PRODUCTION STATUS OF ACCELERATOR COMPONENTS

Introductions
Mitsubishi Heavy Industries (MHI) has started manufacturing of accelerator components such as accelerating structures in 1960s. For example, in a field of normal conducting accelerator, in recent years, MHI had handled mass production of C-band choke-mode accelerating structures and SLED for Riken SACLA, production of DTL, SDTL (Separated DTL), ACS (Annular Coupled Structure) for JAEA/KEK J-PARC. In latest years, MHI manufactured over 120 S-band accelerating structures for PAL-XFEL and shipment has completed in March 2015. In addition, MHI has accepted order of C-band waveguide network prototype (CWNP) for SwissFEL project in June 2014 and has been already delivered to PSI in December 2014. MHI also has been accepted order of 26 C-band waveguide network series (CWNS) and the production of them is in progress now.

S-band accelerating structures for PAL-XFEL
• Mass-production of the S-band 3 m long accelerating structure started in June 2012 and finished at March 2015. Totally 120 structures has been delivered to PAL.
• Results of LLRF measurement after tuning shows excellent performance of production.

C-band waveguide network for SwissFEL
• One waveguide network provides RF power from one klystron to four accelerating structure.
• Six directional couplers for RF monitor, three RF splitters and nine vacuum ports are included in one unit.
• In order to precisely fit to input flange of each accelerator structure, dimension accuracy between four interface flanges are ±0.2 mm
• CWNP had been already installed in the test facility and high power test of the CWNP by PSI is planned.
• Production of CWNS (approximately 500 waveguides) has been started. First 4 units of the CWNS have been already delivered to PSI in August 2015.