



For every point-to-point interconnect

Prologue

2016.4 Incorporation in US, founded by people from Marvell, Finisar, Samsung

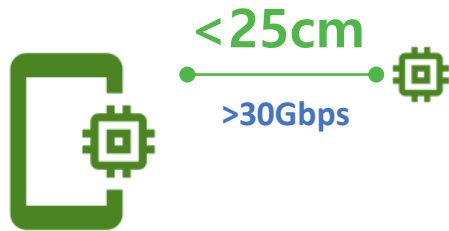
Team of 22 PhD and MS engineers & growing fast

~2019
Series A Round (US and Korea VCs)
~\$8 MIL USD

14 US and other countries patents

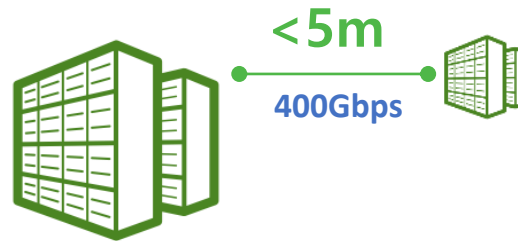
- ***5G Smart Device Interconnect***
- ***5G Big Data Center Interconnect***
- ***5G Mobile Network***

5G Smart Device Interconnect



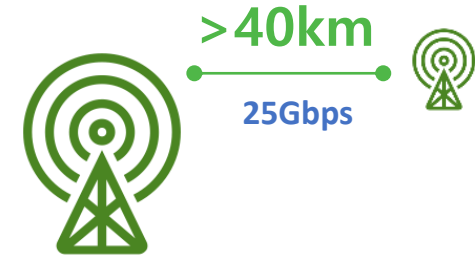
**High Data-rate
Chip-to-Chip Interconnect**

