報告編號
Report No.：RT08A66

產品承認報告
PRODUCT QUALIFICATION REPORT

Description : 外製成品

Supplier: N

TXC P/N : 7M32000035(第二次)

Conclusion: ☐ Conditional Approval ☐ Full Approval ☑ Reject

Major Issue:
1. 電測FL CPK 0.93<1.00
2.Date Code爲5月份生產產品,與前次(2008/8/3送樣同Marking)
Minor Issue:
1. Carrier長度NG(規格3.4±0.1mm,實測3.68mm)
2. Carrier寬度NG(規格2.7±0.1mm,實測2.90mm)
3. 拉力NG(規格20~80gms,實測50~122gms)

RA :
1. Pressure cooker storage test --- 1pcs ppm out of spec.
2. High temp. storage test --- 1pcs ppm out of spec.
3. High temp. and humidity test --- 3 pcs ppm out of spec.

EVALUATED BY *Rita Wu*

APPROVED BY : *Y.H. Huang*

ISSUED DATE : **17-Nov-08**

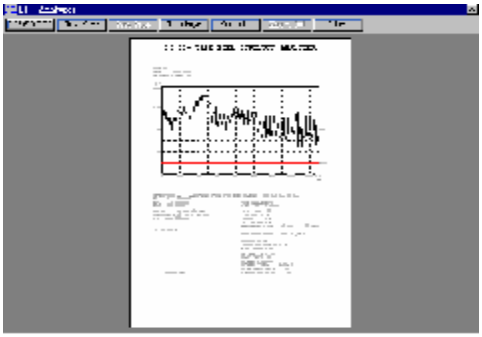
Supplier: N TXC P/N : 7M32000035(第二次)

	CARRIER長	CARRIER寬	CARRIER高	CARRIER帶寬	Bar Code標籤	MARKING	粗細漏測試
規格	3.40±0.1	2.70±0.1	1.40±0.1	8.000	N/A	OK	OK
實測	3.68	2.90	1.36	8.02			
判定	NG	NG	OK	OK			

	SAMPLE長	SAMPLE寬	SAMPLE高	BLANK尺寸	銀面尺寸	拉力測試	推力測試
規格	3.2±0.10	2.50±0.10	0.7±0.10	1.2874*1.9957	0.9469*1.2012	NG	N/A
實測	3.20	2.49	0.68			Reflow Test	Shock Test
判定	OK	OK	OK			OK	OK

	電測	溫測	備註
判定	FL CPK NG	OK	1.Date Code爲5月份生產產品,與前次(2008/8/3送樣同Marking)

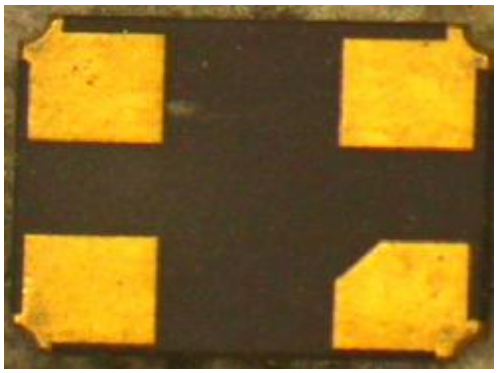
Taping拉力



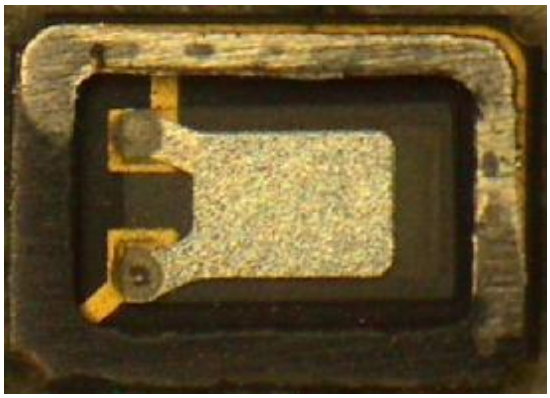
MARKING



PKG



銀面

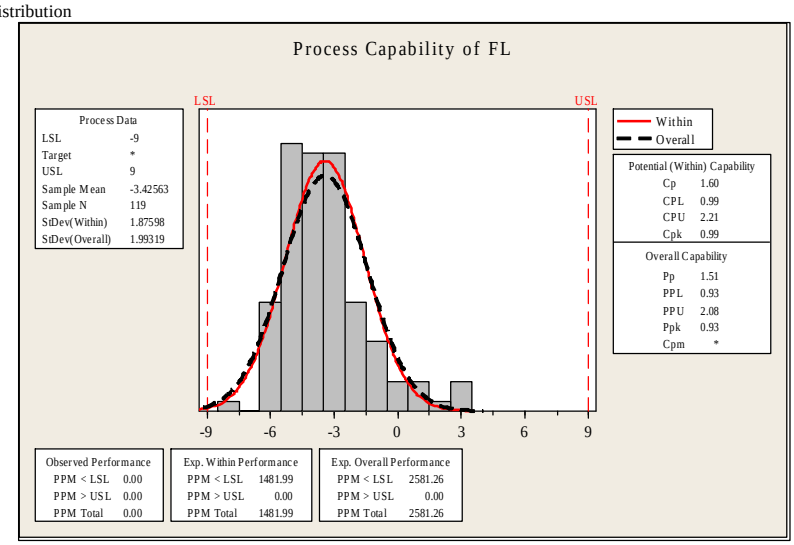


INITIAL ELECTRICAL TEST

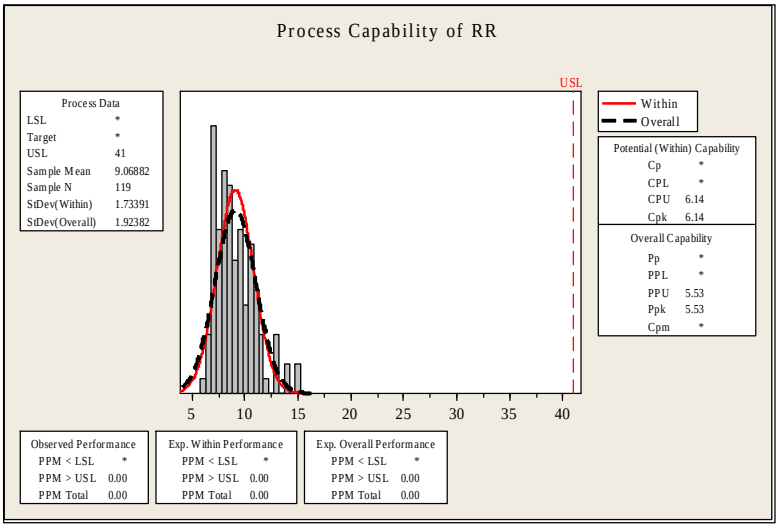
TEST RESULT **NG** FL CPK 0.93<1.00

ITEM	FL Tol	RR	C0	C1	L	C0/C1	DLD2	FLD2	RLD2	SPDB	Q	TS
	ppm	Ohms	pF	fF	mH		Ohms	ppm	ohms	db	k	ppm/pF
USL	9	41	1.38	N/A	N/A	N/A	7.5	7.5	N/A	-3	N/A	14.52
LSL	-9	N/A	0.98	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	9.68
Max.	3.21	15.10	1.20	4.34	6.30	294.33	5.93	3.29	18.38	-9999.00	196.40	12.47
Min.	-7.59	6.09	1.06	3.93	5.71	259.01	0.31	0.14	6.25	-9999.00	80.65	11.37
Mean	-3.43	9.07	1.16	4.17	5.93	277.40	0.99	0.96	9.78	-9999.00	136.81	12.06
STD	1.99	1.92	0.02	0.09	0.13	7.03	1.08	0.54	2.45	0.00	26.50	0.25
CPK	0.93	5.55	NA	NA	NA	N/A	2.00	4.03	NA	NA	NA	NA

Frequency Distribution



RR Distribution



EXCEL EXPORT PRINTOUT FORMAT
Run Name 7M32000035-N

Run Date : 11-¤Q¤@¤ê-2008 5:31 pm
S&A 250B: 9.60 Report: 4.62
Descriptio¤ 7M32000035

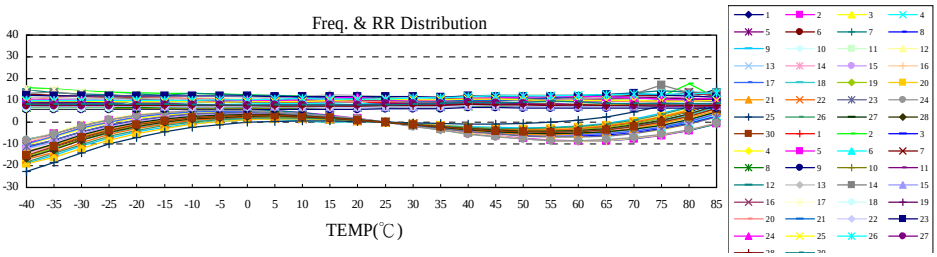
Reference 32000000 (Using Measured FL)
Power: 50.00 uW Into 15.0 ohms
PL: No Load CL: 12.00 pF

