



KEK

HIGH ENERGY ACCELERATOR RESEARCH ORGANIZATION

1-1.OHO.TSUKUBA-SHI
IBARAKI-KEN.305-0801 JAPAN
<http://www.kek.jp/>

To Whom It May Concern

CERTIFICATION

We, the **HIGH ENERGY ACCELERATOR RESEARCH ORGANIZATION** (hereinafter called "**KEK**") as an Inter-University Research Institute Corporation officially subsidized by the Government of Japan, hereby confirmed and certified that the **508-MHz SRF modules of KEKB design** were designed and integrated by the KEK. The design concept and all the blueprints of these SRF modules were developed solely by the KEK in the whole world and have been mechanically realized together with the Japanese companies, Mitsubishi Electric Corporation (MELCO) and Mitsubishi Heavy Industries, Ltd. (MHI).

The **500-MHz SRF modules of KEKB design** to be used for Taiwan Photon Source Synchrotron Ring at National Synchrotron Radiation Research Center is a duplication of the **508-MHz SRF modules of KEKB design** with a slight modification in RF operational frequency from 508 to 500 MHz.

For and On Behalf of

HIGH ENERGY ACCELERATOR RESEARCH ORGANIZATION

Signature: _____

Name: Dr. Atsuto Suzuki

Title: Director General



Date: _____

2010.5.7



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We, **HIGH ENERGY ACCELERATOR RESEARCH ORGANIZATION** (hereinafter called “**KEK**”), hereby confirmed and certified that **MITSUBISHI HEAVY INDUSTRIES, LTD.** (hereinafter called as “**MHI**”) has completed supply and delivery of the following superconducting RF cavities to KEK:

Project	Year	Frequency (MHz)	Cell-Number	Quantity	OT*1 (K)	E _{acc} max at vertical test (MV/m)	Q ₀ at operating (final) E _{acc}	Install and operation
TRISTAN	1986-1995	508	5	36	4	6 to 12	2×10 ⁹	TRISTAN main ring
L-band R&D	1991-1998	1300	9	1	2	12	3×10 ⁹	—
			1	4		12 to 30	4×10 ⁹	—
KEKB R&D	1993-1994	508	1	1	4	14.4	9×10 ⁸	—
ADS R&D	2002-2004	972	9	2	2	10.5 to 11.1	1.5×10 ¹⁰	—
Crab	2004-2006	508	1	2	4	29.1 to 42 (E _{peak})	1.5×10 ⁹	KEKB main ring
STF Phase1	2005	1300	9	4	2	20.2 to 29.4	2×10 ¹⁰	—
ERL R&D	2006	1300	1	2	2	31	9×10 ⁹	—
	2007		9	1		17	3×10 ⁹	
	2007		2	1		42.6	3.7×10 ⁹	
	2008		2	1		40.9	3.3×10 ⁹	
STF Phase1.5	2007	1300	9	2	2	27.1 to 27.7	5×10 ⁹	—
	2008			3		25.0 to 37.8	5×10 ⁹	
	2009			2		under testing		

(*1) Operating Temperature

For and On Behalf of

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