Product Change Notification

PCN Date:	Jan 27,2026		
Supplier Name:	Pulse Electronics		
Pulse PCN No.	PCN-100000799		
Description of Change	Introduce new source suppliers for the component of core 032-3299.008 and the cover 032-3299.002. The material and process are the same, with no impact on product form, fit, and function, and no change of product specifications.		
Reason for Change	Per the business contingency plan requirement, to introduce the new source to mitigate the supply risks.		
Summary of Changes	Old	New	
	Current source: 1) ACME 2) CQZF	Three suppliers: 1) ACME(No more business) 2) CQZF 3) CRC	
Traceability guidelines	By date code, traceability record can be provided upon request		
Qualification Data	Pulse arranged the AEC-Q200 full qualification for verification, please refer to the attached qualification reports.  AE5002 Qualification Test		
Customer Part Number	**Pulse Part Number**	**PCN Effectivity Date**	**Sample availability**
N/A	AE2002 AE5002 AE5002M	Jul 27,2026	Two weeks upon request

Customer: Generic
Originator: Grace Yang
Phone: (86)-0816-7077888-6012
E-mail: Grace.yang@yageo.com

Statement: Dear customer, please response this PCN requirement. If you have any special requirements, please let us know. Lack of response after 30 days will be considered acceptable of change.

Qualification Report _ AE5002

PQ6.100.5831

Rev A: 12/26/2025

Prepared By:
Colin Zhang
Pulse MPO Sr. Quality Supervisor

Approved By:
Raymond Tan
Pulse MPO Quality Manager

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AE5002 Test Summary (Revision: A)

1. PURPOSE

This is an internal Pulse Qualification report to qualify the automotive product AE5002 materail 032-3299.002/008 from CRC. Testing data will be reviewed after each environmental testing.

2. SCOPE

AE5002 is produced and tested in MPO.

3. REFERENCES

AE5002 released TLA document Rev11 and Continental CQR A2C00052907AAA Rev E.

4. TEST SUMMARY AS BELOW:

TEST Description	Reference	Sample size	Test conditions/Remarks	Result	Remarks
High Temperature Exposure (Storage)	MIL-STD-202 Method 108	77	1000Hrs @ 125°C	Pass	Appendix 1
Temperature Cycling	JESD22 Method JA-104	77	1000cycles (-40°C to125°C)	Pass	Manual test open/short since it mouted onto PCB and couldn't disassembly
Biased Humidity	MIL-STD-202 Method 103	77	1000hours 85°C/85%RH.	Pass	
Operational Life	MIL-PRF-27	77	1000hours 125°C with 50mA DC	Pass	
Terminal Strength	MIL-STD-202 Method 211	30	Condition B, bent at 45degree.	Not applicable	
Resistance to Soldering Heat	MIL-STD-202 Method 210	30	A2C00052907AAA 3times Reflow tests, with 245°C Peak Temperature condition.	Pass	Appendix 2
Solvent resistance	MIL-STD-202 Method 215	5	It is applicable to marked and/or coated components. Add Aqueous wash chemical OKEMCLEAN(A 6% concentrated Oakite cleaner)or equivalent.	Not applicable. Laser marking	
Solderability	A2C00052907 AAA	45	A2C00052907AAA >95% smooth solder coverage.	Pass	Appendix 3

AE5002 Test Summary (Revision: A)

1. PURPOSE

This is an internal Pulse Qualification report to qualify the automotive product AE5002 materail 032-3299.002/008 from CRC. Testing data will be reviewed after each environmental testing.

2. SCOPE

AE5002 is produced and tested in MPO.

3. REFERENCES

AE5002 released TLA document Rev11 and Continental CQR A2C00052907AAA Rev E.

4. TEST SUMMARY AS BELOW:

Vibration	MIL-STD-202 Method 204	30	Pulse shape: sine wave Range of frequency 1: 10 - 55Hz Amplitude: 0,75mm Range of frequency 2: 55 - 2000Hz Amplitude: 10g Frequency sweep: 0.5 oct/min Duration: 24h each of 3 axis	Pass	Manual test open/short since it mouted onto PCB and couldn't disassembly.
Mechanical Shock	MIL-STD-202 Method 213	30	Figure 1 of Method 213. Condition C: 100g 6ms. Total 36shocks. Use the Vibration sample to do this.		
Electrical Characterization	User Spec	90	Test OCL @-40°C,25°C,125°C	Pass	Appendix 4
Terminal Strength (SMD)	AEC-Q200-006	30	1.8kg @60s holding	Pass	Appendix 5
Board Flex	AEC-Q200-005	30	60 sec minimum holding time	Pass	Manual test open/short since it mouted onto PCB and couldn't disassembly
Flammability	UL-94	No exposed resin & plastic and the flammability is not applicable			
Physical Dimension	JESD22 Method JB-100	30	Electrical Test not required.	Pass	Appendix 6-7

Abbreviation in datasheet.