ITEM	FR	FL	FL Tol	RR	C0	C1	L	C0/C1	DLD2	FLD2	RLD2	SPDB	Q	TS
	PPM	HZ	ppm	Ohms	pF	fF	mH		Ohms	ppm	ohms	db	k	ppm/pF
	USL		9	41	1.38	N/A	N/A	N/A	7.5	7.5	N/A	N/A	N/A	14.52
	LSL		-9	N/A	0.98	N/A	N/A	N/A	N/A	N/A	N/A	NA	NA	9.68
Max.	-154.37	32000102.65	3.21	15.10	1.20	4.34	6.30	294.33	5.93	3.29	18.38	-9999.00	196.40	12.47
Min.	-170.64	31999757.19	-7.59	6.09	1.06	3.93	5.71	259.01	0.31	0.14	6.25	-9999.00	80.65	11.37
AVG	-163.59	31999890.39	-3.43	9.07	1.16	4.17	5.93	277.40	0.99	0.96	9.78	-9999.00	136.81	12.06
STD	3.77	63.63	1.99	1.92	0.02	0.09	0.13	7.03	1.08	0.54	2.45	0.00	26.50	0.25
CPK	NA	NA	0.93	5.55	NA	NA	NA	N/A	2.00	4.03	NA	NA	NA	NA
#1	-162.63	31999901.79	-3.07	9.01	1.17	4.16	5.95	280.38	0.37	0.68	9.19	-9999.00	132.62	12.00
#2	-162.70	31999924.09	-2.37	11.23	1.16	4.17	5.93	276.88	0.58	0.21	11.62	-9999.00	106.16	12.06
#3	-158.85	31999930.16	-2.18	8.37	1.13	4.08	6.07	278.35	0.42	0.76	8.65	-9999.00	145.82	11.81
#4	-158.24	32000097.30	3.04	7.65	1.19	4.22	5.86	282.73	0.41	0.91	7.87	-9999.00	154.02	12.12
#5	-163.40	31999881.90	-3.69	10.44	1.16	4.16	5.95	278.09	2.09	0.87	12.49	-9999.00	114.52	12.02
#6	-154.37	32000053.45	1.67	8.62	1.19	4.08	6.06	292.25	0.44	1.16	8.89	-9999.00	141.34	11.72
#7	-162.08	31999914.98	-2.66	10.71	1.16	4.15	5.96	280.10	1.79	1.26	12.01	-9999.00	111.99	11.97
#8	-159.37	31999910.84	-2.79	6.92	1.17	4.09	6.05	286.05	0.53	1.06	7.20	-9999.00	175.83	11.79
#9	-156.60	32000083.94	2.62	6.09	1.17	4.16	5.95	280.81	0.36	1.00	6.25	-9999.00	196.40	11.99
#10	-160.57	31999906.66	-2.92	6.89	1.13	4.10	6.03	276.51	0.37	1.12	7.06	-9999.00	175.95	11.89
#11	-167.32	31999917.96	-2.56	8.09	1.15	4.29	5.77	267.89	0.42	0.30	8.35	-9999.00	143.38	12.41
#12	-154.39	31999848.76	-4.73	11.39	1.14	3.93	6.30	290.28	2.13	1.89	12.89	-9999.00	111.22	11.37
#13	-165.77	31999915.20	-2.65	11.97	1.16	4.25	5.82	272.73	0.66	0.77	12.42	-9999.00	97.72	12.28
#14	-166.06	31999916.96	-2.59	10.59	1.15	4.24	5.83	272.16	5.93	1.48	16.45	-9999.00	110.68	12.26
#15	-164.46	31999914.60	-2.67	7.20	1.16	4.22	5.87	274.77	0.33	0.64	7.32	-9999.00	163.92	12.17
#16	-160.91	31999935.08	-2.03	9.89	1.15	4.14	5.97	278.47	0.68	0.91	10.19	-9999.00	121.43	11.97
#17	-158.50	31999931.85	-2.13	10.82	1.15	4.07	6.08	282.99	0.49	0.54	11.06	-9999.00	113.07	11.76
#18	-162.41	31999953.84	-1.44	10.19	1.15	4.23	5.85	270.67	4.35	3.09	13.21	-9999.00	115.29	12.25
#19	-157.28	32000034.47	1.08	10.35	1.14	4.15	5.96	275.29	2.54	2.03	12.55	-9999.00	115.73	12.02
#20	-157.21	31999920.86	-2.47	9.40	1.15	4.03	6.14	285.43	2.66	1.89	11.96	-9999.00	131.31	11.65
#21	-159.71	31999930.83	-2.16	10.58	1.14	4.11	6.01	277.55	1.89	2.08	12.19	-9999.00	114.30	11.91
#22	-162.10	31999861.52	-4.33	6.96	1.15	4.11	6.03	279.47	1.33	0.54	8.22	-9999.00	174.03	11.88
#23	-163.76	31999897.07	-3.22	11.67	1.15	4.18	5.92	275.83	0.58	0.20	12.02	-9999.00	102.02	12.08
#24	-164.29	31999916.83	-2.60	10.73	1.15	4.21	5.87	273.32	0.86	0.48	11.40	-9999.00	110.05	12.18
#25	-163.53	31999865.97	-4.19	10.53	1.16	4.15	5.97	279.77	1.52	0.80	11.93	-9999.00	113.90	11.98
#26	-165.96	31999883.87	-3.63	10.72	1.20	4.24	5.83	282.02	0.66	0.61	11.09	-9999.00	109.34	12.18
#27	-162.58	31999876.51	-3.86	8.50	1.15	4.13	5.99	278.46	1.32	0.62	9.40	-9999.00	141.65	11.95
#28	-164.93	31999890.42	-3.42	7.64	1.15	4.21	5.88	273.47	0.40	0.73	7.80	-9999.00	154.80	12.16
#29	-163.56	31999886.36	-3.55	8.57	1.16	4.17	5.93	278.60	0.53	1.04	8.97	-9999.00	139.23	12.04
#30	-156.95	31999872.63	-3.98	8.18	1.14	3.98	6.21	286.79	0.43	0.92	8.37	-9999.00	152.79	11.53
#31	-167.56	31999865.98	-4.19	8.90	1.18	4.27	5.80	275.52	0.47	0.60	9.21	-9999.00	131.00	12.29
#32	-159.93	31999858.18	-4.43	15.10	1.17	4.06	6.10	289.67	0.56	0.81	15.50	-9999.00	81.24	11.68
#33	-167.78	31999856.22	-4.49	7.52	1.15	4.25	5.82	270.86	0.65	1.22	7.97	-9999.00	155.71	12.29
#34	-168.55	31999825.67	-5.45	7.26	1.13	4.24	5.83	266.55	0.52	0.77	7.57	-9999.00	161.64	12.30
#35	-167.20	31999798.62	-6.29	7.16	1.14	4.19	5.91	272.50	0.60	1.25	7.63	-9999.00	165.85	12.13
#36	-163.89	31999847.97	-4.75	8.52	1.14	4.13	5.99	276.70	0.96	1.26	9.15	-9999.00	141.47	11.95
#37	-166.41	31999869.56	-4.08	8.07	1.18	4.24	5.83	278.01	0.40	0.77	8.30	-9999.00	145.25	12.21
#38	-165.29	31999865.10	-4.22	8.68	1.09	4.16	5.95	261.30	2.07	1.26	10.06	-9999.00	137.88	12.14
#39	-168.91	31999850.75	-4.66	6.98	1.15	4.28	5.79	269.84	1.37	1.80	8.20	-9999.00	166.64	12.36
#40	-167.98	31999840.84	-4.97	6.92	1.14	4.25	5.83	268.58	0.45	0.71	7.16	-9999.00	169.23	12.30
#41	-163.60	32000036.33	1.14	7.87	1.20	4.31	5.74	277.74	0.32	0.42	7.96	-9999.00	146.45	12.38
#42	-163.65	31999892.94	-3.35	9.73	1.18	4.19	5.91	282.65	0.45	1.00	10.01	-9999.00	122.15	12.04
#43	-162.25	31999869.26	-4.09	9.95	1.12	4.11	6.02	273.19	0.75	0.96	10.57	-9999.00	121.57	11.93
#44	-167.05	31999823.72	-5.51	8.79	1.13	4.20	5.90	269.89	0.53	0.48	9.10	-9999.00	134.86	12.17
#45	-159.30	31999799.18	-6.28	6.73	1.18	4.00	6.19	294.33	0.38	1.66	6.84	-9999.00	184.70	11.52
#46	-163.88	31999952.00	-1.50	10.08	1.19	4.25	5.82	280.98	0.57	0.79	10.50	-9999.00	116.09	12.21
#47	-167.37	31999809.55	-5.95	6.33	1.17	4.21	5.87	278.02	0.33	1.26	6.42	-9999.00	186.46	12.15
#48	-164.54	31999841.27	-4.96	7.22	1.14	4.16	5.96	275.31	0.33	0.75	7.37	-9999.00	165.81	12.03
#49	-167.54	31999856.67	-4.48	8.19	1.17	4.26	5.81	275.63	0.40	0.83	8.41	-9999.00	142.70	12.26
#50	-162.17	31999842.39	-4.93	15.05	1.14	4.10	6.04	279.14	2.32	2.63	15.28	-9999.00	80.65	11.86
#51	-159.16	31999956.59	-1.36	11.00	1.18	4.10	6.04	287.94	2.21	1.22	12.30	-9999.00	110.46	11.79
#52	-161.70	31999820.97	-5.59	7.22	1.14	4.06	6.09	281.26	0.86	0.74	7.82	-9999.00	169.67	11.76
#53	-161.31	31999848.70	-4.73	7.91	1.13	4.06	6.09	277.18	4.18	0.29	12.07	-9999.00	154.85	11.78
#54	-165.58	32000016.41	0.51	9.32	1.18	4.33	5.71	271.38	5.38	0.77	14.61	-9999.00	123.26	12.47
#55	-168.47	31999847.88	-4.75	6.65	1.13	4.26	5.81	266.46	1.45	0.70	7.97	-9999.00	175.48	12.34
#56	-160.53	31999932.46	-2.11	7.12	1.15	4.13	6.00	278.32	0.39	0.99	7.33	-9999.00	169.42	11.93
#57	-161.76	31999897.53	-3.20	7.07	1.13	4.13	5.99	274.01	1.71	1.26	8.63	-9999.00	170.29	11.97
#58	-165.44	31999902.78	-3.04	9.63	1.19	4.24	5.84	280.23	0.76	0.69	10.25	-9999.00	121.89	12.18
#59	-170.64	31999847.64	-4.76	8.47	1.19	4.33	5.71	274.39	0.40	0.54	8.69	-9999.00	135.58	12.45
#60	-162.99	31999849.08	-4.72	8.38	1.19	4.14	5.98	287.24	0.71	1.26	8.90	-9999.00	143.38	11.90
#61	-162.66	31999842.60	-4.92	7.50	1.13	4.10	6.04	275.94	0.44	0.53	7.74	-9999.00	161.88	11.89
#62	-164.16	31999919.64	-2.51	9.37	1.18	4.22	5.86	279.40	0.93	0.86	10.19	-9999.00	125.67	12.16
#63	-168.75	31999850.20	-4.68	8.16	1.19	4.29	5.77	276.80	0.43	0.84	8.39	-9999.00	142.11	12.34
#64	-165.46	31999867.33	-4.15	9.21	1.12	4.19	5.90	268.24	0.41	0.68	9.40	-9999.00	128.92	12.17
#65	-167.54	31999941.74	-1.82	13.12	1.16	4.31	5.74	269.97	2.24	1.80	15.12	-9999.00	87.88	12.44
#66	-167.41	31999817.99	-5.69	14.16	1.13	4.19	5.90	269.16	4.65	1.67	17.85	-9999.00	83.78	12.16
#67	-166.30	31999973.79	-0.82	7.74	1.20	4.33	5.72	276.86	0.37	0.94	7.77	-9999.00	148.37	12.43
#68	-165.71	31999826.30	-5.43	8.24	1.17	4.18	5.92	280.26	0.41	0.81	8.47	-9999.00	144.29	12.05
#69	-167.37	31999893.59	-3.33	9.30	1.14	4.27	5.80	267.54	0.71	0.29	9.69	-9999.00	125.31	12.36
#70	-164.30	31999862.54	-4.30	8.67	1.13	4.16	5.94	271.65	0.31	0.60	8.79	-9999.00	137.83	12.07
#71	-165.54	31999917.75	-2.57	10.52	1.19	4.26	5.81	280.03	0.75	1.56	10.55	-9999.00	111.00	12.24
#72	-166.65	31999853.13	-4.59	8.25	1.13	4.21	5.88	268.45	0.49	1.02	8.28	-9999.00	143.24	12.21
#73	-164.40	31999888.94	-3.47	7.46	1.17	4.20	5.89	279.58	0.45	0.86	7.74	-9999.00	158.80	12.10
#74	-170.48	31999837.28	-5.09	9.35	1.14	4.30	5.76	264.59	0.45	0.14	9.47	-9999.00	123.75	12.46
#75	-162.30	31999889.66	-3.45	11.62	1.18	4.15	5.96	284.44	0.85	1.29	12.26	-9999.00	103.08	11.95
#76	-163.81	31999857.01	-4.47	8.89	1.17	4.16	5.95	281.00	1.02	0.63	9.75	-9999.00	134.59	11.98
#77	-166.77	31999891.88	-3.38	11.04	1.18	4.26	5.81	277.08	0.69	0.38	11.18	-9999.00	105.79	12.26
#78	-168.38	31999813.85	-5.82	7.95	1.13	4.22	5.86	266.67	0.60	0.81	8.44	-9999.00	148.16	12.26
#79	-154.78	31999888.32	-0.37	8.33	1.18	4.03	6.14	291.50	0.61	1.79	8.72	-9999.00	148.02	11.62
#80	-161.20	31999846.52	-4.80	9.56	1.12	4.06	6.09	275.90	0.65	0.48	9.99	-9999.00	128.13	11.80
#81	-161.88	31999882.77	-3.66	7.02	1.20	4.14	5.98	289.10	0.46	0.92	7.23	-9999.00	171.22	11.88
#82	-158.77	31999853.44	-4.58	11.10	1.19	4.05	6.11	293.08	2.26	2.20	12.83	-9999.00	110.69	11.64
#83	-169.69	31999804.80	-6.10	13.24	1.19	4.29	5.77	277.79	1.40	0.52	14.06	-9999.00	87.57	12.33
#84	-163.11	31999845.28	-4.84	8.29	1.15	4.12	6.00	279.96	0.41	0.65	8.67	-9999.00	145.44	11.92
#85	-158.73	31999885.31	-3.58	6.69	1.17	4.05	6.11	289.88	0.36	1.43	6.81	-9999.00	183.54	11.68
#86	-164.42	31999873.88	-3.94	9.41	1.17	4.18	5.92	280.99	0.49	0.26	9.65	-9999.00	126.42	12.04
#87	-167.61	31999928.61	-2.23	9.57	1.15	4.31	5.75	267.00	0.59	0.38	10.28	-9999.00	120.68	12.45
#88	-167.70	31999857.68	-4.45	9.77	1.17	4.26	5.81	275.15	0.44	0.53	10.01	-9999.00	119.62	12.27
#89	-169.15	31999899.58	-3.14	8.64	1.18	4.33	5.71	271.91	0.38	0.33	8.83	-9999.00	133.03	12.47
#90	-165.51	31999825.96	-5.44	8.91	1.18	4.18	5.92	281.63	0.44	0.95	9.19	-9999.00	133.49	12.04
#91	-161.22	31999896.83	-3.22	7.22	1.06	4.09	6.06	259.01	0.37	1.15	7.37	-9999.00	168.58	11.98
#92	-160.45	31999846.64	-4.79	8.03	1.14	4.05	6.11	281.32	0.40	1.19	8.35	-9999.00	152.91	11.73
#93	-158.55	31999972.34	-0.86	9.43	1.18	4.11	6.02	286.45	0.48	0.77	9.68	-9999.00	128.37	11.83
#94	-167.28	31999853.76	-4.57	10.15	1.20	4.25	5.82	281.35	0.48	0.53	10.44	-9999.00	115.25	12.21
#95	-156.72	31999896.96	-3.22	8.55	1.13	3.99	6.20	283.36	0.53	1.29	8.86	-9999.00	145.81	11.57
#96	-155.82	31999908.36	-2.86	7.60	1.17	3.99	6.19	293.22	0.40	1.38	7.80	-9999.00	163.92	11.51
#97	-166.63	32000001.88	0.06	13.13	1.19	4.34	5.71	273.94	5.40	3.29	18.38	-9999.00	87.42	12.46
#98	-169.70	31999833.23	-5.21	8.20	1.18	4.29	5.76	275.28	0.66	0.45	8.57	-9999.00	141.20	12.36
#99	-167.02	31999856.77	-4.48	7.22	1.12	4.22	5.87	264.49	1.22	0.38	8.29	-9999.00	163.30	12.26
#100	-164.74	31999978.35	-0.68	9.08	1.18	4.28	5.78	275.57	0.58	0.81	9.47	-9999.00	127.90	12.32
#101	-166.03	31999938.36	-1.93	11.14	1.19	4.29	5.77	276.96	1.75	0.87	11.28	-9999.00	104.20	12.32
#102	-160.32	31999828.51	-5.36	7.18	1.14	4.03	6.14	282.38	0.56	1.30	7.52	-9999.00	171.76	11.68
#103	-158.95	31999859.63	-4.39	13.12	1.17	4.03	6.14	289.82	0.61	0.62	13.54	-9999.00	94.07	11.62
#104	-159.16	32000102.65	3.21	9.21	1.18	4.24	5.84	278.29	0.71	0.70	9.77	-9999.00	127.38	12.20
#105	-163.04	31999945.47	-1.70	13.95	1.17	4.21	5.88	277.81	0.56	0.56	14.41	-9999.00	84.75	12.13
#106	-165.04	31999860.32	-4.36	8.99	1.14	4.18	5.92	272.25	0.37	0.61	9.19	-9999.00	132.43	12.11
#107	-169.92	31999757.19	-7.59	7.42	1.13	4.22	5.86	267.17	0.99	0.87	7.37	-9999.00	158.82	12.25
#108	-164.74	31999898.56	-3.17	11.74	1.15	4.21	5.88	273.32	0.85	0.59	12.46	-9999.00	100.65	12.17
#109	-159.45	31999995.32	-0.15	6.91	1.18	4.16	5.95	282.48	0.31	1.02	7.00	-9999.00	173.06	11.98
#110	-160.72	31999840.85	-4.97	8.02	1.16	4.07	6.07	285.34	0.98	1.48	8.60	-9999.00	152.23	11.76
#111	-163.63	31999818.60	-5.67	6.75	1.15	4.12	6.01	280.22	0.35	0.92	6.86	-9999.00	179.02	11.89
#112	-163.50	31999910.39	-2.80	6.89	1.19	4.20	5.89	283.09	0.41	1.10	7.10	-9999.00	171.74	12.08
#113	-164.16	31999862.63	-4.29	7.39	1.13	4.16	5.95	272.71	0.36	0.52	7.63	-9999.00	161.80	12.05
#114	-165.68	31999873.62	-3.95	7.92	1.13	4.21	5.88	268.60	0.96	0.94	8.68	-9999.00	149.29	12.20
#115	-160.75	31999976.82	-0.72	10.63	1.13	4.15	5.96	271.47	1.12	1.15	11.50	-9999.00	112.73	12.05
#116	-169.44	31999812.89	-5.85	10.92	1.15	4.26	5.81	269.99	0.60	0.50	11.24	-9999.00	107.00	12.31
#117	-160.82	31999852.14	-4.62	7.53	1.14	4.07	6.08	280.66	0.69	1.11	8.11	-9999.00	162.31	11.78
#118	-165.42	31999793.09	-6.47	7.87	1.14	4.14	5.98	275.45	0.35	1.04	8.01	-9999.00	152.70	11.99
#119	-164.89	31999848.05	-4.75	8.20	1.14	4.17	5.93	273.93	0.60	1.09	8.51	-9999.00	145.41	12.08

