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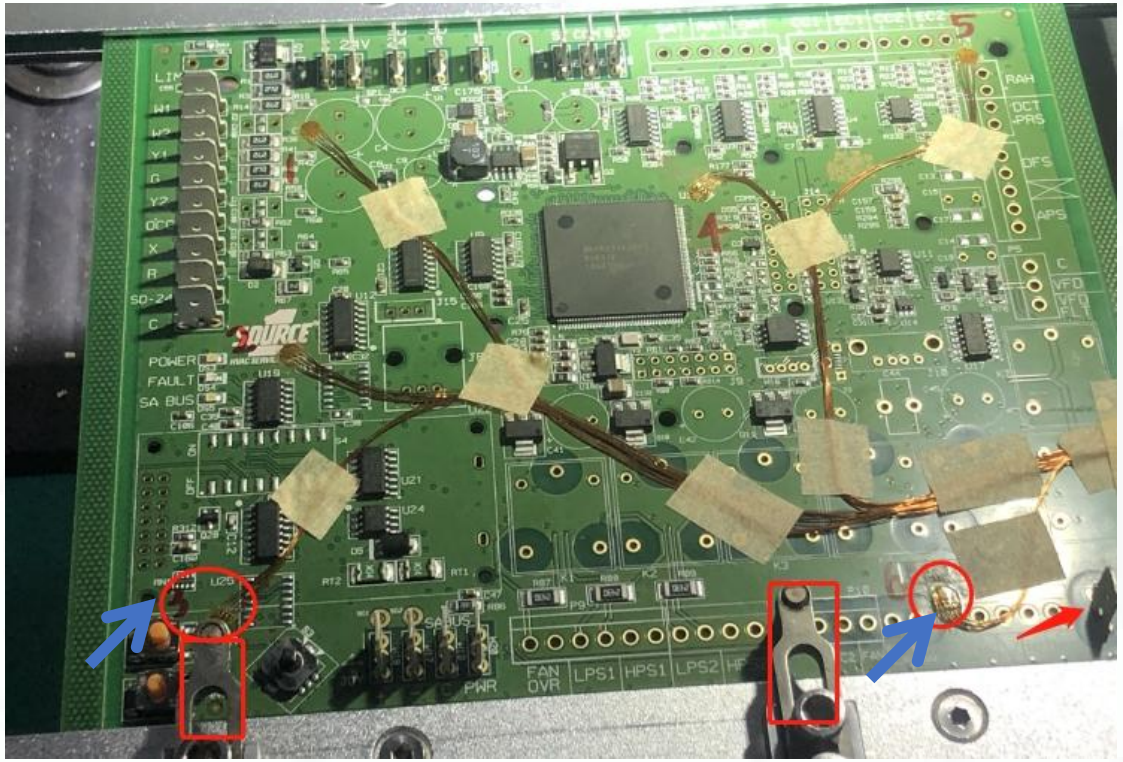
The reason for the high value in Point #3 and #6



- As you can see in the image, Point #3 and #6 both on the edge of the board, And both close to the splint. This will cause the stress value to be larger than other points.
- The reason why the stress value at point 6 is higher than that at point 3 is that a terminal needs to be inserted into the edge of the board near point 6.
- Point 4 is the most critical, near an IC , It can be seen that the stress value is the smallest in the test, so when the terminal is inserted, it will not cause any damage to the IC.