DCR: Direct Current Resistance
OPSH: Open / Short; for insulation
TRP: Turn Ratio and Polarity
OCL: Open Curent inductance
RL: Return Loss
CMR: Common Mode Rejection
DCMR: Different to Common Mode Rejection

Appendix 1

AE5002 High Temperature Exposure1000hrs Electrical Test Data

Parameter	DCR	DCR	OPSH	OCL	OCL	TRP	TRP
Condition:	normal	normal	100 kHz, 100 mVRMS	100 kHz, 100 mVRMS	normal	normal	normal
Pin	1-4	2-3	1-4	1-4	2-3	1-4	2-3
Unit	mohms	mohms	Mohms	uH	uH	*1	*1
HighLimit	4.2	4.2		150	150	1.02	1.02
LowLimit	3	3	10	60	60	0.98	0.98
Average =	3.77	3.76	60.88	114.90	114.95	1.00	0.99
STD DEV =	0.06	0.05	1.58	6.68	6.70	0.00	0.00
Cpu	2.54	2.69		1.75	1.74	24.77	10.54
Cpl	4.61	4.61	10.72	2.74	2.73	24.97	5.99
Cpk	2.54	2.69	10.72	1.75	1.74	24.77	5.99
DATA	-	-	-	-	-	-	-
1	3.782	3.741	63.015	122.455	122.5	1	0.994
2	3.873	3.709	58.813	122.552	123.058	1	0.995
3	3.78	3.744	63.435	113.847	113.439	1	0.994
4	3.851	3.808	58.776	110.49	110.482	1	0.994
5	3.748	3.687	58.187	109.764	110.298	1	0.996
6	3.733	3.736	63.112	103.382	102.856	1.001	0.994
7	3.758	3.739	58.188	117.219	116.716	1	0.994
8	3.763	3.721	62.173	116.766	116.807	1	0.994
9	3.756	3.82	63.256	121.037	121.321	1	0.994
10	3.862	3.744	62.264	122.469	122.559	1	0.994
11	3.707	3.852	60.882	109.265	109.764	1.001	0.996
12	3.748	3.762	60.504	114.347	114.806	1	0.995
13	3.744	3.727	59.122	123.866	123.745	1	0.994
14	3.727	3.7	58.327	105.533	105.612	1	0.994
15	3.795	3.71	58.685	120.154	120.518	1	0.994
16	3.763	3.743	63.009	117.609	117.163	1	0.995
17	3.804	3.745	63.179	117.471	118.004	1	0.995
18	3.741	3.713	62.653	121.594	121.628	1	0.995
19	3.774	3.757	61.074	121.808	121.919	1	0.994
20	3.749	3.782	60.179	120.454	120.501	1	0.994
21	3.715	3.781	61.075	121.119	121.505	1	0.995
22	3.8	3.785	59.528	120.162	120.22	1	0.994
23	3.815	3.717	63.024	107.597	107.197	1	0.994
24	3.79	3.71	62.22	108.825	108.929	1	0.994
25	3.755	3.784	61.121	122.11	121.656	1	0.993
26	3.804	3.801	63.074	119.742	119.301	1	0.995
27	3.76	3.743	60.367	117.94	118.297	1	0.994
28	3.731	3.719	60.551	116.039	115.975	1	0.996
29	3.801	3.746	60.869	123.777	124.325	1	0.996
30	3.885	3.745	61.507	125.891	125.73	1	0.994
31	3.751	3.752	61.935	104.537	104.126	1.001	0.995
32	3.742	3.702	60.823	110.836	110.936	1	0.995
33	3.76	3.75	61.037	105.293	105.552	1	0.994
34	3.74	3.749	61.999	115.223	115.702	1	0.994
35	3.754	3.73	59.342	122.025	122.478	1	0.993
36	3.889	3.73	61.217	103.804	104.273	1	0.996
37	3.806	3.747	58.675	109.014	109.483	1	0.996
38	3.771	3.71	61.63	120.062	120.117	1	0.993
39	3.796	3.973	62.114	108.07	107.866	1	0.994