FREQUENCY vs. TEMPERATURE TEST

SAMPLE SIZE : 30 PCS (No. 1 ~ No. 30)
TEST DATE : 17-Nov-08
CRITERIA : -20 ℃ ~ 70 ℃ LESS THAN ± 10 **PPM** 41 **Ω**

TEST RESULT : **PASS**



MEASURED DATA

UNIT : PPM

TEMPERATURE FREQUENCY. TEST

No. \ ℃	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85
1	-16.2	-11.7	-7.6	-4.4	-2.0	-0.1	0.9	1.7	2.2	2.4	2.3	1.9	1.1	0.0	-0.9	-2.0	-2.8	-3.3	-3.7	-3.7	-3.1	-2.1	-0.4	1.6	4.6	8.3
2	-9.6	-5.4	-1.8	1.0	3.0	4.5	5.3	5.6	5.8	5.2	4.3	3.2	1.7	0.0	-1.6	-3.2	-5.0	-6.2	-7.4	-8.3	-8.6	-8.5	-7.5	-6.1	-3.8	-0.7
3	-10.5	-6.8	-3.3	-0.4	1.8	3.2	4.1	4.5	4.7	4.4	3.7	2.7	1.4	0.0	-1.4	-2.8	-4.3	-5.3	-6.2	-6.8	-6.7	-6.2	-5.0	-3.4	-0.9	2.5
4	-12.1	-8.4	-4.5	-1.5	0.7	2.4	3.6	4.2	4.4	4.1	3.5	2.6	1.3	0.0	-1.2	-2.6	-4.0	-4.9	-5.7	-6.2	-6.1	-5.5	-4.4	-2.5	-0.3	2.9
5	-15.6	-11.9	-8.0	-4.7	-2.2	-0.3	0.9	1.6	1.9	1.9	1.5	1.1	0.6	0.0	-0.7	-1.7	-2.8	-3.6	-4.0	-4.3	-3.9	-3.2	-1.6	0.6	3.6	6.8
6	-16.0	-12.1	-8.1	-4.7	-2.1	0.0	1.4	2.2	2.7	2.7	2.4	1.7	0.9	0.0	-1.0	-1.9	-3.0	-3.6	-4.2	-4.4	-4.1	-3.4	-1.8	0.3	3.2	6.4
7	-8.1	-5.4	-1.9	0.8	2.8	4.1	4.8	5.8	5.7	5.2	4.3	2.9	1.6	0.0	-1.8	-3.4	-5.2	-6.5	-7.7	-8.5	-8.8	-8.6	-7.7	-6.0	-3.8	-0.9
8	-11.4	-8.2	-4.4	-1.4	0.9	2.5	3.6	4.0	4.3	4.0	3.4	2.4	1.3	0.0	-1.4	-2.6	-4.0	-5.0	-5.8	-6.3	-6.2	-5.8	-4.8	-3.0	-0.6	2.5
9	-18.9	-15.3	-11.0	-7.4	-4.6	-2.3	-0.7	0.4	1.2	1.6	1.6	1.3	0.7	0.0	-0.7	-1.3	-2.1	-2.4	-2.6	-2.3	-1.7	-0.5	1.4	4.0	7.1	11.0
10	-15.7	-12.1	-8.1	-4.8	-2.1	-0.2	1.3	2.0	2.6	2.6	2.4	1.7	0.9	0.0	-1.1	-1.9	-3.0	-3.6	-4.1	-4.2	-3.8	-3.0	-1.3	1.2	4.1	7.9
11	-13.3	-10.0	-6.2	-3.0	-0.5	1.3	2.6	3.3	3.7	3.5	3.1	2.2	1.2	0.0	-1.3	-2.3	-3.6	-4.4	-5.2	-5.5	-5.3	-4.8	-3.5	-1.4	1.1	4.6
12	-8.1	-5.0	-0.9	1.5	3.7	4.5	5.3	5.4	5.2	3.5	2.9	2.1	1.2	0.0	-1.4	-2.6	-4.0	-4.9	-5.6	-5.8	-5.3	-4.6	-3.1	-1.0	1.7	5.2
13	-13.5	-10.4	-6.6	-3.5	-1.0	0.7	1.9	2.5	2.8	2.7	2.1	1.8	1.1	0.0	-1.4	-2.5	-3.6	-4.4	-5.0	-5.3	-5.1	-4.6	-3.4	-1.4	1.1	4.5
14	-14.5	-10.6	-6.4	-3.1	-0.7	1.1	2.3	2.9	3.3	3.1	2.5	1.7	0.7	0.0	-1.1	-2.2	-3.5	-4.3	-4.9	-5.2	-4.9	-4.1	-2.6	-0.2	3.1	7.0
15	-12.4	-9.2	-5.3	-2.1	0.3	2.0	3.2	3.8	4.1	3.9	3.3	2.3	1.3	0.0	-1.3	-2.5	-3.9	-4.8	-5.7	-6.0	-6.0	-5.4	-4.3	-2.2	0.4	3.9
16	-8.9	-6.0	-2.4	0.5	2.7	4.1	5.1	5.3	5.3	4.8	3.8	2.6	1.4	0.0	-1.6	-3.2	-5.0	-6.3	-7.6	-8.4	-8.8	-8.6	-7.5	-5.8	-3.4	-0.2
17	-10.1	-6.6	-2.8	0.1	2.4	3.8	4.7	5.0	5.0	4.6	3.8	2.6	1.4	0.0	-1.4	-2.6	-4.1	-5.0	-5.7	-5.8	-5.7	-5.3	-4.1	-2.3	0.3	3.7
18	-15.5	-12.1	-8.3	-5.1	-2.6	-0.7	0.6	1.2	1.6	1.3	0.6	-0.2	0.2	0.0	-0.7	-1.5	-2.5	-3.3	-3.9	-4.2	-4.1	-3.4	-2.0	0.4	3.2	7.0
19	-15.5	-12.0	-7.9	-4.5	-1.9	0.0	1.5	2.2	2.7	2.5	2.2	1.6	0.8	0.0	-0.9	-1.7	-2.7	-3.3	-3.9	-3.9	-3.3	-2.3	-0.5	1.8	5.0	9.2
20	-19.3	-16.2	-12.1	-8.4	-5.3	-2.9	-0.9	0.4	1.3	1.6	1.4	1.2	0.8	0.0	-0.8	-1.5	-2.3	-2.8	-3.1	-3.0	-2.4	-1.4	0.3	2.7	5.7	9.9
21	-13.2	-10.5	-6.5	-3.4	-1.0	0.8	2.1	2.7	2.9	2.7	2.0	1.3	0.7	0.0	-1.2	-2.3	-3.7	-4.6	-5.5	-5.8	-5.4	-4.5	-2.9	-0.7	2.0	5.3
22	-17.1	-13.9	-9.4	-5.6	-2.9	-0.9	0.8	1.6	2.3	2.4	2.1	1.6	0.9	0.0	-1.0	-1.8	-2.7	-3.2	-3.5	-3.4	-2.9	-1.9	0.0	2.4	5.3	9.0
23	-11.3	-8.2	-4.3	-1.3	1.0	2.7	3.8	4.3	4.5	4.2	3.5	2.5	1.3	0.0	-1.5	-2.8	-4.3	-5.4	-6.4	-6.8	-6.8	-6.4	-5.2	-3.4	-1.0	2.2
24	-8.3	-5.3	-1.7	1.1	3.3	4.4	5.4	5.6	5.4	4.8	3.7	2.8	1.8	0.0	-1.9	-3.6	-5.5	-6.8	-7.8	-8.4	-8.5	-7.9	-7.0	-5.6	-3.6	-0.7
25	-22.6	-18.6	-14.0	-10.1	-7.0	-4.5	-2.5	-1.2	-0.1	0.3	0.6	0.5	0.3	0.0	-0.4	-0.6	-0.9	-0.8	-0.7	0.0	0.9	2.3	4.6	7.4	11.0	15.4
26	-18.3	-14.5	-10.2	-6.6	-3.8	-1.6	0.1	1.1	1.8	2.0	1.8	1.4	0.8	0.0	-0.9	-1.6	-2.4	-2.9	-3.0	-2.7	-2.1	-0.9	1.0	3.4	6.7	10.6
27	-13.7	-9.9	-5.9	-2.7	-0.3	1.4	2.7	3.4	3.6	3.4	3.0	2.2	1.2	0.0	-1.2	-2.3	-3.6	-4.4	-5.0	-5.3	-5.1	-4.5	-3.3	-1.4	1.2	4.6
28	-16.4	-12.5	-8.2	-4.8	-2.1	-0.1	1.4	2.1	2.8	2.8	2.5	1.8	1.0	0.0	-1.1	-2.1	-3.0	-3.7	-4.2	-4.2	-3.8	-2.9	-1.2	1.0	3.9	7.7
29	-16.9	-12.9	-8.6	-5.2	-2.4	-0.4	1.2	2.0	2.6	2.6	2.3	1.7	0.9	0.0	-1.0	-1.9	-2.9	-3.5	-3.9	-3.9	-3.5	-2.5	-0.8	1.4	4.2	8.0
30	-15.3	-11.3	-7.2	-3.9	-1.3	0.5	2.0	2.7	3.2	3.1	2.8	2.0	1.0	0.0	-1.2	-2.1	-3.3	-4.0	-4.4	-4.7	-4.4	-3.5	-2.0	-0.1	2.6	6.2