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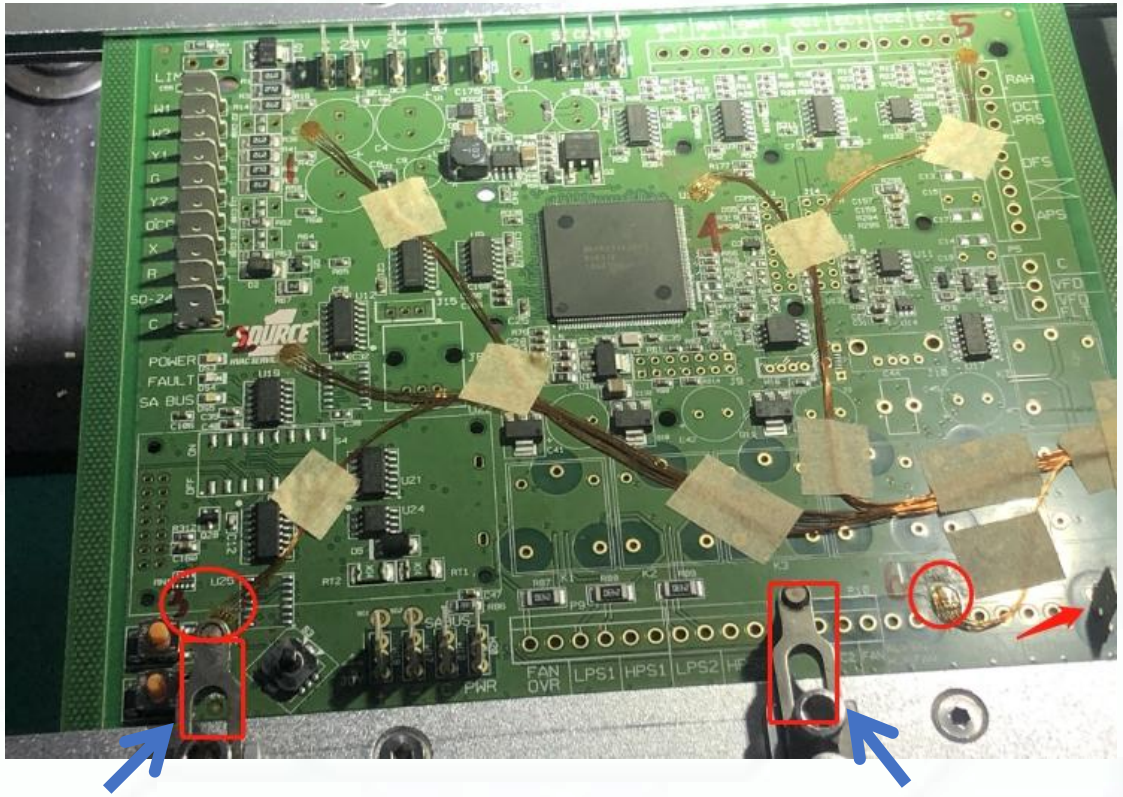
Two ways to reduce the stress value



① The positioning clip can move left and right:
The distance between the positioning clips is more than half the length of the PCB
The positioning clip will not touch any components