Appendix 1

AE5002 High Temperature Exposure1000hrs Electrical Test Data

Parameter	DCR	DCR	OPSH	OCL	OCL	TRP	TRP
Condition:	normal	normal	100 kHz, 100 mVRMS	100 kHz, 100 mVRMS	normal	normal	normal
Pin	1-4	2-3	1-4	1-4	2-3	1-4	2-3
Unit	mohms	mohms	Mohms	uH	uH	*1	*1
HighLimit	4.2	4.2		150	150	1.02	1.02
LowLimit	3	3	10	60	60	0.98	0.98
Average =	3.77	3.76	60.88	114.90	114.95	1.00	0.99
STD DEV =	0.06	0.05	1.58	6.68	6.70	0.00	0.00
Cpu	2.54	2.69		1.75	1.74	24.77	10.54
Cpl	4.61	4.61	10.72	2.74	2.73	24.97	5.99
Cpk	2.54	2.69	10.72	1.75	1.74	24.77	5.99
DATA	-	-	-	-	-	-	-
40	3.932	3.762	60.091	121.121	120.74	1	0.996
41	3.732	3.845	60.154	122.373	122.547	1	0.993
42	3.709	3.746	61.483	110.631	110.424	1	0.996
43	4.082	3.812	58.594	123.465	123.171	1	0.993
44	3.801	3.728	58.825	107.111	106.797	1	0.994
45	3.737	3.724	58.468	107.172	107.263	1	0.994
46	3.796	3.728	62.332	119.889	120.253	1	0.995
47	3.746	3.754	59.815	110.772	111.284	1	0.994
48	3.784	3.765	62.397	105.79	105.311	1.001	0.995
49	3.725	3.72	59.765	106.255	106.704	1	0.996
50	3.735	3.718	59.232	120.513	120.99	1	0.994
51	3.73	3.716	62.051	108.291	108.087	1	0.995
52	3.719	3.681	61.811	123.412	123.432	1	0.995
53	3.736	3.753	62.236	107.042	106.958	1.001	0.994
54	3.802	3.747	58.698	121.994	121.524	1	0.994
55	3.723	3.849	62.144	121.967	122.149	1	0.995
56	3.746	3.799	58.904	113.191	113.726	1	0.994
57	3.732	3.808	61.283	118.472	117.999	1	0.995
58	3.755	3.685	61.527	124.285	124.285	1	0.994
59	3.747	3.732	61.791	110.4	110.166	1	0.995
60	3.768	3.822	59.125	107.679	107.607	1	0.993
61	3.748	4.025	59.973	116.313	115.954	1	0.994
62	3.738	3.773	63.248	122.666	122.388	1	0.995
63	3.751	3.792	59.342	115.739	115.213	1	0.995
64	3.737	3.757	60.457	112.304	112.387	1	0.994
65	3.791	3.761	62.653	118.515	118.219	1	0.996
66	3.748	3.756	59.83	109.384	109.054	1	0.993
67	3.784	3.725	63.255	103.65	103.398	1	0.993
68	3.735	3.73	62.12	118.021	118.507	1	0.993
69	3.815	3.807	61.724	107.602	107.372	1	0.994
70	3.758	3.737	60.224	120.035	120.095	1	0.995
71	3.783	3.79	58.277	103.366	103.882	1	0.995
72	3.743	3.737	60.639	114.046	114.053	1	0.995
73	3.777	3.786	62.965	116.076	116.424	1	0.995
74	3.776	3.715	60.479	122.907	123.359	1	0.995
75	3.831	3.713	58.622	104.582	104.983	1.001	0.994
76	3.726	3.734	59.267	105.297	105.383	1	0.995
77	3.754	3.79	63.026	110.861	111.392	1	0.994