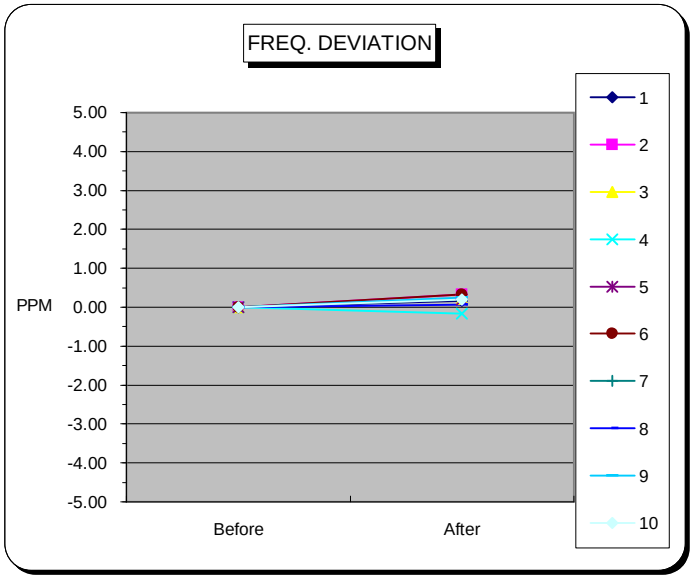
UNIT : OHMS

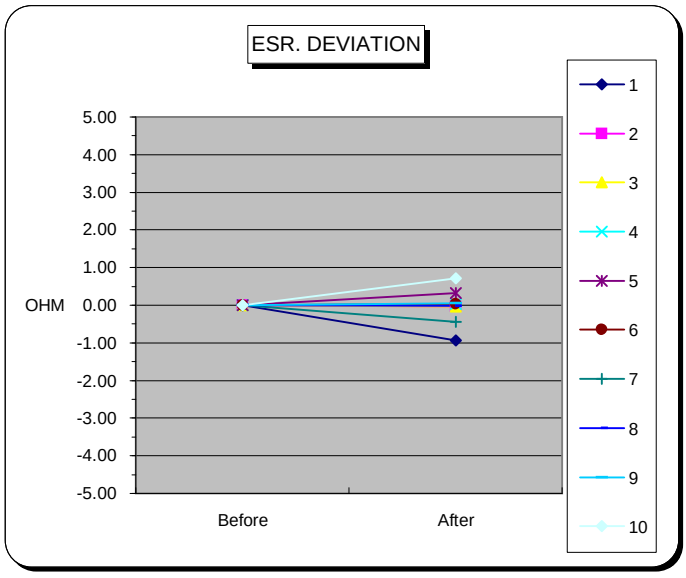
TEMPERATURE CI TEST

No. \ ℃	-40	-35	-30	-25	-20	-15	-10	-5	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85
1	10.5	9.8	9.2	8.8	8.6	8.6	8.8	9.2	9.8	10.1	9.9	9.4	9.1	9.1	9.1	9.4	9.9	9.9	9.8	9.7	9.6	9.3	9.2	9.0	8.8	8.8
2	15.8	15.2	14.4	13.9	13.5	13.2	13.2	13.0	12.8	12.0	12.1	11.6	11.3	11.1	11.0	10.8	11.1	10.8	10.6	10.6	10.6	10.7	11.0	11.7	17.7	11.2
3	8.9	8.7	8.6	8.5	8.4	8.4	8.5	8.5	8.5	8.6	8.6	8.4	8.3	8.3	8.5	8.6	9.1	9.0	9.0	9.3	9.4	9.5	9.7	9.8	9.9	9.9
4	7.9	7.8	7.8	7.7	7.7	7.7	7.7	7.7	7.6	7.7	7.5	7.5	7.5	7.6	7.8	7.9	8.4	8.4	8.4	8.4	8.4	8.3	8.3	8.1	8.0	8.0
5	10.7	10.3	9.9	9.5	9.3	9.2	9.3	9.5	9.8	11.4	11.7	11.5	11.3	11.0	10.7	10.5	10.9	10.7	10.3	10.5	10.6	10.6	10.8	11.9	11.0	10.9
6	8.9	8.9	8.8	8.7	8.7	8.6	8.6	8.5	8.6	8.6	8.5	8.7	8.6	8.6	8.7	8.8	9.3	9.1	9.0	9.0	9.1	9.2	9.5	9.5	9.5	9.6
7	13.0	12.2	11.8	11.5	11.3	11.1	11.1	10.8	10.6	10.4	10.3	10.7	10.6	10.6	10.6	10.6	11.0	11.0	10.6	11.1	11.5	11.8	12.3	12.3	12.4	13.4
8	6.8	6.8	6.7	6.7	6.7	6.7	6.6	6.7	6.7	6.6	6.6	6.6	6.7	6.8	6.9	7.0	7.5	7.4	7.3	7.3	7.4	7.4	7.4	7.4	7.6	7.5
9	5.8	5.8	5.8	5.8	5.8	5.8	5.9	5.8	5.9	6.0	6.0	6.0	6.0	6.1	6.2	6.3	6.7	6.7	6.5	6.5	6.6	6.6	6.6	6.5	6.4	6.3
10	6.2	6.1	6.1	6.1	6.1	6.2	6.2	6.2	6.3	6.5	6.6	6.6	7.0	7.7	7.8	8.0	8.5	8.3	8.2	8.4	8.4	8.5	8.8	8.7	8.5	8.3
11	8.9	8.6	8.3	8.3	8.3	8.4	8.2	8.0	7.8	7.7	7.7	7.7	7.7	7.8	7.9	7.9	8.4	8.3	8.3	8.3	9.2	8.8	8.5	8.8	8.3	8.4
12	15.0	13.5	12.8	12.5	13.0	12.4	13.3	12.8	12.5	12.4	11.9	11.4	11.0	11.3	11.3	11.3	12.0	12.3	12.4	12.4	12.4	12.8	13.6	14.4	13.7	13.5
13	11.6	11.2	10.9	10.8	10.8	10.8	10.8	11.0	11.2	11.4	11.9	12.7	12.5	11.6	11.2	11.1	11.5	11.4	11.2	10.9	10.7	10.4	10.5	11.6	10.7	10.4
14	13.2	13.7	12.8	11.5	10.6	10.1	9.7	9.4	9.4	9.4	9.5	9.7	10.1	10.9	10.6	10.4	10.8	10.8	10.9	11.0	11.3	11.7	12.9	17.1	13.4	13.7
15	7.5	7.4	7.4	7.3	7.2	7.2	7.2	7.2	7.3	7.3	7.1	7.0	7.1	7.1	7.2	7.3	7.7	7.6	7.5	7.4	7.4	7.3	7.4	7.9	7.9	7.7
16	10.2	9.7	9.4	9.3	9.2	9.3	9.3	9.2	9.2	9.1	9.1	9.4	9.6	9.6	9.3	9.2	9.6	9.5	9.5	9.8	10.1	10.6	11.3	11.9	13.8	11.8
17	15.1	15.1	14.2	13.1	12.3	11.8	11.3	11.0	10.7	10.6	10.5	10.4	10.6	10.9	11.2	11.4	11.9	12.2	12.4	12.2	11.9	11.6	11.4	11.4	12.2	11.5
18	6.6	6.6	6.6	6.6	9.8	9.4	8.9	8.6	8.2	7.9	7.8	8.0	8.7	10.5	10.8	10.4	10.4	9.9	9.5	9.1	8.9	8.9	9.0	9.3	9.1	9.2
19	8.9	9.2	9.2	9.1	10.1	10.1	10.1	10.1	10.1	10.0	10.1	10.1	10.0	10.1	10.1	10.1	10.5	10.4	10.4	11.0	12.0	11.9	11.6	11.1	10.6	10.3
20	10.1	11.6	11.9	11.9	11.7	11.3	11.0	10.5	10.2	9.9	9.8	9.6	9.5	9.7	9.6	9.6	10.1	11.0	9.6	9.4	9.7	9.7	9.5	9.6	9.6	9.6
21	9.4	9.8	10.1	9.9	9.7	9.5	9.4	9.3	9.3	9.4	11.7	11.5	10.8	10.2	9.8	9.7	10.1	10.1	10.2	11.0	11.9	11.7	11.3	10.6	10.1	9.7
22	7.8	7.6	7.5	7.4	7.2	7.1	7.1	7.0	7.0	7.0	6.9	6.8	6.8	6.9	7.1	7.1	7.7	7.6	7.5	7.5	7.6	7.5	7.6	7.5	7.4	7.3
23	12.2	12.1	12.1	12.1	12.2	12.2	12.2	12.0	11.9	11.9	11.8	11.6	11.6	11.7	11.7	11.5	11.9	11.8	11.7	11.7	11.8	12.8	13.4	12.5	12.0	11.3
24	10.4	10.1	10.1	10.0	9.9	9.8	9.8	9.8	9.9	10.1	10.4	11.1	11.4	10.2	10.0	10.1	10.9	11.0	11.3	11.7	11.9	11.7	11.2	10.5	10.0	10.0
25	9.8	9.7	9.6	9.5	9.4	9.3	9.3	9.3	9.3	9.4	9.5	10.0	10.3	10.5	10.4	10.4	10.7	10.5	10.2	10.0	9.9	9.9	9.9	9.8	9.8	9.9
26	10.0	10.0	10.0	10.1	10.1	10.1	10.1	10.2	10.3	10.7	10.8	10.6	10.6	10.7	11.0	11.2	11.9	12.0	12.1	12.2	12.4	12.6	12.9	13.0	13.0	13.5
27	7.8	7.7	7.8	7.7	7.8	7.9	7.8	7.8	7.8	7.9	7.9	8.0	8.1	8.4	8.7	8.6	9.1	9.0	8.5	8.1	7.8	7.6	7.6	7.4	7.4	7.4
28	8.1	8.1	8.0	7.8	7.8	7.7	7.7	7.6	7.6	7.5	7.4	7.4	7.4	7.6	7.7	7.6	8.1	8.0	7.8	7.7	7.8	7.8	7.9	7.8	7.7	7.7
29	9.1	9.0	8.9	8.8	8.7	8.7	8.6	8.6	8.6	8.5	8.4	8.5	8.5	8.6	8.7	8.7	9.2	9.0	9.1	8.8	8.8	8.9	9.0	8.8	8.7	8.6
30	8.3	8.2	8.2	8.2	8.1	8.1	8.1	8.1	8.1	8.1	7.9	7.8	8.0	8.1	8.3	8.5	9.0	8.9	9.0	9.8	9.4	8.6	8.6	8.5	8.4	8.5

Shock Test

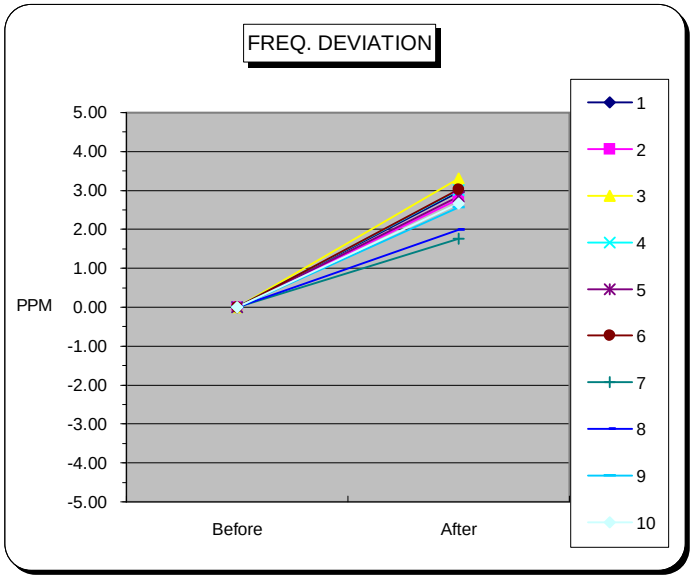
P/N NO.	7M32000035
Test Item	150g/150cm*3次
Criteria	Frequency deviation ±4ppm / ESR ±4Ω
Sample Size	10PCS
Test Date	2008/11/17
Test Result	PASS
Inspector	Rita Wu

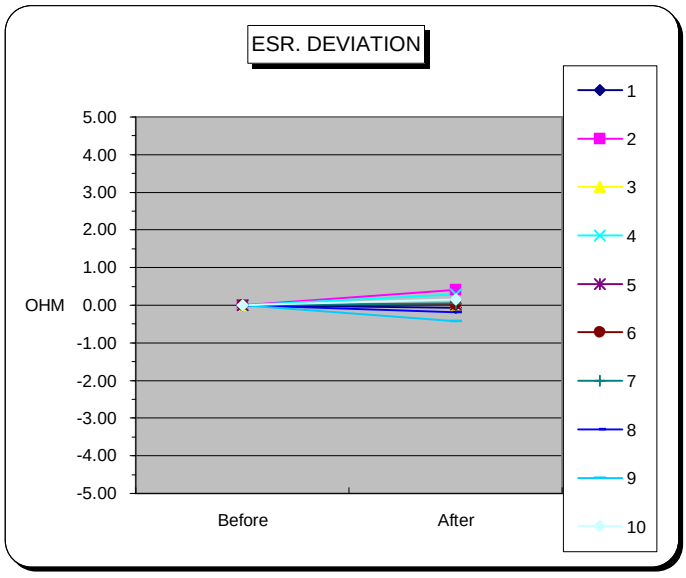




Reflow Test

P/N NO.	7M32000035(第二次)
Test Item	260℃*2次
Criteria	Frequency deviation ±5ppm / ESR ±5Ω
Sample Size	10PCS
Test Date	2008/11/17
Test Result	PASS
Inspector	Rita Wu