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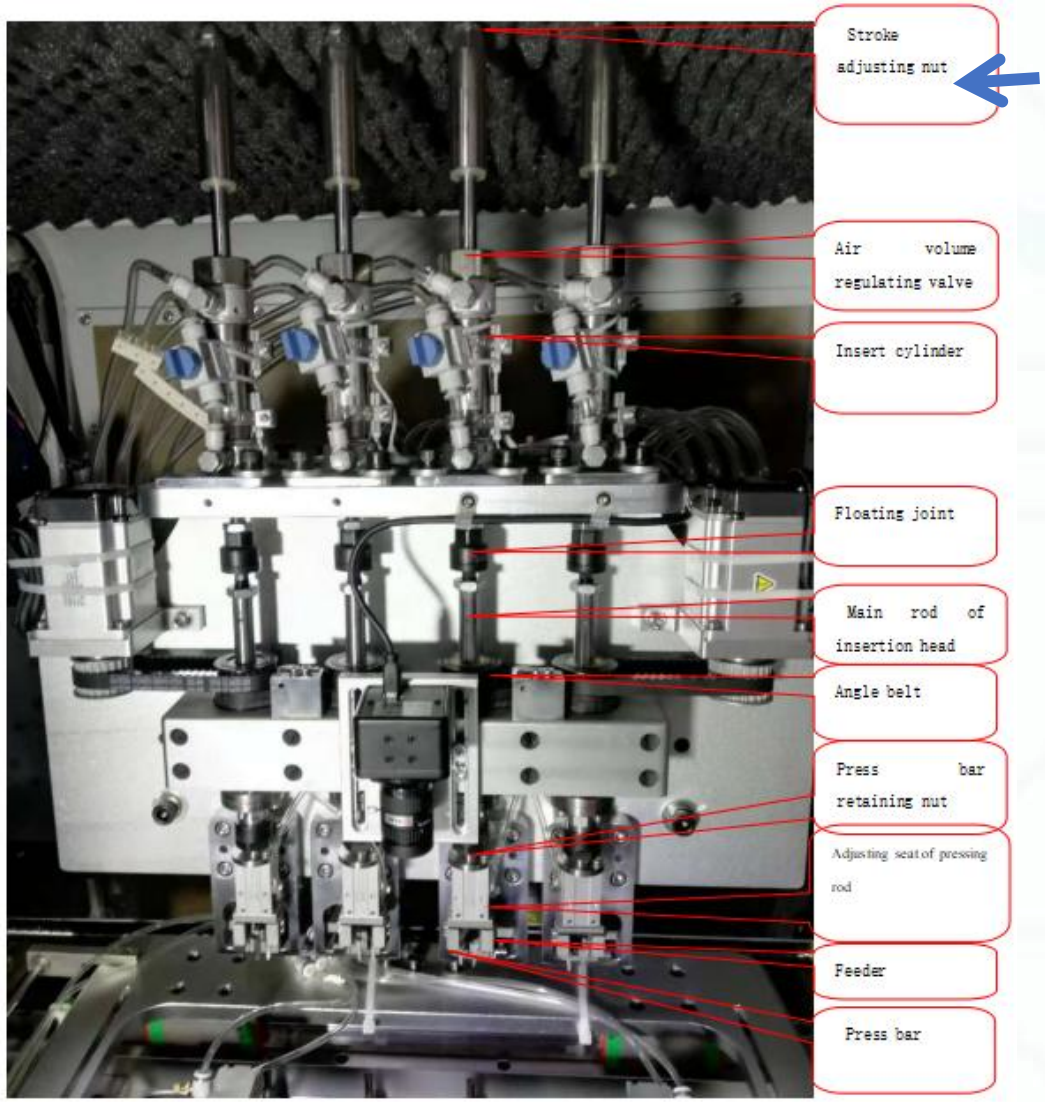
Two ways to reduce the stress value



②

Under the premise of ensuring stable and qualified terminal