Parameter	RL	RL	RL	RL	CMR	CMR	CMR
Condition:	30MHZ	80MHZ	200MHZ	400MHZ	30MHZ	80MHZ	200MHZ
Pin							
Unit	dB	dB	dB	dB	dB	dB	dB
HighLimit	-22	-22	-17	-15	-42.5	-42.5	-35
LowLimit							
Average =	-28.85	-26.79	-22.28	-21.78	-47.72	-51.67	-49.83
STD DEV =	0.51	0.70	0.83	1.05	0.95	0.58	1.07
Cpu	4.43	2.27	2.11	2.15	1.84	5.23	4.62
Cpl							
Cpk	4.43	2.27	2.11	2.15	1.84	5.23	4.62
DATA	-	-	-	-	-	-	-
1	-29.384	-27.401	-21.680	-21.287	-47.550	-50.731	-50.175
2	-29.047	-27.770	-21.939	-23.100	-48.388	-50.610	-50.665
3	-28.717	-26.500	-23.414	-20.955	-48.573	-50.511	-49.565
4	-29.224	-27.263	-23.015	-21.116	-47.699	-51.221	-49.467
5	-29.050	-26.879	-23.049	-23.205	-48.550	-50.462	-50.294
6	-29.113	-27.889	-21.292	-21.504	-48.085	-51.755	-49.405
7	-28.720	-26.763	-22.509	-22.720	-47.658	-52.142	-48.649
8	-29.145	-27.640	-21.095	-21.774	-48.611	-50.969	-50.974
9	-28.912	-26.183	-21.973	-21.600	-48.955	-52.098	-51.063
10	-28.778	-26.349	-20.951	-20.450	-47.508	-51.944	-49.892
11	-29.111	-26.617	-20.980	-21.422	-48.435	-50.870	-48.600
12	-29.310	-26.195	-22.469	-21.250	-48.426	-50.387	-50.725
13	-27.385	-26.285	-23.429	-21.023	-48.884	-51.446	-48.918
14	-29.107	-27.320	-22.167	-22.152	-48.041	-51.408	-48.704
15	-28.955	-27.200	-23.577	-20.917	-48.129	-52.214	-51.450
16	-29.136	-27.873	-21.960	-22.282	-49.173	-51.631	-51.041
17	-29.056	-26.807	-22.485	-22.862	-47.743	-51.737	-49.389
18	-28.904	-26.887	-22.607	-21.197	-49.616	-52.045	-51.307
19	-29.042	-25.677	-21.105	-20.855	-48.564	-51.891	-51.199
20	-28.804	-26.540	-21.495	-20.998	-47.713	-52.226	-48.959
21	-28.039	-25.044	-21.191	-20.099	-48.545	-51.603	-51.001
22	-29.079	-26.067	-21.016	-21.124	-47.738	-51.897	-48.748
23	-28.939	-26.740	-22.100	-20.895	-48.341	-51.358	-48.524
24	-28.840	-26.094	-22.083	-23.195	-48.707	-51.314	-51.485
25	-28.580	-26.275	-20.850	-20.205	-48.247	-51.733	-50.633
26	-28.792	-27.130	-21.792	-19.887	-48.467	-51.393	-48.260
27	-29.098	-27.400	-23.343	-21.110	-47.656	-52.291	-48.880
28	-29.212	-26.979	-21.881	-23.153	-48.740	-51.547	-50.859
29	-29.251	-26.851	-21.063	-21.133	-47.895	-51.968	-49.900
30	-29.038	-26.643	-22.061	-23.289	-47.932	-51.710	-51.044
31	-29.031	-26.204	-23.438	-21.591	-48.058	-51.929	-49.397
32	-28.581	-26.707	-22.345	-22.416	-48.677	-50.882	-50.971
33	-28.287	-27.173	-23.048	-22.309	-47.636	-52.526	-49.644
34	-29.011	-26.483	-21.299	-22.365	-48.580	-51.594	-49.190
35	-28.627	-26.382	-22.349	-20.057	-48.788	-51.613	-50.323
36	-28.880	-24.962	-23.503	-23.435	-49.124	-51.780	-49.397
37	-28.802	-25.987	-23.221	-20.379	-48.088	-51.879	-50.087
38	-27.980	-25.125	-22.325	-22.048	-48.222	-52.009	-48.734
39	-29.168	-27.495	-22.933	-20.556	-48.512	-51.215	-48.987

Parameter	RL	RL	RL	RL	CMR	CMR	CMR
Condition:	30MHZ	80MHZ	200MHZ	400MHZ	30MHZ	80MHZ	200MHZ
Pin							
Unit	dB	dB	dB	dB	dB	dB	dB
HighLimit	-22	-22	-17	-15	-42.5	-42.5	-35
LowLimit							
Average =	-28.85	-26.79	-22.28	-21.78	-47.72	-51.67	-49.83
STD DEV =	0.51	0.70	0.83	1.05	0.95	0.58	1.07
Cpu	4.43	2.27	2.11	2.15	1.84	5.23	4.62
Cpl							
Cpk	4.43	2.27	2.11	2.15	1.84	5.23	4.62
DATA	-	-	-	-	-	-	-
40	-28.959	-27.228	-23.606	-20.121	-48.881	-51.689	-50.692
41	-28.996	-27.277	-21.498	-22.735	-47.791	-51.679	-49.341
42	-29.038	-26.943	-22.615	-23.190	-48.655	-51.560	-51.456
43	-27.654	-25.448	-20.898	-22.909	-46.248	-52.604	-48.512
44	-29.006	-26.339	-20.984	-20.014	-47.295	-52.497	-49.566
45	-29.180	-26.146	-21.974	-21.678	-47.812	-52.203	-49.094
46	-29.219	-27.257	-22.689	-22.713	-48.179	-51.603	-48.118
47	-28.932	-26.048	-23.263	-22.487	-48.674	-51.705	-51.484
48	-28.986	-26.755	-22.593	-22.949	-48.258	-52.137	-48.788
49	-29.083	-26.997	-21.866	-20.491	-48.142	-51.937	-51.269
50	-29.130	-27.194	-21.297	-20.543	-47.737	-50.831	-49.505
51	-29.289	-27.352	-21.818	-22.421	-48.223	-51.961	-51.049
52	-28.802	-26.746	-23.511	-22.770	-48.445	-50.573	-51.372
53	-29.002	-27.694	-23.594	-21.626	-48.814	-51.792	-49.052
54	-28.944	-26.541	-21.553	-21.974	-47.728	-50.835	-48.522
55	-28.844	-26.885	-23.083	-20.188	-46.247	-51.571	-50.686
56	-29.316	-28.444	-22.241	-22.962	-46.404	-51.892	-47.809
57	-28.506	-27.230	-21.460	-22.742	-46.266	-51.696	-50.439
58	-29.010	-27.127	-22.505	-22.053	-46.957	-52.122	-51.238
59	-28.869	-26.447	-21.739	-23.181	-46.844	-52.557	-49.543
60	-29.107	-27.468	-22.949	-23.423	-46.955	-52.547	-47.826
61	-28.972	-27.034	-21.025	-21.253	-46.243	-52.563	-48.153
62	-29.314	-27.476	-23.561	-20.384	-46.366	-51.054	-51.091
63	-29.030	-27.548	-22.619	-22.187	-46.315	-52.387	-48.375
64	-29.411	-27.629	-22.601	-22.580	-46.854	-50.482	-50.752
65	-28.975	-27.384	-21.782	-23.117	-46.711	-52.289	-48.696
66	-27.523	-26.359	-22.894	-22.760	-47.013	-52.102	-48.527
67	-28.528	-25.558	-23.369	-21.907	-46.101	-51.062	-50.317
68	-29.223	-27.797	-22.860	-22.110	-46.129	-52.369	-50.322
69	-29.129	-27.664	-22.565	-20.463	-46.058	-51.001	-50.968
70	-27.994	-26.490	-23.118	-23.187	-46.261	-52.290	-49.583
71	-29.112	-27.215	-22.246	-22.680	-46.211	-51.090	-50.385
72	-26.973	-25.596	-21.186	-21.985	-46.793	-52.082	-50.735
73	-29.282	-27.221	-23.576	-20.211	-46.001	-52.310	-48.995
74	-26.727	-25.970	-21.148	-23.225	-46.529	-51.046	-49.213
75	-28.655	-26.130	-22.973	-21.489	-47.039	-51.090	-50.153
76	-29.091	-26.793	-22.274	-22.124	-46.675	-52.276	-48.060
77	-29.184	-27.250	-22.658	-20.206	-46.244	-52.318	-50.826