RELIABILITY TEST REPORT

TXC P/N : 7M32000035 REV.: A

PRODUCT TYPE : SMD X'TAL 3.2 * 2.5 * 0.7 mm

NOMINAL FREQUENCY : **32.000** MHz CL : 12 pF

Sample from lot #: N(匯隆)

Total Quantity: 80pcs

CONFIGURATIONS

BLANK H632000001 LID : A30640003
PKG : A51010003 ADHESIVE : B11600001

TEST PURPOSE 供應商可靠度評估

RELIABILITY TEST DURATION : 2008/11/26 ~ 2009/12/13

TEST RESULT : FAIL
Pressure cooker storage test --- 1pcs ppm out of spec.
High temp. storage test --- 1pcs ppm out of spec.
High temp. and humidity test --- 3 pcs ppm out of spec

PREPARED BY : Ray Tsai 1/13'09
REVIEWED BY : Chester Ho 1/13'09
APPROVED BY : TM Yan 1/13'09
ISSUED DATE : ***13-Dec-09***

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SMD X'TAL RELIABILITY TEST RESULT

TXC P/N : 7M32000035

FREQUENCY : 32 MHz

	EQUIPMENT / CONDITION / TEST ITEM	TEST CONDITION AND CRITERIA: TEST CONDITION	CRITERIA	SAMPLE SIZE	START DATE	FINISH DATE	TEST RESULT
1	FINE LEAK	He BOMBING 4.5 Kg/cm^2 FOR 2 HRs	1 × 10^{-9} Pa.m^3/sec	80	2008/11/26	2008/11/26	PASS
2	GROSS LEAK	Standard Sample For Automatic Gross Leak Detector,Test Pressure: 2 Kg / cm^2	1.5 × 10^{-5} Pa.m^3/sec	80	2008/11/26	2008/11/26	PASS
3	REFLOW TEST	Peak Temperature 260℃ 3times	±4ppm/±4Ω	80	2008/11/26	2008/11/26	PASS
4	RESISTANCE TO SOLDER HEAT	260℃± 5℃ , 10 SEC.	±4ppm/±4Ω	10	2008/11/28	2008/11/28	PASS
5	SOLDERABILITY	245℃ ± 5℃ , 5 Sec. (125℃ , 120Sec. PREHEATED)	95% COATED	5	2009/12/1	2009/12/1	PASS
6	BENDING (SOLDER STRENGTH) TES	Bending value specified 5mm；Pressure shall be Applied for 1mm 5seconds	PER SPEC.	5	2008/12/11	2008/12/11	PASS
7	THERMAL SHOCK (RA Machine)	-55℃~125℃, Dwell:30 min, 100 Cycles	±4ppm/±4Ω	10	2008/11/26	2008/12/2	PASS
8	PRESSURE COOKER TEST	121℃ ± 3℃ , RH100% , 2 bar , 240Hrs	±4ppm/±4Ω	10	2008/12/5	2008/12/16	FAIL
9	VIBRATION	20G, 10~2000Hz, 1.52mm, SWEEP 20 Min., 3 DIRECTION 4HRs.	±4ppm/±4Ω	10	2008/11/28	2008/12/1	PASS
10	MECHANICAL SHOCK	1,000 G , 0.5 mSec. , 3 TIMES FOR ALL 3 DIRECTIONs.	±4ppm/±4Ω	10	2008/12/2	2008/12/4	PASS
11	DROP TEST	150 cm Height, 3 times on concrete floor	±4ppm/±4Ω	10	2008/12/4	2008/12/4	PASS
12	SHOCK TEST	150g Dummy load,150cm 6 direction(each direction three times) on concrete plate	±4ppm/±4Ω	10	2008/11/28	2008/11/28	PASS
13	LOW TEMP. STORAGE TEST	-40℃ ± 3℃ , 500HRS	±4ppm/±4Ω	10	2008/11/25	2008/12/16	PASS
14	HIGH TEMP. STORAGE TEST	125℃ ± 3℃ , 500HRS	±4ppm/±4Ω	10	2008/11/25	2008/12/16	FAIL
15	HIGH TEMP. & HUMIDITY	85℃ ± 3℃ , RH 85% , 500Hrs .	±4ppm/±4Ω	10	2008/11/25	2008/12/16	FAIL
16	AGING	85℃ ± 3℃ , Voltage input by specification , 1000 Hrs	± 3 ppm	10	2008/12/1	2009/1/12	PASS

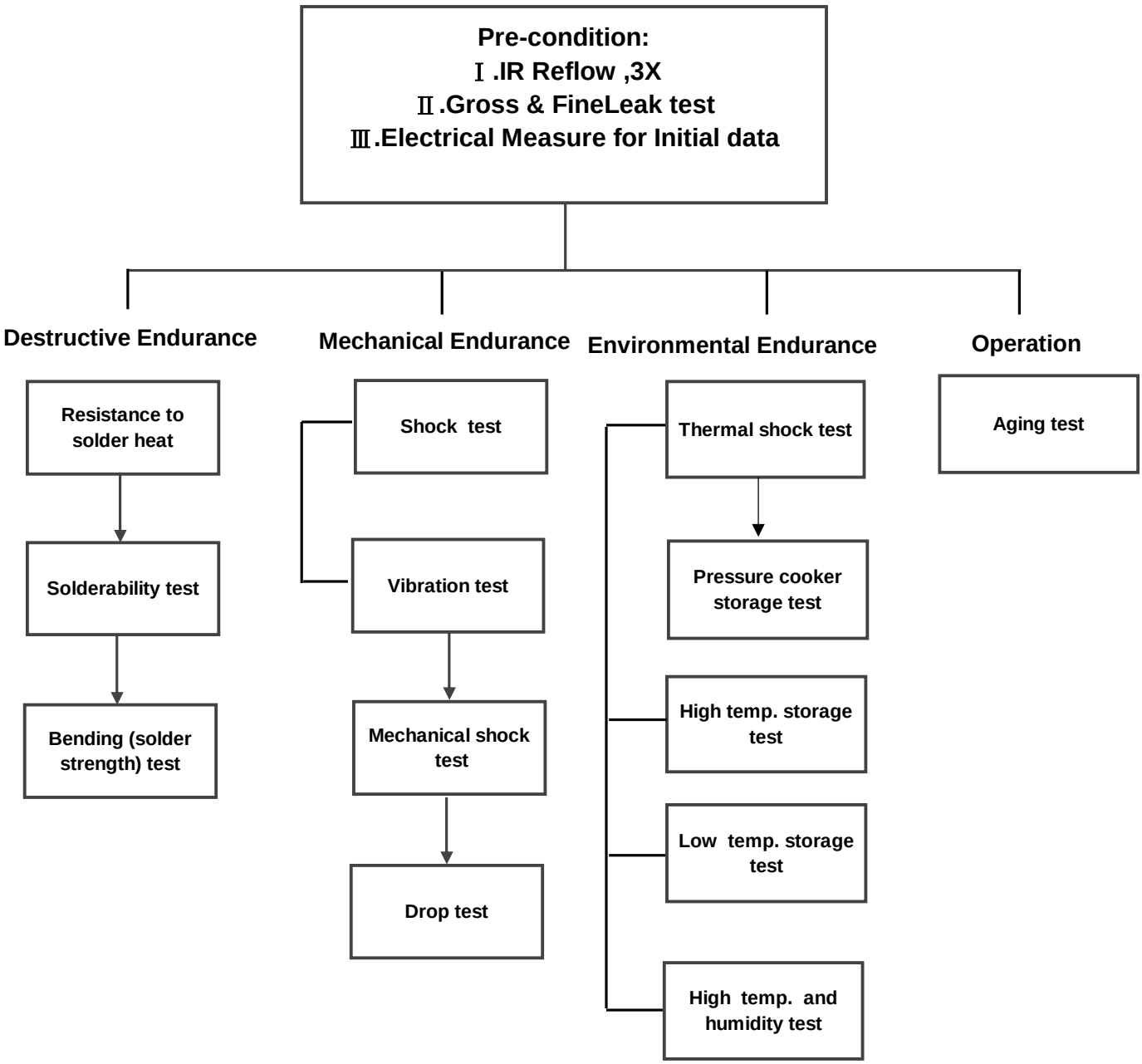
Serial Number : RT08A66

SMD X'TAL(3.2*2.5) RELIABILITY TEST SPECIFICATIONS

	Test item	Test condition	S/S	Criteria	Maker/modle	Test method	Working instruction	Note
1	Pre-condition	I.IR Reflow ,3X II.Gross & FineLeak test III.Electrical Measure for Initial data	80	Per spec.	- FUKUDA(MS-5063) ALCATEL CO.(DGC-152T) Saunders&Associates(250B)	- MIL-STD-883E Method 1014.10 MIL-STD-883E Method 1014.10 -	- OIS-REL021 OIS-REL022 OIS-REL031	
2	High temp. and humidity test	85℃ , RH 85% , 500hrs	10	±4ppm/ESR±4Ω	TABEL ESPEC(PH-3F)	EIA-JESD22-A101-B	OIS-REL003	
3	High temp. storage test	125± 3℃ , 500 hrs	10	±4ppm/ESR±4Ω	LAB-LINE(3495M-1)	MIL-STD-883E Method 1005.8	OIS-REL004	
4	Low temp. storage test	-40± 3℃ , 500 hrs	10	±4ppm/ESR±4Ω	TABEL ESPEC(MC-810)	MIL-STD-883E Method 1013	OIS-REL005	
5	Thermal shock test	-55℃~125℃, Dwell:30 min, 100 cycles	10	±4ppm/ESR±4Ω	VOTSCH(VT-7012S2)	MIL-STD-883E Method 1011.9	OIS-REL027	
6	Pressure cooker storage test	121 ± 3℃ , RH100% , 2 bar , 240hrs	10	±4ppm/ESR±4Ω	TABEI ESPEC(TPC-211)	87M44799F66	OIS-REL006	
7	Aging test	85± 3℃ , Voltage input by specification, 1000 hrs	10	±3 ppm	PRA(2360)	JIS C6701	OIS-REL007	
8	Vibration test	20G, 10~2000Hz, 1.52mm, Sweep 20 Min., 3 direction 4hrs	10	±4ppm/ESR ±4Ω	IMV CO.(VS-300-2)	MIL-STD-883E Method 2007.3	OIS-REL023	
9	Mechanical shock test	1,000 G , 0.5 mSec. , 3 times for all 3 directions.	10	±4ppm/ESR ±4Ω	MTS(PN484739-01)	MIL-STD-202F Method 213B	OIS-REL012	
10	Drop test	150cm Height, 3 times on concrete floor	10	±4ppm/ESR ±4Ω	TXC(Tool)	JIS C6701	OIS-REL013	
11	Shock test	150g/150cm Height, 3 times in the direction of X,Y,Z,-X,-Y,-Z on concrete floor	10	±4ppm/ESR ±4Ω	TXC(Tool)	IEC-68-02-27	OIS-REL013	
12	Resistance to solder heat	260℃±5℃ , 10 Sec.	10	±4ppm/ESR ±4Ω	TABEI ESPEC(K-1425-14D)	MIL-STD-202F Method 210E	OIS-REL008	
13	Solderability test	245℃±5℃ , 5 Sec. (125℃ , 120Sec. Preheated)	5	95% Coated	TABEI ESPEC(K-1425-14D)	MIL-STD-883E Method 2003.7	OIS-REL019	
14	Bending (solder strength) test	Bending value specified 5mm:pressure shall be applied for 1mm 5seconds	5	1.No crack observed at solder joint 2.Fine/Gross Leak pass	AIKOH(1307)	EIAJ-RCX-0104/101	OIS-REL024	

VER	DESCRIPTION OF CHANGE	ECN NO.	PREPARED BY	REVIEWED BY	APPROVED BY	Date
F	原文號QCE-REL004內容合併至QCE-REL003，QCE-REL004此文號內容變更爲合併原文號QCE-REL011與QCE-REL013。	ECN-08P051601	Karen Huang	Chester Ho	T.M.Yan	20-May-08

SMD X'TAL(3.2*2.5) RELIABILITY TEST FLOW CHART

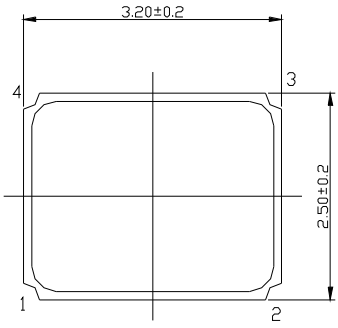


VER	DESCRIPTION OF CHANGE	ECN NO.	PREPARED BY	REVIEWED BY	APPROVED BY	DATE
F	原文號QCE-REL004內容合併至QCE-REL003，QCE-REL004此文號內容變更爲合併原文號QCE-REL011與QCE-REL013。	ECN-08P051601	Karen Huang	Chester Ho	T.M.Yan	20-May-08