insertion, by stroke adjusting nut, adjust the height of the insertion, We got another test data

Summary

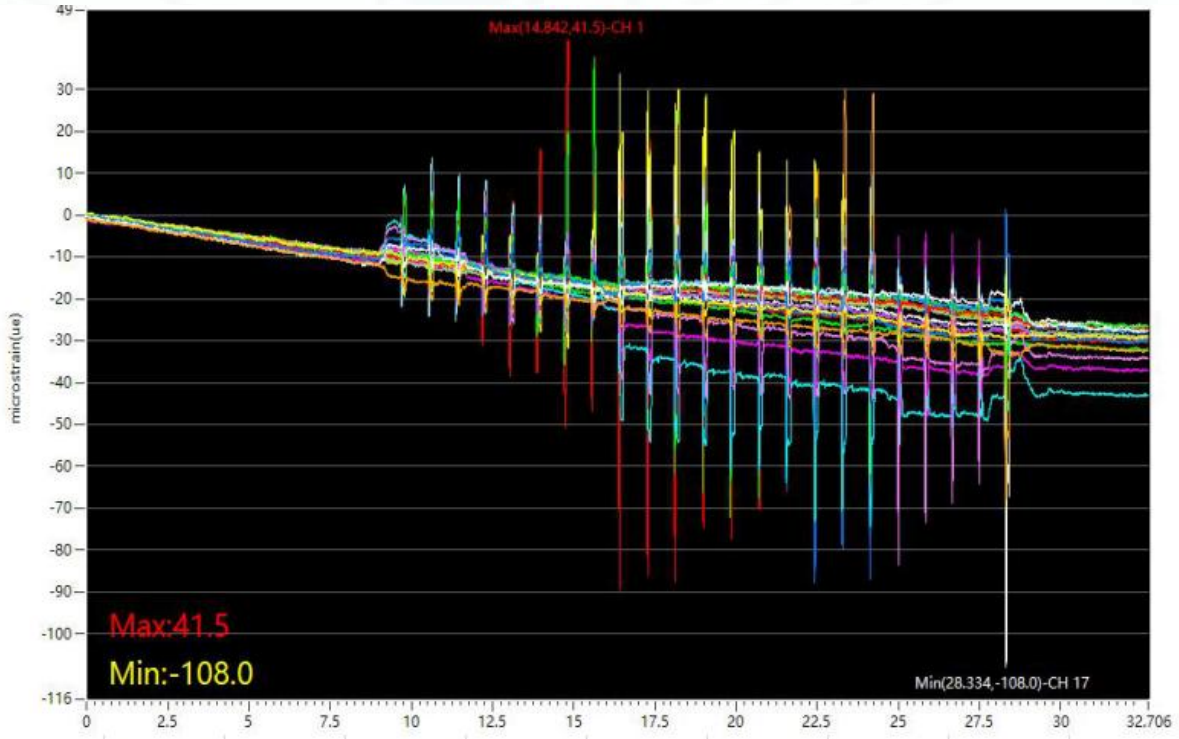
The stress value tested after adjusting the insertion height