Parameter	CMR	CMR	DCMR	DCMR	DCMR	DCMR	DCMR	DCMR
Condition:	400MHZ	1000MHZ	10MHZ	30MHZ	100MHZ	200MHZ	400MHZ	1000MHZ
Pin								
Unit	dB	dB	dB	dB	dB	dB	dB	dB
HighLimit	-32	-25	-60	-60	-47	-40	-38	-38
LowLimit								
Average =	-42.81	-46.22	-74.11	-77.56	-65.04	-58.06	-55.45	-52.75
STD DEV =	0.53	1.33	2.52	3.07	3.12	3.09	2.96	2.82
Cpu	6.77	5.33	1.86	1.91	1.93	1.95	1.97	1.74
Cpl								
Cpk	6.77	5.33	1.86	1.91	1.93	1.95	1.97	1.74
DATA	-	-	-	-	-	-	-	-
1	-41.958	-45.311	-72.689	-77.984	-64.878	-58.365	-57.764	-52.375
2	-42.104	-45.217	-73.246	-72.662	-65.438	-62.730	-53.089	-56.479
3	-41.972	-44.983	-72.511	-74.416	-64.030	-56.272	-58.217	-54.191
4	-42.589	-45.340	-71.659	-77.081	-63.346	-55.107	-53.587	-49.149
5	-42.264	-45.628	-74.142	-75.213	-62.914	-59.168	-54.327	-55.207
6	-42.400	-45.385	-73.181	-72.327	-61.028	-58.319	-59.184	-48.418
7	-42.743	-45.429	-72.560	-77.750	-66.106	-55.793	-50.569	-51.388
8	-42.809	-45.236	-73.145	-72.479	-62.319	-59.081	-51.772	-55.110
9	-42.447	-45.388	-72.123	-79.030	-62.825	-56.328	-60.265	-53.867
10	-42.426	-45.224	-72.255	-77.717	-67.482	-53.641	-53.505	-48.321
11	-42.573	-45.219	-73.007	-78.491	-60.629	-61.569	-51.631	-49.631
12	-41.866	-45.046	-71.796	-73.106	-60.326	-61.398	-54.976	-50.415
13	-42.627	-45.376	-70.741	-78.601	-62.860	-60.315	-55.343	-52.011
14	-42.714	-45.436	-74.047	-71.587	-65.937	-62.998	-54.900	-49.128
15	-42.803	-45.507	-71.897	-72.363	-69.681	-56.719	-57.828	-51.436
16	-42.483	-45.353	-71.928	-81.237	-69.390	-57.382	-56.843	-50.598
17	-42.512	-45.479	-72.147	-77.048	-61.316	-53.327	-57.291	-56.632
18	-42.557	-45.550	-73.977	-79.284	-69.764	-57.031	-59.113	-49.588
19	-42.271	-44.837	-72.021	-78.395	-63.722	-53.273	-52.437	-49.555
20	-42.519	-45.390	-71.246	-80.720	-63.940	-62.272	-53.089	-53.355
21	-42.463	-45.339	-73.741	-80.812	-68.703	-59.638	-51.994	-56.716
22	-42.605	-45.410	-73.678	-76.432	-62.563	-62.634	-59.795	-49.145
23	-42.689	-45.215	-71.471	-75.259	-61.196	-61.064	-53.168	-56.520
24	-42.413	-45.705	-71.238	-81.276	-60.588	-61.061	-50.850	-50.265
25	-42.667	-45.427	-72.174	-78.628	-67.804	-59.617	-58.077	-52.887
26	-42.510	-45.445	-74.991	-76.743	-69.044	-59.653	-53.590	-54.894
27	-42.967	-45.560	-71.690	-82.223	-65.461	-58.550	-59.835	-55.140
28	-42.596	-45.423	-72.859	-76.381	-68.489	-63.034	-50.553	-56.159
29	-42.300	-45.452	-73.995	-80.398	-68.765	-54.285	-54.926	-49.537
30	-42.573	-45.106	-71.586	-75.311	-60.772	-55.510	-59.433	-54.765
31	-42.338	-45.484	-72.485	-73.467	-65.459	-58.689	-58.270	-55.888
32	-42.191	-44.984	-76.713	-80.462	-70.109	-62.469	-51.994	-48.959
33	-42.707	-45.339	-74.390	-77.632	-62.598	-56.129	-56.006	-51.173
34	-42.800	-45.591	-72.681	-75.608	-63.485	-52.543	-59.534	-50.866
35	-42.594	-45.416	-71.750	-78.787	-69.061	-54.763	-59.960	-55.992
36	-42.290	-45.502	-72.715	-82.395	-62.555	-53.442	-57.422	-55.256
37	-42.488	-45.414	-70.840	-77.415	-60.312	-58.567	-58.976	-51.317
38	-42.297	-45.287	-73.634	-79.072	-61.629	-61.719	-58.303	-50.462
39	-42.693	-45.557	-75.635	-81.957	-64.070	-56.350	-51.302	-48.732

