Avago Technologies
Markets for Gbit POF

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Gbit POF Market Drivers

Consumer general market drivers

- Next gen wireless 802.11.ac running at high speed but low range, not going through walls -> need wired connections in each room to offer full speed — wire
- IPTV requiring high QoS — wire
- Cloud services, streaming services — speed
- 4K video — speed
- Ease of installation, savings from tube installations — optical

Automotive market drivers

- No debugging needed of disturbances between data links and car functions (e.g. servo motors in seats) -> better time to market — optical
- Weight (check weight of coax copper, UTP copper and POF per m) — optical
- EMI robustness and isolation, especially in electric cars — optical
- Lower cost than shielded electrical cables, higher cost than unshielded cables — optical
- Cameras, ADAS, connectivity driver speed to Gbit speed — speed

Industrial market drivers

- Cameras for pattern recognition, manufacturing robots, 3D scanners and printers, semiconductor manufacturing equipment — speed
- Medical applications (NMR scanners, PET scanners, networked medical systems) — optical

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Total Addressable Market for Gbit POF Consumer

- IPTV subscriber base: 93M worldwide, 24% annual growth (1)
- Broadband subscriber base: 650M worldwide, 8% annual growth (2),
- FTTH subscriber base:124M ww, 20% annual growth (3)
- AT&T new installations alone about 1 mio per year

➔ Market for consumer landline installations is huge, strong need for an adequate in-house distribution network

➔ 100M plus estimated annual TAM in 2015 for Gbit POF installations (50M new broadband subscribers, 50M home network upgrades of existing subscribers)

(1) http://advanced-television.com/2014/03/31/global-iptv-subscribers-92-7m/
(2) http://point-topic.com/wp-content/uploads/2013/02/Point-Topic-Global-Broadband-Statistics-Q1-2013.pdf
(3) http://www.lightwaveonline.com/articles/2013/08/worldwide-ftth-subscribers-to-grow-23-in-2013s-abi-research.html

Total Addressable Market for Gbit POF Automotive

- 2014 base: 15-20M optical MOST nodes per year
- Total install base: >100M nodes in 150 car models
- Trend to higher speed, MOST150 at 150MBit/s growing

➔ 15M plus TAM for Gbit POF in 2022. Competing with copper based Gbit solutions

➔ Strong need for a standard as strict multiple sourcing strategy by OEMs

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Total Addressable Market for Gbit POF Industrial

- Many competing industrial Ethernet protocols (Profinet, Sercos, EtherCAT, CC-Link, ….) in use, outgrowing Fieldbus installations in process automation. In 2016 8.7M new industrial Ethernet nodes to be installed (4)
- However, Gbit so far rather limited in industrial applications, not a general trend, more application specific. Fast Ethernet is sufficient for many applications. POF with its length constraints cannot be used for the majority of industrial Gbit nodes today, i.e. in industrial switches.
- Remaining market is segmented and for specialized applications

➔ About 1M TAM estimated for Gbit POF in 2016

➔ Upside from potential Gbit Profinet, right now in discussion, IEEE Gbit POF standard would likely be considered as base for optical Gbit Profinet

(4) http://www.automation.com/automation-news/article/industrial-ethernet-growing-but-fieldbus-remains-dominant

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