Summary of Strain Data

Assembly Step	Component-type	Segment / Cycle	Strain Gauge Map	e1	e2	e3	Diagonal Strain	e_Min Principal	e_Max Principal	Strain Limit	Result
				microstrain	microstrain	microstrain	microstrain	microstrain	microstrain	microstrain	
stress test			Sensor_1	-89.5	-72.3	33.6	72.3	-91.7	44.3	500	Pass
			Sensor_2	-88	-30.8	30	96.6	-111.5	54.9	500	Pass
			Sensor_3	-48.3	-74.4	-83.8	74.4	-89.9	-33.8	500	Pass
			Sensor_4	-31.8	-45.8	-49.4	45.8	-55	-28.4	500	Pass
			Sensor_5	-48.6	-51.6	-36	51.6	-58.8	-27	500	Pass
			Sensor_6	-28.4	-108	-70	108	-116.2	47.4	500	Pass

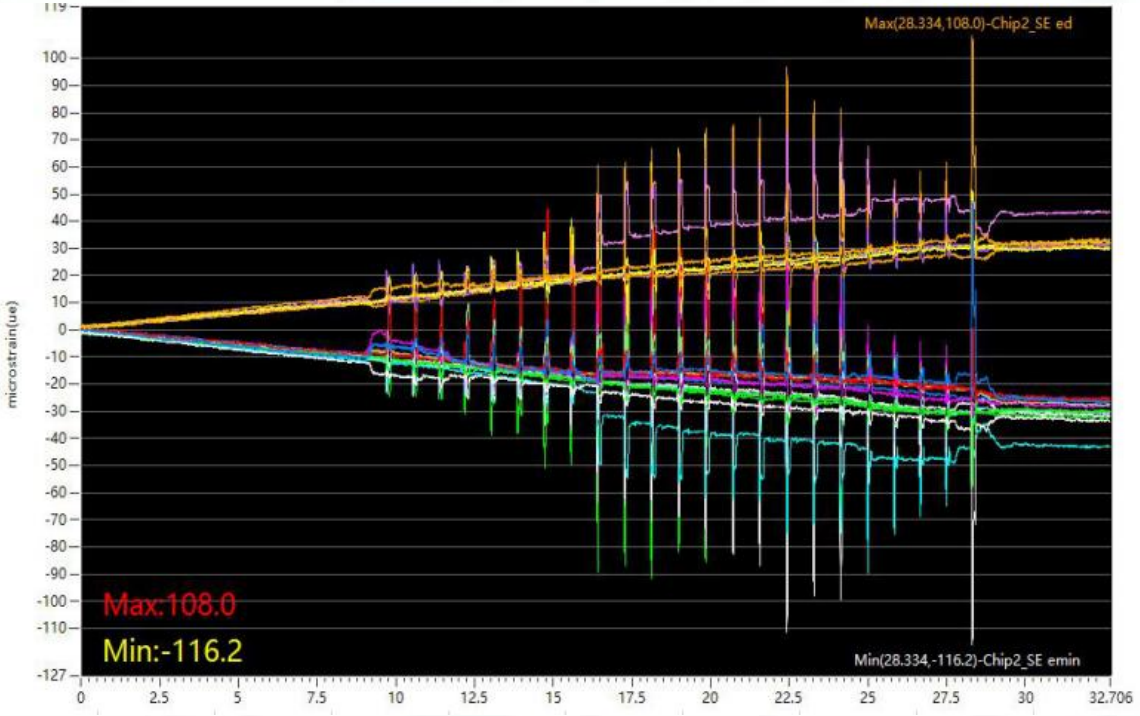
Single Strain

Single Channel Value:					Strain Limit:		±500ue
Channel Name		Color	Max(ue)	<<Time(s)	Min(ue)	<<Time(s)	Result
Sensor_1	CH 1		41.5	14.842	-89.5	16.433	Pass
	CH 2		37.7	15.667	-72.3	19.841	Pass
	CH 3		33.6	16.435	-31.8	14.846	Pass
Sensor_2	CH 4		9.9	24.246	-88	22.444	Pass
	CH 5		13	16.433	-30.8	28.31	Pass
	CH 6		30	23.394	-28.8	26.677	Pass
Sensor_3	CH 7		-1.1	0.013	-48.3	25.108	Pass
	CH 8		-0.5	0.064	-74.4	24.133	Pass
	CH 9		-0.1	0.031	-83.8	25.025	Pass
Sensor_4	CH 10		7	9.806	-31.8	24.245	Pass
	CH 11		13.6	10.662	-45.8	28.333	Pass
	CH 12		5.6	10.665	-49.4	28.334	Pass
Sensor_5	CH 13		5.1	9.806	-48.6	28.334	Pass
	CH 14		5.2	9.815	-51.6	28.333	Pass
	CH 15		0.4	0.116	-36	27.508	Pass
Sensor_6	CH 16		1.4	28.333	-28.4	32.677	Pass
	CH 17		-0.3	0.017	-108	28.334	Pass
	CH 18		-0.9	0.049	-70	28.333	Pass