Parameter	CMR	CMR	DCMR	DCMR	DCMR	DCMR	DCMR	DCMR
Condition:	400MHZ	1000MHZ	10MHZ	30MHZ	100MHZ	200MHZ	400MHZ	1000MHZ
Pin								
Unit	dB	dB	dB	dB	dB	dB	dB	dB
HighLimit	-32	-25	-60	-60	-47	-40	-38	-38
LowLimit								
Average =	-42.81	-46.22	-74.11	-77.56	-65.04	-58.06	-55.45	-52.75
STD DEV =	0.53	1.33	2.52	3.07	3.12	3.09	2.96	2.82
Cpu	6.77	5.33	1.86	1.91	1.93	1.95	1.97	1.74
Cpl								
Cpk	6.77	5.33	1.86	1.91	1.93	1.95	1.97	1.74
DATA	-	-	-	-	-	-	-	-
40	-42.550	-45.338	-73.330	-72.881	-62.100	-54.026	-59.491	-50.563
41	-42.762	-45.419	-72.570	-82.066	-65.200	-59.207	-60.031	-49.390
42	-42.478	-45.041	-74.056	-78.325	-68.617	-56.237	-54.164	-56.697
43	-42.697	-45.442	-76.162	-78.581	-60.302	-60.017	-56.523	-52.943
44	-42.516	-45.433	-71.842	-80.897	-60.420	-58.881	-53.469	-57.011
45	-42.626	-45.509	-71.431	-77.552	-63.889	-56.421	-53.297	-56.232
46	-42.870	-45.437	-72.357	-81.942	-63.856	-52.860	-53.356	-49.628
47	-42.465	-45.086	-71.797	-76.769	-64.390	-61.518	-50.560	-53.800
48	-42.536	-45.356	-71.062	-76.823	-65.467	-52.350	-58.789	-56.696
49	-42.447	-45.476	-74.163	-80.879	-69.976	-55.007	-51.520	-57.099
50	-41.987	-45.035	-73.802	-74.092	-62.679	-59.360	-54.853	-55.552
51	-42.496	-45.397	-73.322	-76.201	-67.135	-61.933	-57.309	-54.628
52	-42.443	-45.493	-73.890	-80.303	-69.490	-57.730	-59.864	-52.906
53	-42.602	-45.572	-72.597	-78.731	-66.961	-55.503	-57.172	-50.662
54	-42.500	-45.655	-72.994	-78.149	-67.069	-56.922	-53.366	-53.246
55	-43.796	-48.258	-76.762	-81.664	-67.382	-62.829	-56.658	-56.455
56	-43.978	-48.360	-78.755	-71.326	-62.374	-55.807	-55.424	-49.187
57	-43.807	-48.051	-78.097	-74.307	-67.811	-53.549	-53.944	-55.219
58	-43.784	-48.357	-77.713	-78.501	-68.572	-60.838	-53.258	-50.795
59	-43.252	-47.596	-74.423	-77.675	-67.938	-54.777	-56.552	-52.969
60	-43.747	-48.626	-72.112	-80.973	-61.427	-58.013	-58.633	-55.967
61	-43.154	-47.620	-74.771	-79.752	-67.611	-61.870	-54.051	-56.561
62	-43.580	-48.390	-74.439	-81.298	-67.672	-55.632	-57.448	-51.321
63	-43.300	-48.356	-79.269	-74.936	-66.025	-55.033	-52.863	-53.071
64	-43.581	-48.267	-74.972	-75.154	-60.486	-60.884	-58.544	-51.486
65	-43.619	-48.362	-80.797	-81.614	-64.161	-53.152	-58.868	-56.940
66	-43.647	-48.642	-78.002	-75.884	-67.586	-62.468	-51.664	-48.647
67	-43.319	-48.421	-76.139	-81.329	-69.459	-60.052	-54.182	-57.037
68	-43.170	-48.160	-77.842	-71.479	-62.886	-58.888	-51.605	-48.368
69	-43.631	-48.371	-79.924	-81.896	-62.856	-55.203	-56.373	-48.480
70	-43.194	-47.776	-77.562	-79.092	-60.857	-59.545	-52.862	-52.240
71	-43.830	-48.335	-80.877	-76.946	-62.359	-58.918	-50.455	-51.685
72	-43.448	-48.436	-76.018	-78.243	-69.883	-54.747	-54.851	-51.815
73	-43.344	-48.393	-78.349	-72.615	-70.166	-60.792	-58.995	-56.997
74	-43.680	-48.008	-74.034	-79.910	-66.840	-55.528	-57.210	-52.292
75	-43.539	-47.728	-75.660	-75.132	-61.764	-63.003	-56.941	-53.599
76	-43.707	-48.280	-77.757	-72.617	-69.476	-59.146	-50.794	-50.601
77	-43.374	-48.382	-78.569	-77.573	-64.581	-61.457	-54.127	-51.818

