Testing of LEPS at VECC, Kolkatta with modified cards in IUAC Clover modules :

1. One Shaper card and one Timing card of the existing Clover module is replaced by the modified & corrected Shaper and Timing card.

2. The gain of Clover module is set to gain maximum, i.e., 500 keV full scale, no jumper. Similarly with one jumper and two jumpers, the gains were set.

	Calibration	Pulse height for 30 keV X-ray of ^{133}Ba
No jumper :	0.06 keV/ch	280 mv
One jumpers :	0.11 keV/ch	140 mv
Two jumpers :	0.16 keV/ch	100 mv

So the **gain factor seems to be o.k. with different jumper selection**.

3. Similar gain as set in Clover module was set in this 2024 amplifier. 356 keV peak of ^{133}Ba was kept at the same channel, though some nonlinearity was found towards the lower energy.

   It is observed that the **resolution is worse with Clover module** in lower gain. But it has improved compared to previous LEPS card made.

	Resolution at 356 keV
Canberra 2024 spectroscopy amplifier	1.43 keV 1.41 keV 1.48 keV
Clover module with modified card	1.44 keV (500keV gain) 1.58 keV (1MeV gain) 1.98 keV (2MeV gain)

4. The new Card also shows some noise from time to time (A spike comes in spectra at lowest channel sometime).

5. The data was taken in coincidence mode. Now the threshold of the card is working properly.

   For full scale gain = 500 keV,

Source	cut upto	Pulse Height Threshold

^{133}Ba	Noise		+13.9 mV
	30 keV x-ray	280 mV	-281 mV
	81 keV	140 mV	-1.135 mV

Thanks to Mrs.Sharmista Mukherjee & her Colleagues, VECC