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9 September 2009

### OneChip launches low-cost PICs for fiber access

OneChip Photonics has launched what it says are the first optical transceivers for fiber-access networks to be based on photonic integrated circuits (PICs).

The Canadian semiconductor company unveiled a family of PIC-based transceivers at the 11th China International Optoelectronic Expo (CIOE 2009), being held in Shenzhen this week.

OneChip says that the transceivers will allow optical network system builders to deploy fiber-to-the-premises (FTTP) services more cost-effectively than ever before.

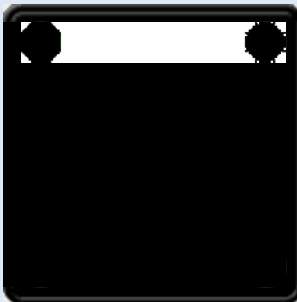
"OneChip's new Ethernet passive optical network (EPON) transceivers are the first fully integrated optical access transceivers on the market," claims OneChip's CEO Jim Hjartarson. "They will give system providers and carriers the ability to significantly lower the cost and boost the performance of their FTTP networks, while meeting business and consumer demand for high-bandwidth voice, data and video services."

The transceivers that feature the indium phosphide-based PICs are designed to be implemented in both optical line terminals, which sit inside the central offices of service providers, and in optical network units, which are deployed at each customer's premises.

This means that OneChip's PICs have the potential to be manufactured in very large volumes, if they can be fabricated for a sufficiently low cost.

Although PICs are already a feature in long-haul and

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regional fiber-optic systems - particularly those produced by the Californian firm Infinera - until now they have been regarded as too expensive for high-volume applications like FTTP.

But according to OneChip, it is possible to vertically integrate all of the active and passive transceiver components into a multi-guide structure in a single epitaxial growth step.

Those components, which are usually manufactured separately and assembled to form the transceiver, include a distributed feedback laser, an optically pre-amplified detector, a wavelength splitter and a spot-size converter.

Crucially, no expensive re-growth or post-growth modification of the epitaxial material is required, says OneChip, adding that the approach is inherently high-yielding. Previous attempts to manufacture PICs have fallen foul of low production yields, making the components too expensive for volume use.

OneChip appears to have overcome these problems, and says that it plans to ship its first production EPON transceivers before the end of this year. It is currently sampling the devices to prospective customers, while similar transceivers for gigabit-PON networks are in development.

If the PIC-based components find favor with those customers, OneChip stands to claim a significant chunk of the growing market for fiber-access transceivers - said by analyst firm Ovum to be worth some \$419m this year.

OneChip certainly appears to have caught the imagination of venture capitalists, closing a \$19.5m investment round earlier this year in the face of the global financial crisis.

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