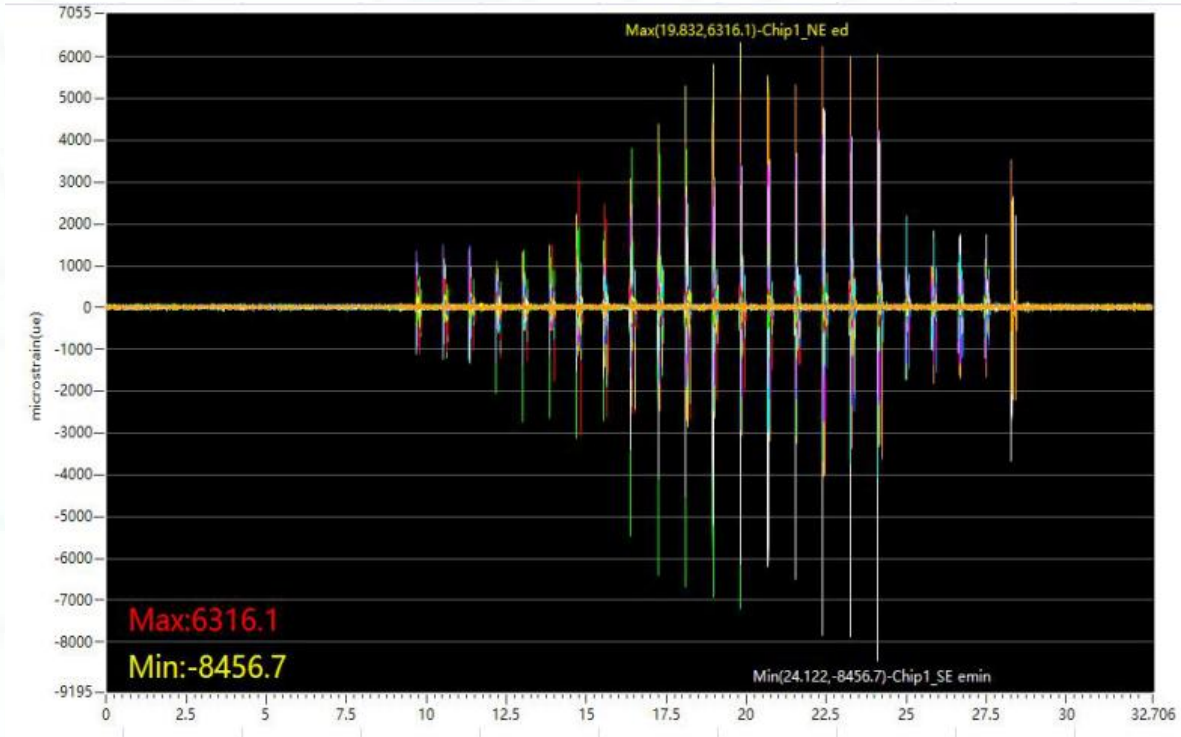
P&D Strain

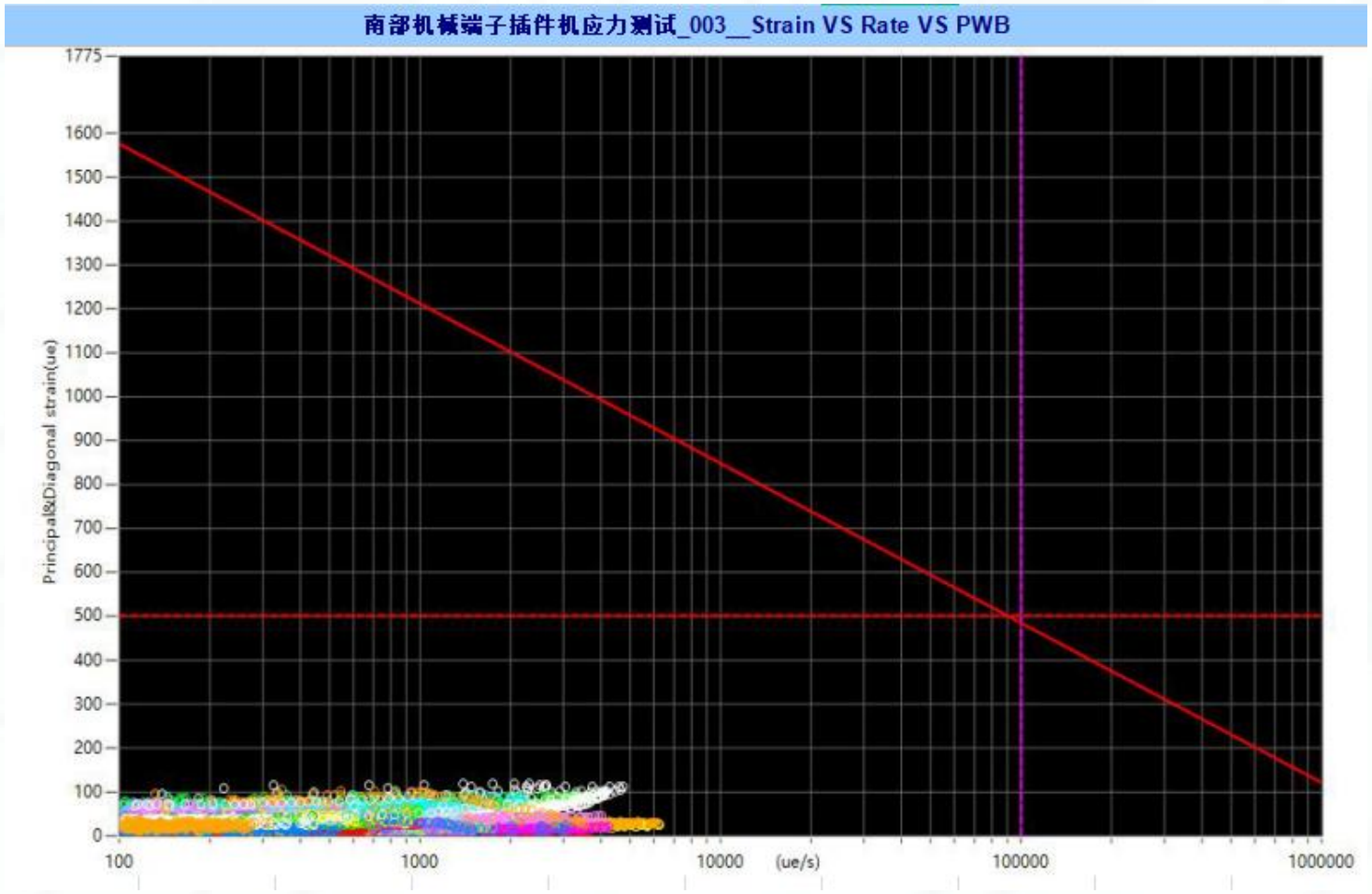
Principal&Diagonal Strain Value :					Strain Limit :		±500ue
Channel Name		Color	Max(ue)	<<Time(s)	Min(ue)	<<Time(s)	Result
Sensor_1	eMax		44.3	14.842	-26.4	31.417	Pass
	eMin		14.5	17.388	-91.7	18.155	Pass
	ed		72.3	19.841	0.5	0.023	Pass
Sensor_2	eMax		54.9	24.246	-26.8	32.085	Pass
	eMin		-0.5	0.195	-111.5	22.444	Pass
	ed		96.6	22.444	0.5	0.195	Pass
Sensor_3	eMax		29.9	22.444	-33.8	24.254	Pass
	eMin		-1.1	0.013	-89.9	25.024	Pass
	ed		74.4	24.133	0.7	0.031	Pass
Sensor_4	eMax		13.7	10.662	-28.4	31.931	Pass
	eMin		-0.8	0.794	-55	28.333	Pass
	ed		45.8	28.333	0.7	0.804	Pass
Sensor_5	eMax		10.3	9.815	-27	32.229	Pass
	eMin		-0.9	0.109	-58.8	28.333	Pass
	ed		51.6	28.333	0.3	0.114	Pass
Sensor_6	eMax		47.4	28.334	-27.1	32.677	Pass