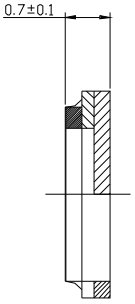
GENERAL SPECIFICATIONS

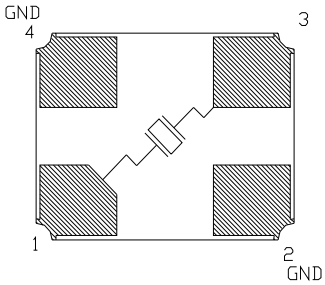
(1) Holder Type	SMD X'TAL
(2) Normal Frequency	32.000000 MHz
(3) Oscillation Mode	Fundamental Mode
(4) Capacitance	12 pF
(5) Frequency Tolerance @ 25℃	± 9PPM
(6) Operating Temp. Range	-20℃～ 70 ℃
(7) Frequency Stability over Temp Range	± 10 ppm

Dimensions: 3.2x2.5x0.7

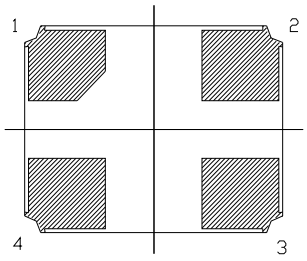


Top View

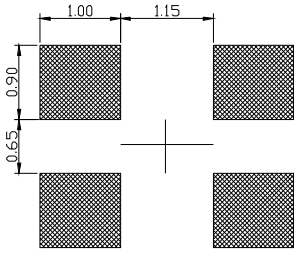




Internal View
Connection



Bottom View



Suggest
Layout

Pre-condition

Electrical characteristics test

Criteria FREQ. WITHIN ± 10 **PPM** @ 25℃ NOMINAL FREQ. (10pF)
CI UPPER LIMIT 50 Ohm

Sample Size 80

Test Date 2008/11/26

Test Result **PASS**

Inspector Rita Wu

	FL	FL	RR	C0	C1	DLD2	FDLD	TS
	MHz	ppm	Ohms	pF	fF	Ohms	ppm	ppm/pF
AVG	31.999812	-5.88	8.92	1.15	4.16	1.15	0.94	12.02
Max.	32.000032	1.00	15.59	1.19	4.35	5.51	3.23	12.53
Min.	31.999713	-8.98	6.09	1.06	3.96	0.47	0.15	11.43
STD	0.000059	1.85	2.06	0.03	0.09	1.02	0.54	0.26

Fine Leak Test

Test Condition He BOMBING 4.5 Kg/cm2 FOR 2 HRs
Standard Sample For Automatic Gross Leak Detector, Test Pressure: 2 Kg / cm 2

Criteria 1 × 10-9 Pa.m3/sec

Sample Size 80

Test Date 2008/11/26

Test Result **PASS**

Inspector Ray ; Thelma

Gross Leak Test

Test Condition He BOMBING 4.5 Kg/cm2 FOR 2 HRs
Standard Sample For Automatic Gross Leak Detector, Test Pressure: 2 Kg / cm 2

Criteria 1.5 × 10-5 Pa.m3/sec

Sample Size 80

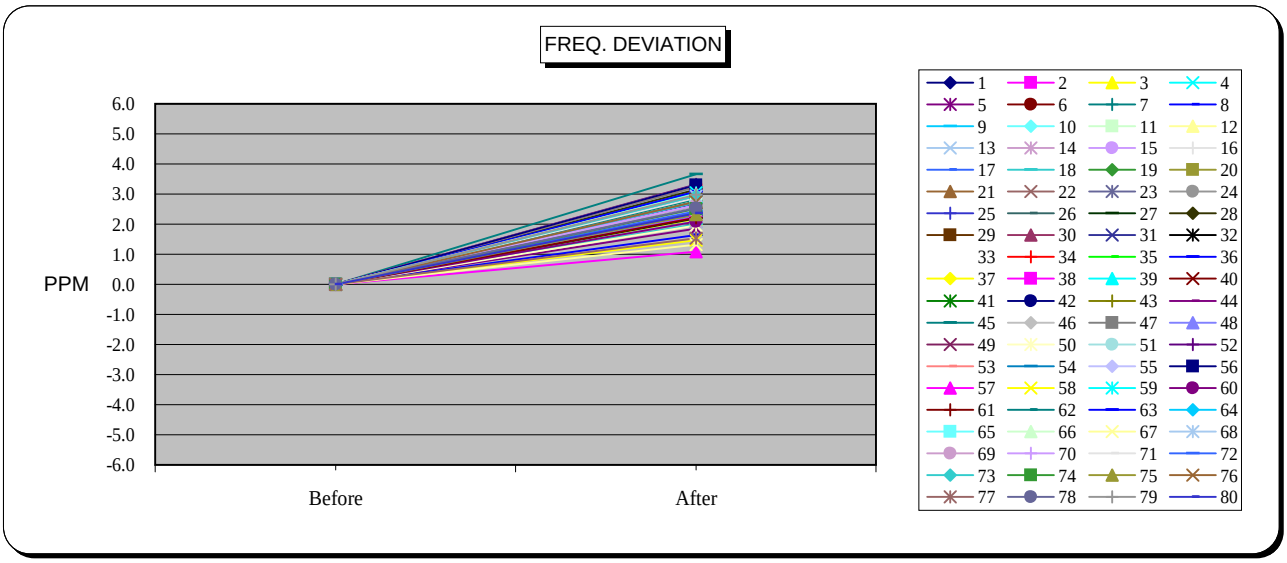
Test Date 2008/11/26

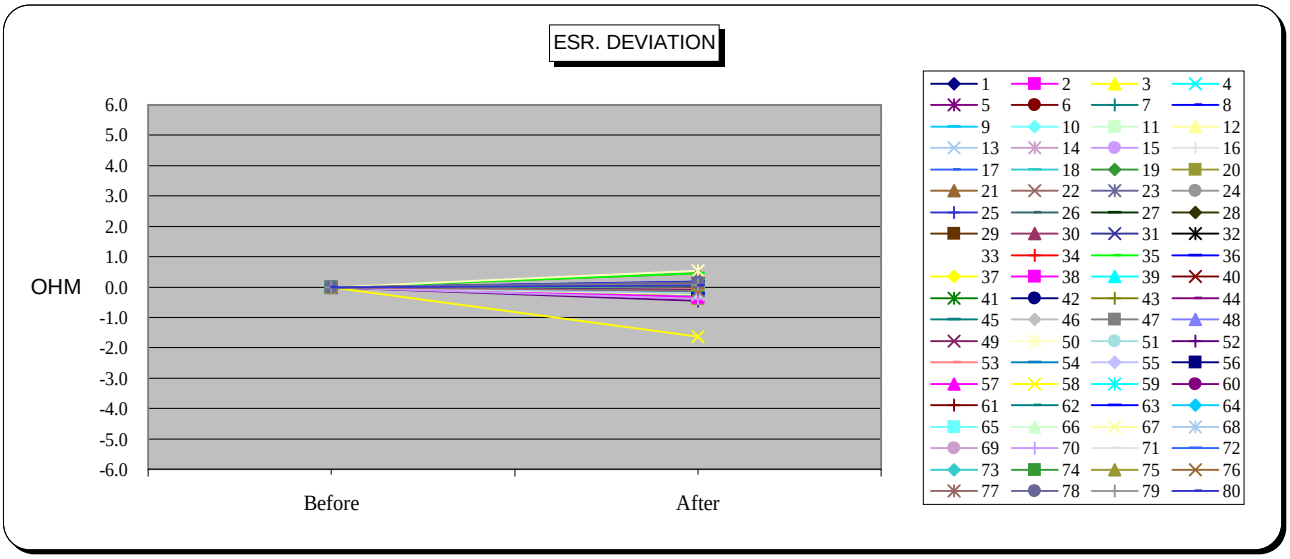
Test Result **PASS**

Inspector Ray ; Thelma

Pre-condition

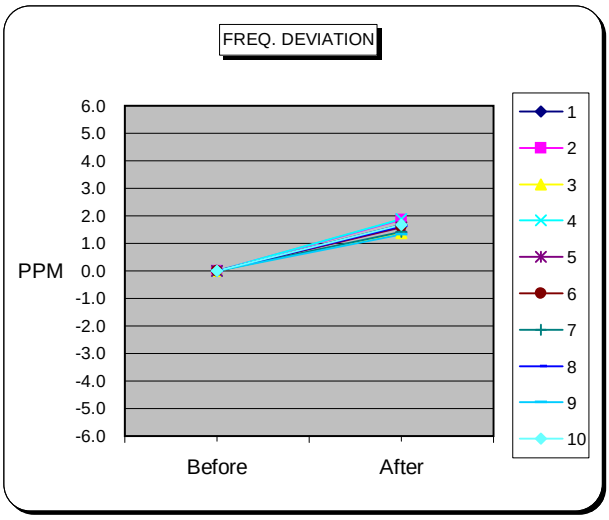
Test Item	Reflow
Test Condition	Peak Temperature 260℃ 3times
Criteria	Frequency deviation ±4ppm / ESR ±4Ω
Sample Size	80
Test Date	2008/11/26
Test Result	PASS
Inspector	Ray

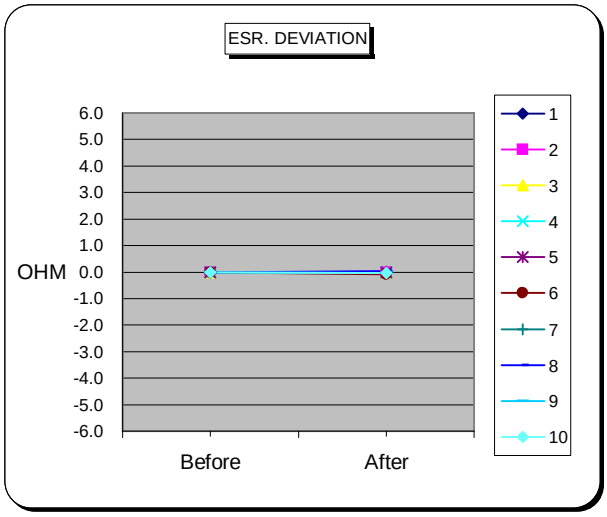




Destructive Endurance

Test Item	Resistance to solder heat
Test Condition	260℃± 5℃ ， 10 SEC.
Criteria	Frequency deviation ±4ppm / ESR ±4Ω
Sample Size	10
Test Date	2008/11/28
Test Result	PASS
Inspector	Ray





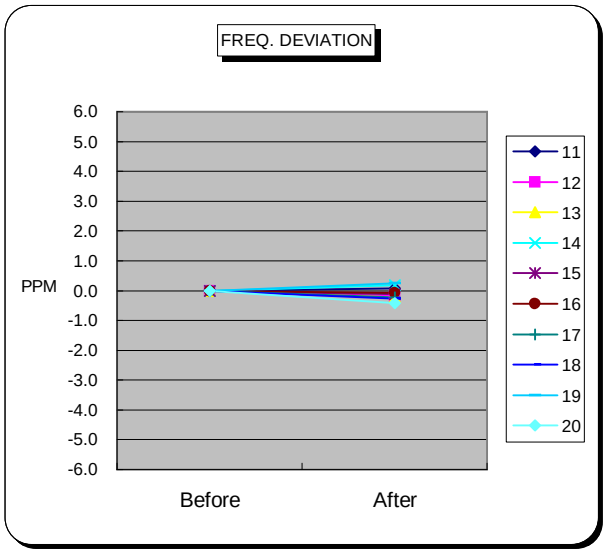
Test Item	Solderability
Test Condition	245℃±5℃， 5 Sec. (125℃， 120Sec. Preheated)
Criteria	95% Coated
Sample Size	5
Test Date	2008/12/1
Test Result	PASS
Inspector	Ray

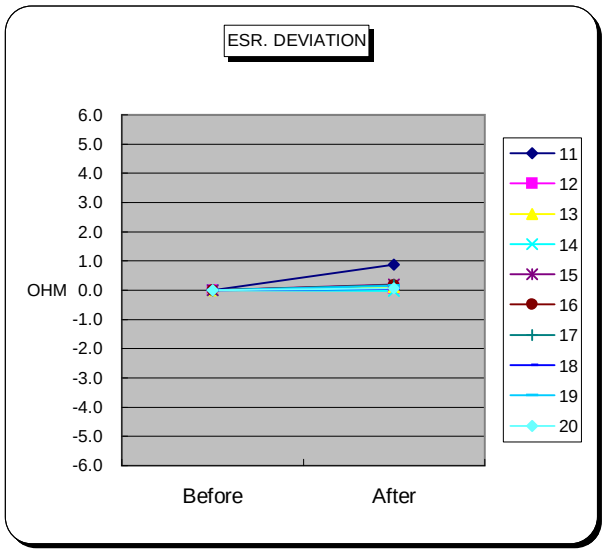


Test Item	Bending (solder strength) test
Test Condition	Bending value specified 5mm:pressure shall be applied for 1mm 5seconds
Criteria	1.No crack observed at solder joint 2.Fine/Gross Leak pass
Sample Size	5
Test Date	2008/12/11
Test Result	PASS
Inspector	Thelma ; Ray

