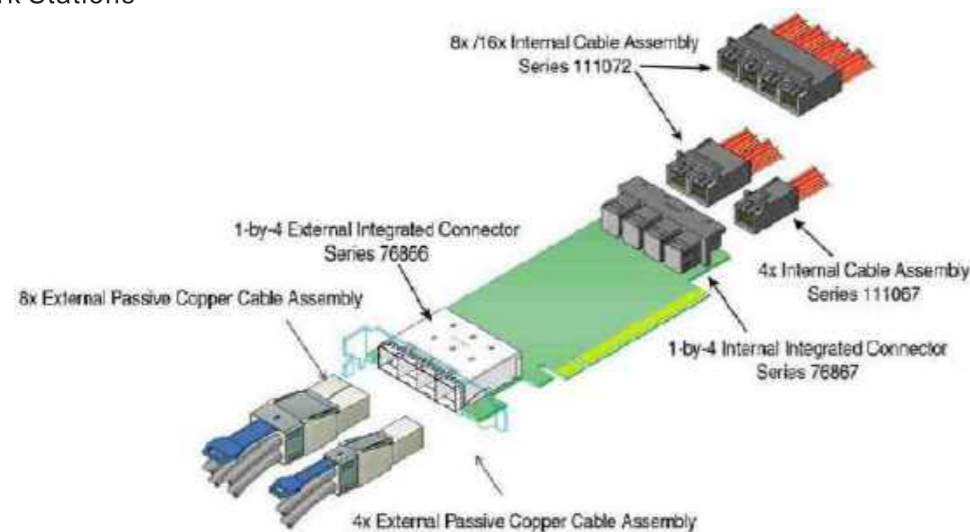
## 12G Mini SAS HD External & Internal Cable

### Features

- ◆ Compliant to the SAS 2.1 & proposed SAS 3.0
- ◆ Internal and external board connector and cable assemblies provide end-to-end application solutions
- ◆ 1X1, 1X2 and 1X4 connector/cage assemblies offer product family design flexibility
- ◆ Cable assemblies offered in 4x and 8x configurations
- ◆ Eye-of-the-needle connector and cage single step termination yields consistent application to the PCB
- ◆ Positive stop feature on the casting prevents external cable assembly mating over-travel
- ◆ Hybrid external cables (mini-SAS HD to mini-SAS) allow for backwards compatible cabling with legacy system hardware

### Applications

- ◆ Server / Storage
  - HBA (Host Bus Adapter) Servers
  - Host System Boards
  - Storage Racks
  - Switches
  - Blades
  - Storage Bridge Bay
  - RAID (Redundant Array of Individual Disks)
  - JBOD (Just a Bunch of Disks)
- ◆ Computer Applications
  - Tower and rack-mount computers
  - Work Stations



## 10G SFP+ Passive Copper Cable

### Features

- ◆ Up to 10 Gbps per channel transmission up to 5 meters with 30 AWG passive copper assemblies
- ◆ Excellent crosstalk and insertion loss performance
- ◆ Improved EMI shielding achieved with spring metal strap on the backshell
- ◆ EEPROM for cable information and system communications
- ◆ Push-to-release latch
- ◆ Improved Pluggable Form Factor (IPF) compliant for enhanced EMI/EMC performance
- ◆ Designed to meet the following industry standard protocols:
  - SFF-8431/8432
  - 10 Gigabit Ethernet (10 GBASE-CU / IEEE 802.3ae)
  - 8G Fibre Channel
  - 10G Fibre Channel over Ethernet



## 10G SFP+ Active Copper Cable

### Features

- ◆ Support for multi-gigabit data rates up to 10.5Gbps
- ◆ Improved Pluggable Form Factor(IPF) compliant for enhanced EMI/EMC performance
- ◆ Data rates backward compatible to 1Gbps
- ◆ Hot-pluggable SFP 20PIN footprint
- ◆ I/O Connector designed for high speed differential signal applications
- ◆ Low Power Consumption < 0.5W
- ◆ Power Supply :+3.3V
- ◆ Compatible to SFP+ MSA
- ◆ Temperature Range: 0~ 70 °C
- ◆ RoHS Compatible



## 40G QSFP+ Passive Copper Cable

### Features

- ◆ Fully compatible with IEEE802.3ba and Infiniband QDR specifications
- ◆ 100 ohm differential impedance system
- ◆ Allows for 10Gb/s per channel transmission; aggregate of 40 Gb/s total bandwidth
- ◆ Optimized PCB interface board to minimize crosstalk and insertion loss
- ◆ Robust diecast covers for superior EMI shielding effectiveness
- ◆ EEPROM for cable signature & system communications
- ◆ Actively equalized cables enable longer cable lengths or the use of smaller cable diameters for shorter cable lengths
- ◆ 30 AWG to 24 AWG cable sizes available
- ◆ SFF-8436 MSA compliant



## 40G QSFP+ Active Copper Cable

### Features

- ◆ 40G for up to 15m high-speed signal transmission
- ◆ The module 's internal per-emphasis and equalizer, restored in the high-speed signal transmission cable loss, the signal is more reliable and stable
- ◆ Mature production process to ensure product quality
- ◆ The use of laser wire strippers cable length to ensure consistency, thus ensuring consistency of product performance
- ◆ Reliable welding jig to ensure the production yield rate
- ◆ Sealed plastic jig right product at the closure of glue pads to ensure the reliability of the products



## 40G QSFP+ to 4\* SFP+ Passive Copper Cable

### Features

- ◆ Compliant to SFF-8436 QSFP+ MSA and SFF-8431 SFP+ MSA
- ◆ QSFP+ to 4x SFP+ copper direct-attach breakout cables are suitable for very short distances and offer a highly cost-effective way to connect within racks and across adjacent racks
- ◆ The QSFP+ to 4x SFP+ cables provide 40GbE systems the ability to connect to 10GbE switches or adapter cards
- ◆ Passive cables in lengths of 1m~7m, and active cable in lengths fo 7~13meters

### Applications

- ◆ 40 Gigabit Ethernet
- ◆ InfiniBand SDR, DDR, QDR
- ◆ Switches, Routers, and HBAs
- ◆ Data Centers
- ◆ Fibre Channel



**QSFP+ to SFP+ Cable**



**QSFP+ to 2\* SFP+ Cable**

## 25G SFP28 Passive Copper Cable

### Features

- ◆ 25G Ethernet, 32G Fibre Channel, InfiniBand & SONET multi-platform support
- ◆ Zinc die-cast SFF-8402 SFP28 connectors with push-to-release latching
- ◆ High performance quad-shielded 30 AWG twinaxial SKEWCLEAR wire
- ◆ Low cross-talk and pair-to-pair skew
- ◆ Fully compliant to the latest SFP28 MSA
- ◆ Exceeds 25-Gigabit Ethernet and 32G Fibre Channel performance standards
- ◆ Enjoy a reduced power budget and lower port cost compared to optical
- ◆ Consumes only .15W per end - 20X less power than 10GBASE-T



## 100G QSFP28 Passive Copper Cable

### Features

- ◆ 4 channels full- duplex transceiver modules
- ◆ Supports 100Gbps total data rate
- ◆ 4 channels 850 nm VCSEL array, 4 channels PIN photo detector array
- ◆ Low power consumption < 3.5W
- ◆ Maximum link length of 70m on OM3 Multimode Fiber(MMF) and 100m on OM4 MMF
- ◆ Single MPO connector receptacle
- ◆ 3.3 V power supply voltage,
- ◆ Operating case temperature 0 °C to +70 °C