	eMin		-0.9	0.049	-116.2	28.334	Pass
	ed		108	28.334	0.7	0.058	Pass



Strain Rate

Rate--Principal&Diagonal Value :				Remark Position :		100000
Channel Name		Color	Max Rate(ue/s)	<<Time(s)	Strain(ue)	Result
Sensor_1	eMax		3667.7	19.832	-10.7	Pass
	eMin		-7222.8	19.832	-28.8	Pass
	ed		6316.1	19.832	23.4	Pass
Sensor_2	eMax		-3652.3	24.252	54.7	Pass
	eMin		-8456.7	24.122	-29.7	Pass
	ed		6247.8	22.406	27.4	Pass
Sensor_3	eMax		4273.4	24.122	-18.7	Pass
	eMin		-4081.3	24.123	-43	Pass
	ed		4055	24.123	42.6	Pass
Sensor_4	eMax		1756.3	22.406	-16.6	Pass
	eMin		-2216.2	22.406	-25.7	Pass
	ed		1505.2	10.537	11.5	Pass
Sensor_5	eMax		-1131.3	9.822	10	Pass
	eMin		-1160	28.294	-26.5	Pass
	ed		920.9	28.295	29.7	Pass
Sensor_6	eMax		3106.2	28.292	-22.1	Pass
	eMin		-3687.6	28.292	-28.5	Pass
	ed		3529.5	28.292	26.2	Pass