Appendix 2

AE5002 Electrical Test Data After Resistance To Soldering Heat

Parameter	DCR	DCR	OPSH	OCL	OCL	TRP	TRP
Condition:	normal	normal	100 kHz, 100 mVRMS	100 kHz, 100 mVRMS	normal	normal	normal
Pin	1-4	2-3	1-4	1-4	2-3	1-4	2-3
Unit	mohms	mohms	Mohms	uH	uH	*1	*1
HighLimit	4.2	4.2		150	150	1.02	1.02
LowLimit	3	3	10	60	60	0.98	0.98
Average =	3.79	3.81	59.74	113.85	113.95	1.00	0.99
STD DEV =	0.08	0.07	1.63	6.97	6.92	0.00	0.00
Cpu	1.72	1.96		1.73	1.74	26.64	8.54
Cpl	3.37	4.13	10.20	2.57	2.60	26.82	4.88
Cpk	1.72	1.96	10.20	1.73	1.74	26.64	4.88
DATA	-	-	-	-	-	-	-
1	3.758	3.793	59.917	107.305	107.539	1	0.994
2	3.93	3.731	57.166	109.243	109.754	1	0.995
3	3.883	3.913	58.625	104.772	105.181	1	0.995
4	3.7	3.759	58.481	125.693	125.632	1	0.993
5	3.751	3.89	59.751	112.514	113.019	1	0.995
6	3.832	3.79	57.185	106.319	106.512	1.001	0.996
7	3.678	3.785	59.506	115.769	115.517	1	0.996
8	3.735	3.849	59.361	117.003	116.87	1	0.995
9	3.675	3.684	62.515	109.636	110.157	1	0.993
10	3.891	3.735	59.035	109.658	109.967	1	0.995
11	3.785	3.904	57.011	122.135	121.672	1	0.993
12	3.742	3.841	60.998	103.794	104.001	1	0.996
13	3.872	3.689	60.602	110.196	109.726	1	0.994
14	3.731	3.908	58.443	113.415	113.484	1.001	0.994
15	3.667	3.828	59.305	109.113	108.677	1	0.994
16	3.892	3.878	57.485	117.472	117.6	1	0.995
17	3.842	3.76	61.317	125.859	125.743	1	0.996
18	3.814	3.901	61.482	105.861	105.731	1	0.993
19	3.863	3.751	61.95	108.162	108.319	1	0.994
20	3.766	3.84	61.419	121.39	121.691	1	0.994
21	3.82	3.792	58.642	105.854	105.838	1	0.995
22	3.74	3.718	57.675	103.716	104.243	1	0.995
23	3.726	3.774	61.26	119.376	119.086	1	0.995
24	3.685	3.814	59.403	117.142	117.554	1	0.993
25	3.796	3.802	58.909	125.579	126.034	1	0.993
26	3.874	3.806	62.185	118.172	118.551	1	0.996
27	3.902	3.865	60.603	123.544	123.846	1	0.995
28	3.73	3.841	58.876	116.483	116.859	1	0.995
29	3.842	3.885	60.353	121.446	121.042	1	0.993
30	3.91	3.885	62.659	108.782	108.582	1	0.996