5G Big Data Center Interconnect



**All Copper
C-Tube™ Cable**

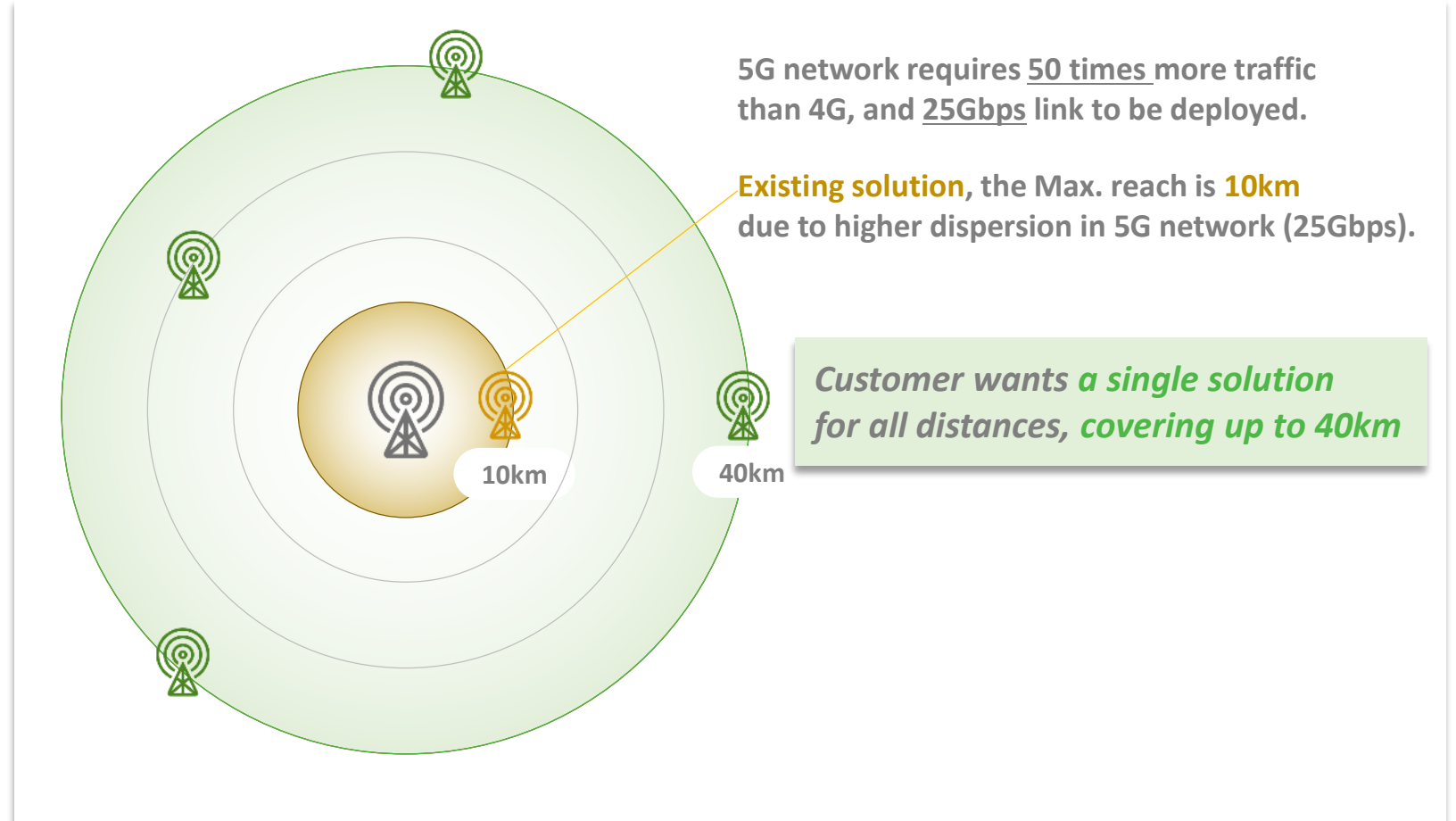
5G Mobile Network



**5G Range Extender™
Network Module**



- 70% Cost Reduction
- Covering up to 40km
- Error free(<math><10^{-12}</math>)



5G network requires 50 times more traffic than 4G, and 25Gbps link to be deployed.

Existing solution, the Max. reach is 10km due to higher dispersion in 5G network (25Gbps).

Customer wants a single solution for all distances, covering up to 40km

RangeXtender™ IC

PT-E1012322



KEY FEATURES

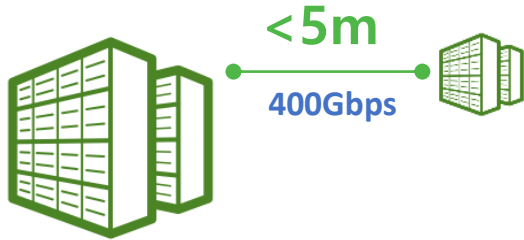
- ◆ 2-lanes bi-directional EDC+CDR (25Gbps/lane)
- ◆ Low power consumption < 9mWatts/Gbps
- ◆ Background channel adaptation
- ◆ Integrated test features such as standard pattern generator/checker and internal, real-time internal eye scanner
- ◆ Embedded CPU allows full flexibility, customization and testability.
- ◆ Loopback (Remote and local) tests
- ◆ -40C ~ 85C operating temperature range.
- ◆ 3.8mmx3.8mm 64-ball fcCSP (0.4mm pitch)

RangeXtender™ allows the existing infrastructure to reach much longer distance

5G Big Data Center Interconnect

Optics are too expensive for short cables

5G Big Data Center Interconnect



All Copper
C-Tube™ Cable

Optics



Too Expensive

BOM and Assembly costs
are too high (\$600~900)

POINT 2

C-Tube™ Cable



Quad channel 400Gbps
(PAM-4)

- *Up to 7m*
- *Plug and play*
- *Low power consumption (< 4.5W per end)*

5G Big Data Center Interconnect

5G Big Data Center Interconnect

All copper, full speed, active cable for short reach

C-Tube™ Cable

Point2 Technology's C-Tube™ (PT-QD20132) is used in the next generation low power, high performance QSFP-DD Active Electrical Cable (AEC) modules that support 400G Base-SR4 Ethernet. It accepts eight lanes of 53.125Gbps PAM4 (26.5625 Gbaud/lane) and each lane can operate up to 7 meters while simultaneously achieving excellent BER performance and maintaining low power dissipation.

C-Tube™ is an affordable alternative to Active Optical Cables (AOCs). The cable offers world class lowest power, best performance CDR SOC technology that can replace any existing AOC for significantly lower power and cost while maintaining identical interface and performance. C-Tube™ adopts the standard QSFP-DD form factor and complies with MSA specifications.

C-Tube™ integrates high-performance DSP technology and equalization techniques to compensate for Intersymbol Interference (ISI) effects. Additionally, an onboard MCU that allows users to access full monitoring and configuration data via the 2-wire QSFP Management Interface. To satisfy any different settings for various environments, a customized firmware can be downloaded to C-Tube™ ,



Reach

3m – 7m

Data-rate

400G

Cost

No Optics,
Everything is in-house design

C-Tube™ Cable

C-Tube™ Cable

PT-QD20132

400G QSFP56-DD



KEY FEATURES

- ◆ 8-lanes with Data Rate up to 425Gbps
- ◆ 3m -7m Reach
- ◆ Power consumption < 4.5 Watts/End
- ◆ PAM4 encoding
- ◆ Compliant with IEEE 802.3cd Base-SR4 Ethernet
- ◆ Compliant with QSFP56-DD MSA compliant
- ◆ Hot pluggable QSFP56-DD form factor
- ◆ Much lower cost than optical cable

C-Tube™ Cable is a cost and power efficient QSFP56-DD for high-speed, short-reach links