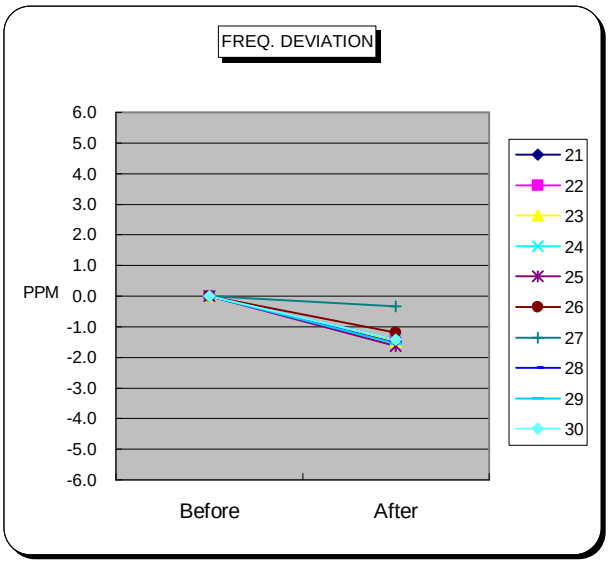
Mechanical Endurance

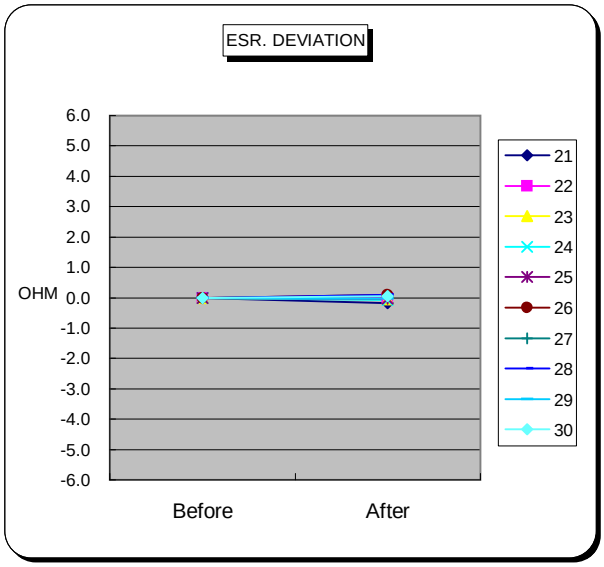
Test Item	Shock test
Test Condition	Weigh:150g/150cm Height, 3 times in the direction of X,Y,Z,-X,-Y,-Z on concrete floor
Criteria	Frequency deviation ±4ppm / ESR ±4Ω
Sample Size	10
Test Date	2008/11/28
Test Result	PASS
Inspector	Ray





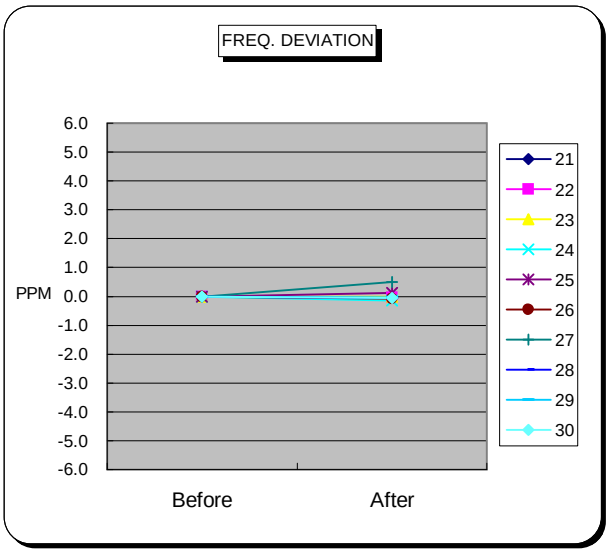
Test Item	Vibration test
Test Condition	20G, 10~2000Hz, 1.52mm, Sweep 20 Min., 3 direction 4hrs.
Criteria	Frequency deviation ±4ppm / ESR ±4Ω
Sample Size	10
Test Date	2008/12/1
Test Result	PASS
Inspector	Ray ; Thelma

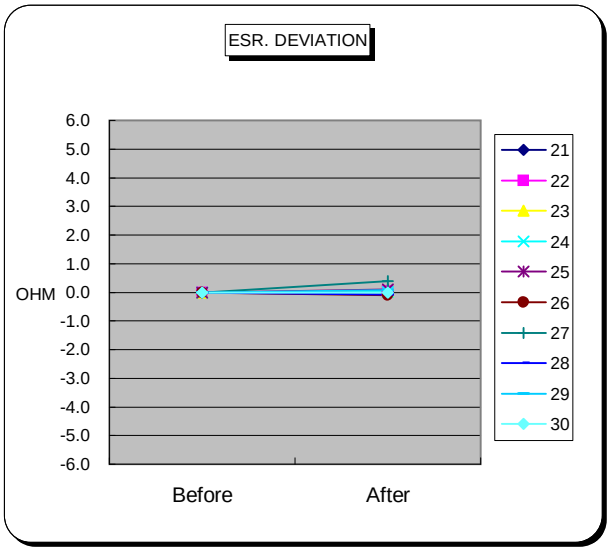




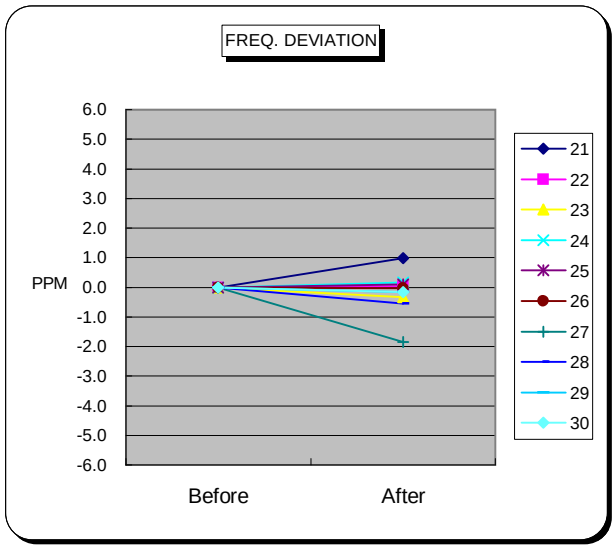
Mechanical Endurance

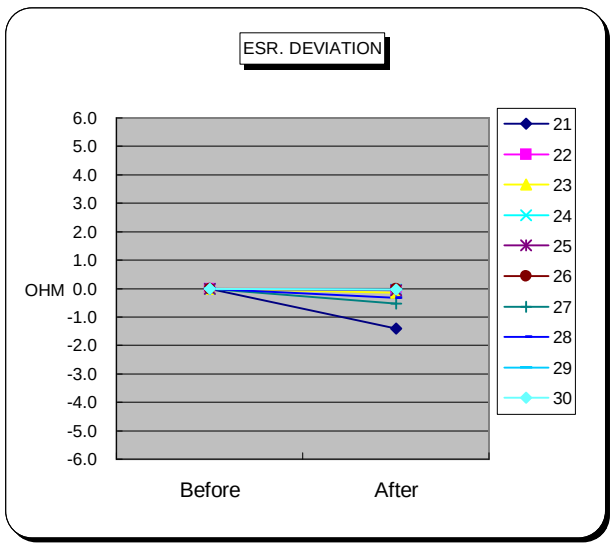
Test Item	Mechanical shock test
Test Condition	1,000 G , 0.5 mSec. , 3 times for all 3 directions.
Criteria	Frequency deviation ±4ppm / ESR ±4Ω
Sample Size	10
Test Date	2008/12/4
Test Result	PASS
Inspector	Ray ; Thelma





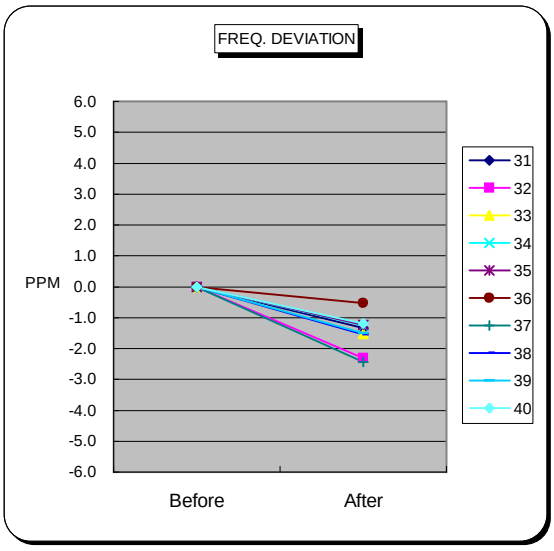
Test Item	Drop test
Test Condition	150cm Height, 3 times on concrete floor
Criteria	Frequency deviation ±4ppm / ESR ±4Ω
Sample Size	10
Test Date	2008/12/4
Test Result	PASS
Inspector	Thelma ; Ray

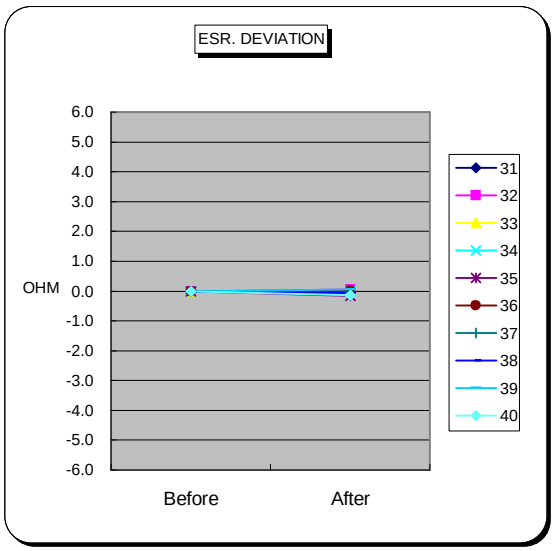




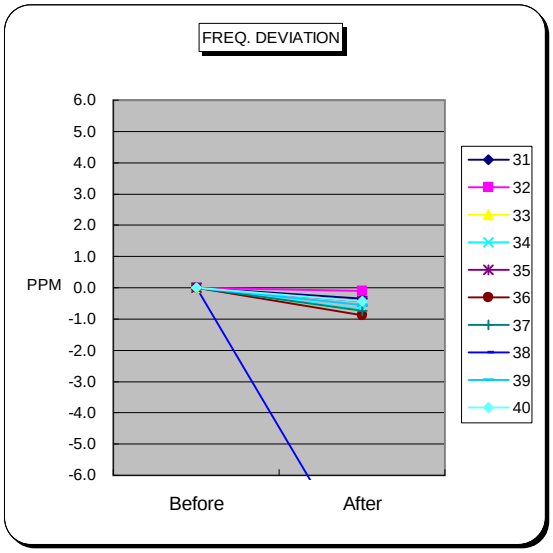
Environmental Endurance

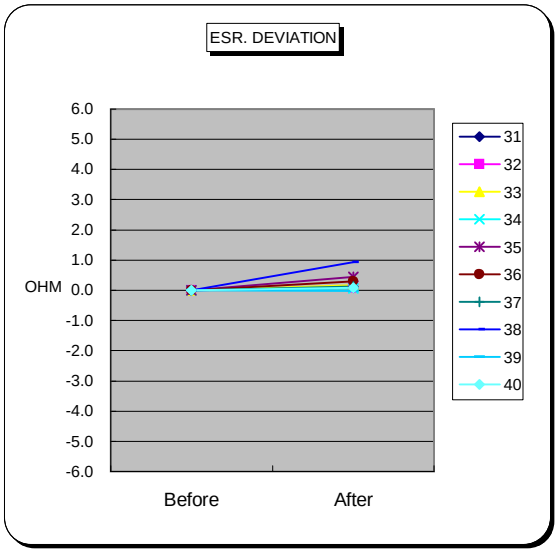
Test Item	Thermal shock test
Test Condition	-55℃~125℃, Dwell:30 min, 100 cycles
Criteria	Frequency deviation ±4ppm / ESR ±4Ω
Sample Size	10
Test Date	2008/12/2
Test Result	PASS
Inspector	Ray ; Thelma





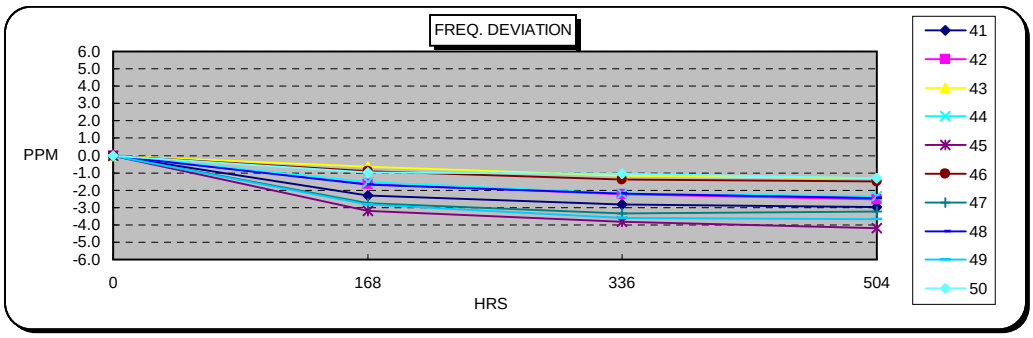
Test Item	Pressure cooker storage test
Test Condition	121 ± 3℃ , RH100% , 2 bar , 240hrs
Criteria	Frequency deviation ±4ppm / ESR ±4Ω
Sample Size	10
Test Date	2008/12/16
Test Result	FAIL --- #38 ppm out of spec.
Inspector	Thelma ; Ray