IPC-9704 test standard: the stress test value is qualified within ±500ue

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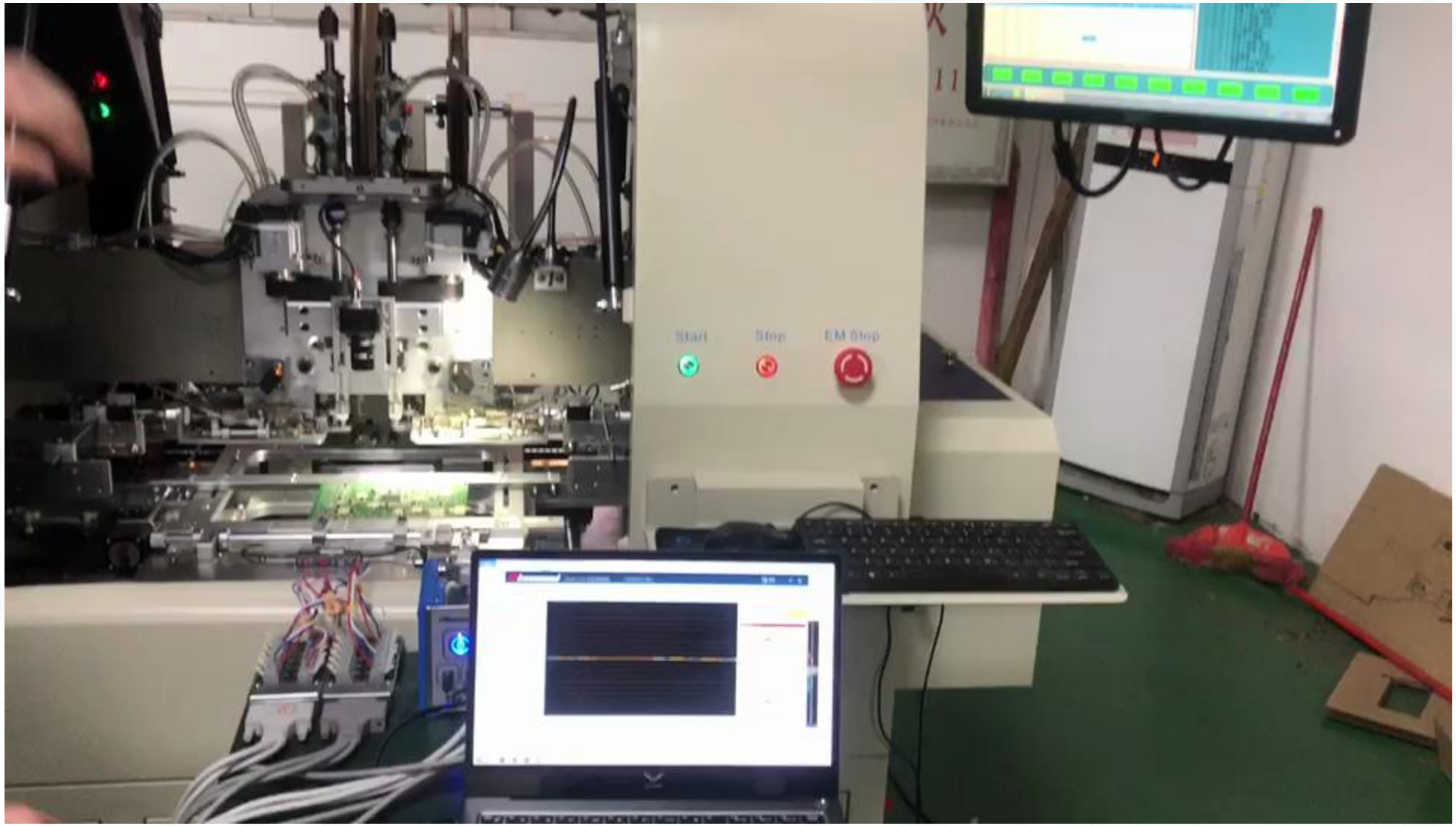
Test video



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