

Title (en)
THERMALLY SHIELDED MULTI-CHANNEL TRANSMITTER OPTICAL SUBASSEMBLY AND OPTICAL TRANSCEIVER MODULE INCLUDING SAME

Title (de)
OPTISCHE BAUGRUPPE FÜR EINEN WÄRMEABGESCHIRMTE MEHRKANALSENDER UND OPTISCHES SENDE-/EMPFANGSMODUL DAMIT

Title (fr)
SOUS-ENSEMBLE OPTIQUE D'ÉMETTEUR À CANAUX MULTIPLES THERMIQUEMENT ISOLÉ, ET MODULE ÉMETTEUR-RÉCEPTEUR OPTIQUE INCLUANT CE DERNIER

Publication
EP 2954628 A4 20160928 (EN)

Application
EP 14749420 A 20140204

Priority
• US 201313760533 A 20130206
• US 2014014607 W 20140204

Abstract (en)
[origin: WO2014123866A1] A thermally shielded multi-channel transmitter optical subassembly (TOSA) may be used in a multi-channel optical transceiver. The multi-channel TOSA generally includes an array of lasers optically coupled to an arrayed waveguide grating (AWG) to combine multiple optical signals at different channel wavelengths. A plurality of laser array thermal shields are thermally coupled to a temperature control device, such as a thermoelectric cooler (TEC), and thermally shield the respective lasers in the laser array in separate thermally shielded compartments. Each of the lasers may also be individually thermally controlled to provide a desired wavelength, for example, using a heater and/or cooler located in each thermally shielded compartment. The optical transceiver may be used in a wavelength division multiplexed (WDM) optical system, for example, in an optical line terminal (OLT) in a WDM passive optical network (PON).

IPC 8 full level
G02B 6/42 (2006.01); **H04J 14/00** (2006.01)

CPC (source: EP)
G02B 6/4246 (2013.01); **G02B 6/4271** (2013.01); **G02B 6/4273** (2013.01); **G02B 6/12019** (2013.01); **G02B 6/12026** (2013.01); **H04J 14/0282** (2013.01)

Citation (search report)
• [E] US 2014161457 A1 20140612 - HO I-LUNG [US], et al
• [Y] WO 03056734 A1 20030710 - REDFERN BROADBAND NETWORKS INC [US], et al
• [Y] US 4976527 A 19901211 - HORIKAWA KAZUO [JP], et al
• [Y] US 4727554 A 19880223 - WATANABE HIDEO [JP]
• [Y] US 2011058771 A1 20110310 - LEE JOON KI [KR], et al
• [Y] EP 1006683 A2 20000607 - NIPPON ELECTRIC CO [JP]
• [Y] US 2003206740 A1 20031106 - LEE CHANG HEE [KR], et al
• [Y] WO 03032021 A2 20030417 - INFINERA CORP [US]
• See references of WO 2014123866A1

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
WO 2014123866 A1 20140814; CN 105340204 A 20160217; CN 105340204 B 20180313; EP 2954628 A1 20151216; EP 2954628 A4 20160928

DOCDB simple family (application)
US 2014014607 W 20140204; CN 201480011827 A 20140204; EP 14749420 A 20140204