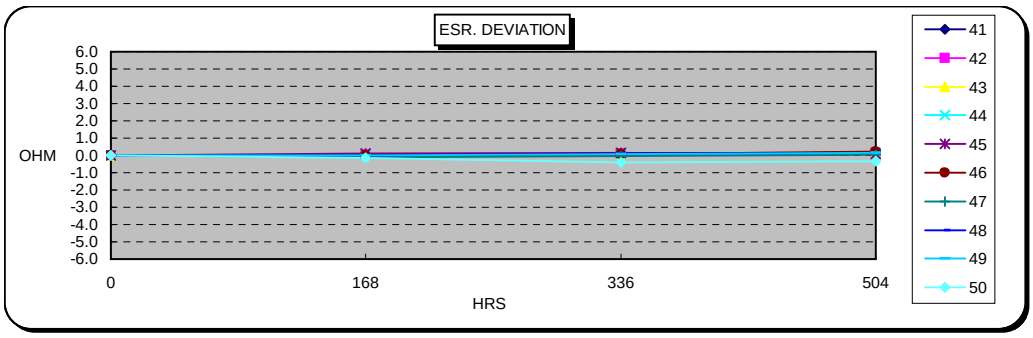




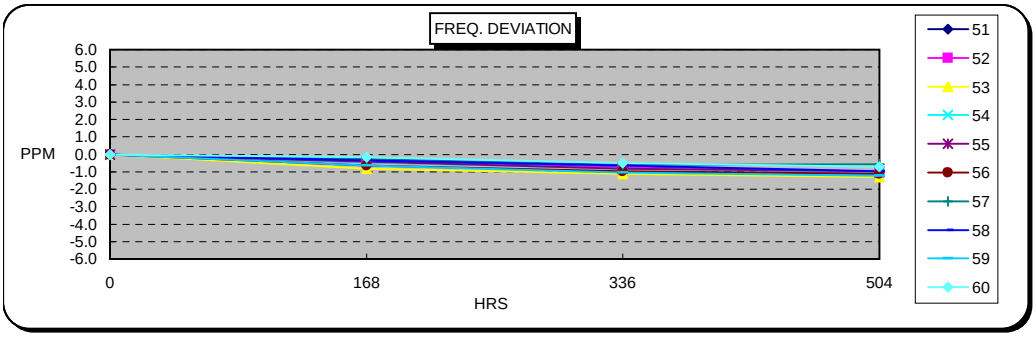
Environmental Endurance

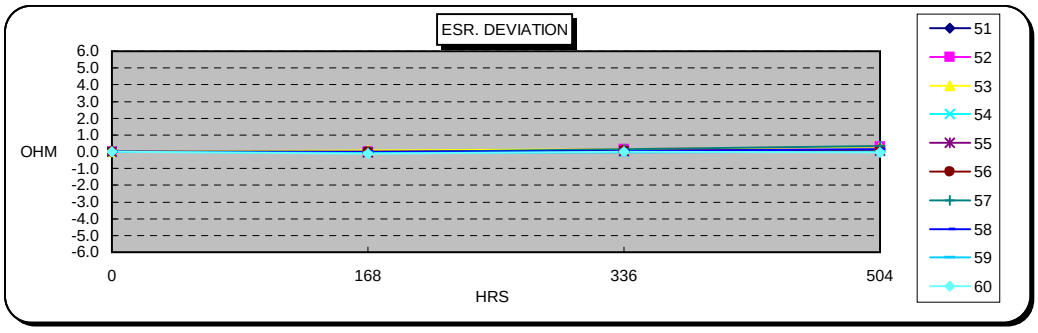
Test Item	High temp. storage test
Test Condition	125± 3℃， 500 hrs
Criteria	Frequency deviation ±4ppm / ESR ±4Ω
Sample Size	10
Test Date	2008/11/25 ~ 2008/12/16
Test Result	FAIL --- #45 ppm out of spec.
Inspector	Ray ; Thelma





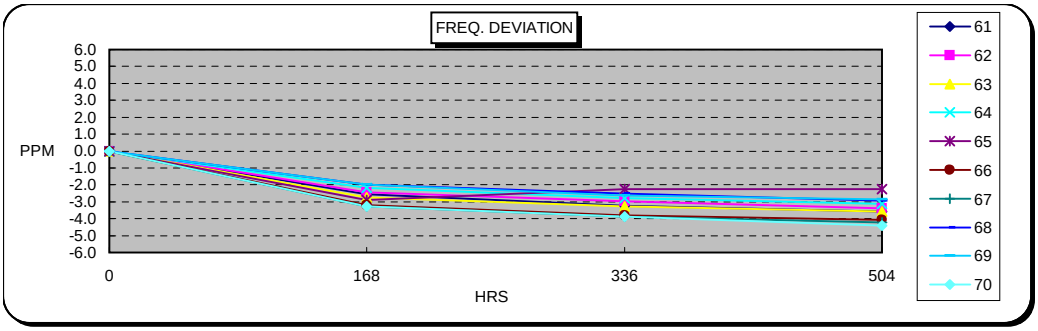
Test Item	Low temp. storage test
Test Condition	-40± 3℃， 500 hrs
Criteria	Frequency deviation ±4ppm / ESR ±4Ω
Sample Size	10
Test Date	2008/11/25 ~ 2008/12/16
Test Result	PASS
Inspector	Ray ; Thelma

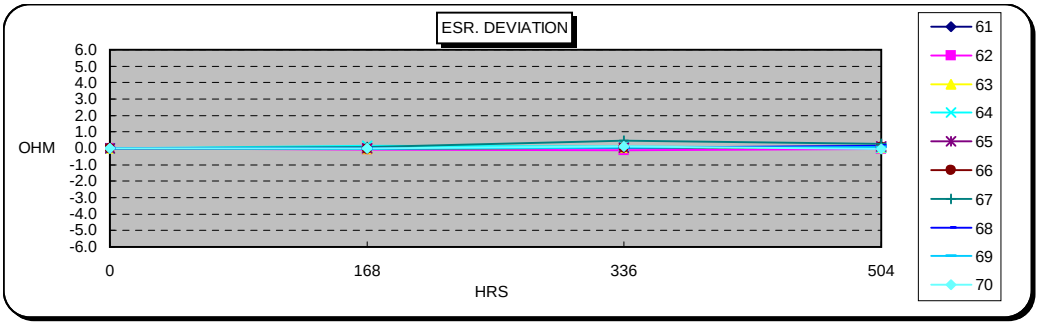




Environmental Endurance

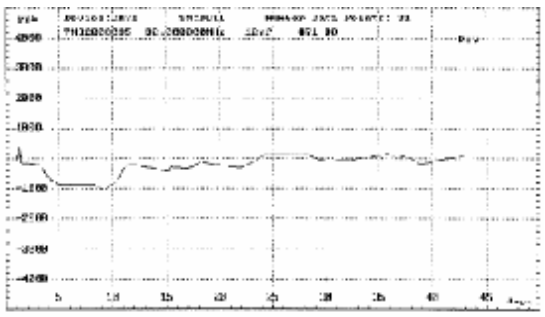
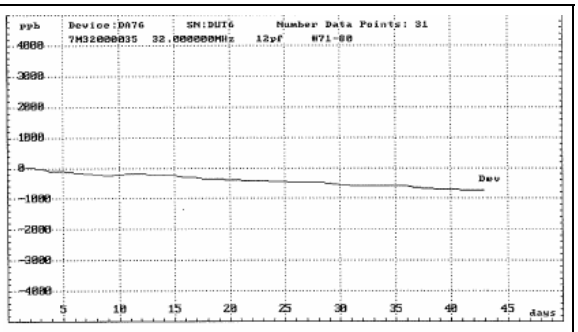
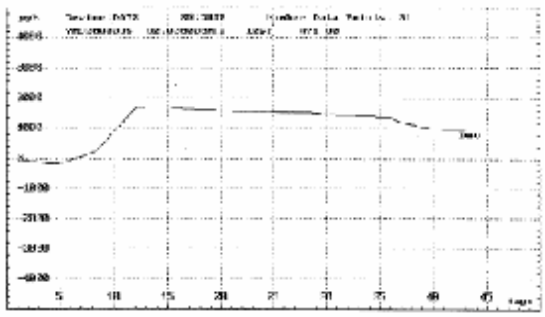
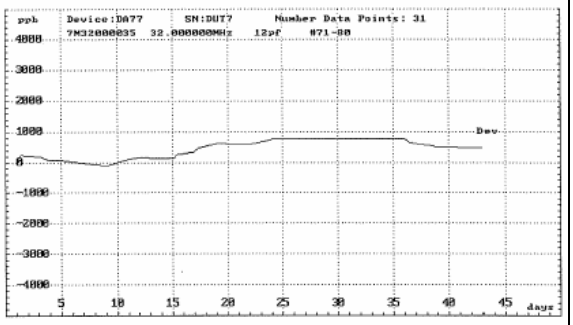
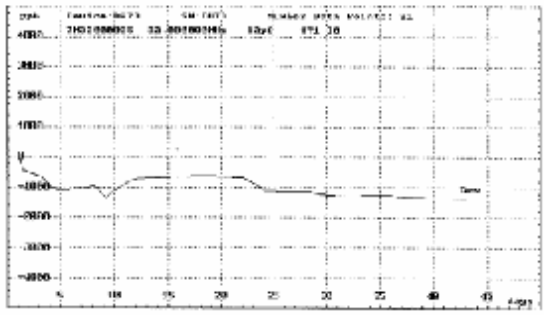
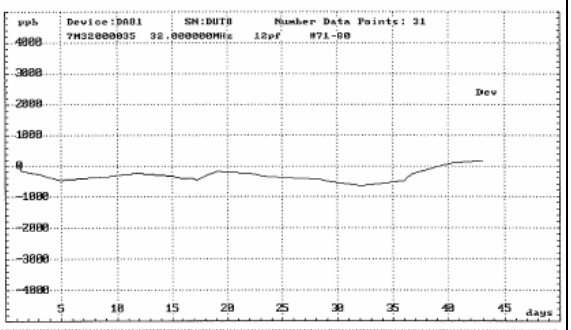
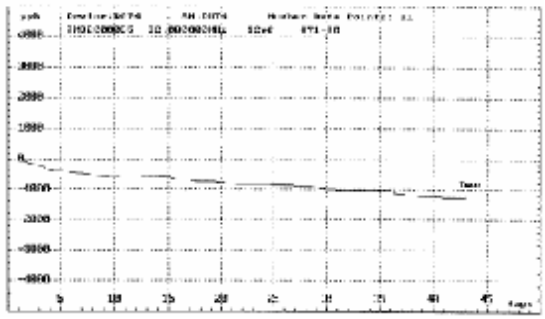
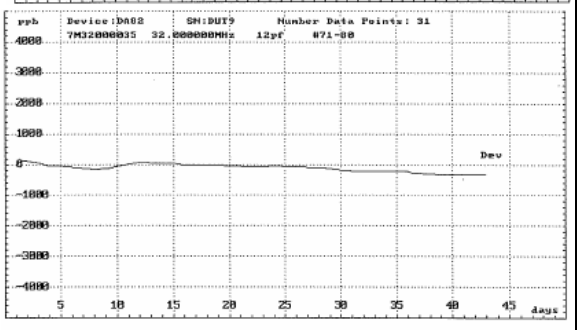
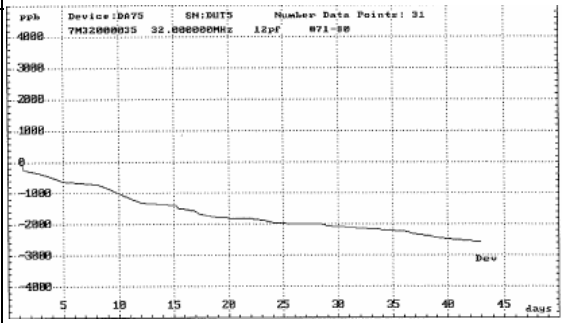
Test Item	High temp. and humidity test
Test Condition	85℃ , RH 85% , 500hrs
Criteria	Frequency deviation ±4ppm / ESR ±4Ω
Sample Size	10
Test Date	2008/11/25 ~ 2008/12/16
Test Result	FAIL --- 3pcs.(#66;#67;#70) ppm out of spec.
Inspector	Ray ; Thelma





Operation Endurance

Test Item	Aging test
Test Condition	85± 3℃， Voltage input by specification, 1000 hrs
Criteria	Frequency deviation ±3ppm
Sample Size	10
Test Date	2008/12/1 ~ 20091/12
Test Result	PASS
Inspector	Ray : Eve

#71		#76	
#72		#77	
#73		#78	
#74		#79	
#75		#80	