Parameter	RL	RL	RL	RL	CMR	CMR	CMR
Condition:	30MHZ	80MHZ	200MHZ	400MHZ	30MHZ	80MHZ	200MHZ
Pin							
Unit	dB	dB	dB	dB	dB	dB	dB
HighLimit	-22	-22	-17	-15	-42.5	-42.5	-35
LowLimit							
Average =	-28.94	-26.32	-22.13	-21.82	-47.86	-50.76	-47.62
STD DEV =	0.96	0.52	0.60	1.22	0.44	0.19	0.25
Cpu	2.42	2.74	2.86	1.87	4.05	14.24	16.86
Cpl							
Cpk	2.42	2.74	2.86	1.87	4.05	14.24	16.86
DATA	-	-	-	-	-	-	-
1	-28.941	-25.818	-23.166	-22.985	-47.355	-51.016	-47.634
2	-28.874	-25.818	-21.945	-23.324	-47.261	-50.797	-47.382
3	-29.206	-26.271	-21.910	-21.566	-48.197	-50.584	-47.625
4	-29.148	-25.885	-22.142	-22.049	-48.335	-50.478	-47.257
5	-29.071	-26.322	-22.009	-22.984	-47.508	-50.864	-47.647
6	-29.064	-25.876	-21.718	-23.120	-47.475	-50.945	-47.670
7	-28.816	-25.684	-22.782	-21.410	-48.220	-50.615	-47.582
8	-29.314	-26.526	-21.999	-22.300	-48.453	-50.506	-47.507
9	-29.324	-26.949	-22.800	-20.749	-48.380	-50.428	-47.381
10	-29.360	-26.646	-22.172	-20.222	-47.330	-50.778	-47.458
11	-28.447	-25.767	-21.663	-21.442	-48.060	-50.748	-47.851
12	-29.302	-27.086	-21.566	-20.194	-48.255	-50.718	-47.828
13	-29.088	-25.723	-22.002	-23.489	-48.327	-50.609	-47.365
14	-29.337	-27.180	-21.466	-21.599	-48.440	-50.506	-47.546
15	-29.074	-26.837	-22.203	-23.019	-47.307	-50.763	-47.526
16	-29.221	-26.859	-21.694	-20.472	-47.533	-51.005	-47.650
17	-29.076	-26.088	-22.623	-23.583	-47.533	-50.875	-47.591
18	-29.113	-26.239	-21.689	-23.383	-47.331	-51.032	-47.837
19	-28.984	-25.864	-21.164	-20.713	-47.195	-50.932	-47.808
20	-29.300	-26.694	-20.986	-21.846	-47.943	-50.727	-47.827
21	-28.965	-25.858	-21.794	-20.492	-48.127	-50.708	-47.854
22	-29.278	-26.813	-23.248	-20.049	-48.331	-50.689	-48.022
23	-23.890	-25.093	-22.401	-20.186	-48.026	-50.475	-46.780
24	-29.064	-26.393	-21.766	-23.233	-47.394	-51.058	-47.626
25	-29.293	-26.987	-22.007	-23.210	-48.324	-50.727	-47.611
26	-29.025	-26.268	-22.106	-22.431	-47.179	-51.067	-47.985
27	-29.007	-25.896	-22.333	-19.977	-48.024	-50.696	-47.762
28	-29.223	-27.086	-23.508	-20.821	-47.515	-51.100	-47.961
29	-29.241	-26.234	-21.995	-21.035	-48.291	-50.600	-47.645
30	-29.228	-26.840	-23.165	-22.789	-48.056	-50.628	-47.333

Parameter	CMR	CMR	DCMR	DCMR	DCMR	DCMR	DCMR	DCMR
Condition:	400MHZ	1000MHZ	10MHZ	30MHZ	100MHZ	200MHZ	400MHZ	1000MHZ
Pin								
Unit	dB	dB	dB	dB	dB	dB	dB	dB
HighLimit	-32	-25	-60	-60	-47	-40	-38	-38
LowLimit								
Average =	-41.77	-45.14	-77.67	-76.65	-65.13	-57.99	-55.90	-52.16
STD DEV =	0.13	0.14	3.46	3.11	2.89	3.20	2.97	2.38
Cpu	25.60	47.92	1.70	1.79	2.09	1.87	2.01	1.99
Cpl								
Cpk	25.60	47.92	1.70	1.79	2.09	1.87	2.01	1.99
DATA	-	-	-	-	-	-	-	-
1	-41.740	-45.186	-77.390	-78.464	-65.498	-57.921	-60.230	-49.065
2	-41.829	-44.886	-76.021	-78.043	-63.469	-63.325	-52.956	-48.417
3	-41.828	-45.242	-76.586	-81.148	-61.476	-59.304	-52.184	-56.549
4	-41.455	-45.023	-90.480	-72.637	-62.768	-55.214	-53.873	-53.656
5	-41.745	-45.149	-76.704	-72.928	-62.892	-57.382	-53.269	-50.386
6	-41.706	-45.262	-74.819	-80.697	-66.004	-61.198	-56.439	-53.236
7	-41.671	-45.178	-73.227	-78.722	-64.022	-58.679	-56.709	-51.683
8	-41.753	-45.167	-79.239	-73.513	-66.083	-59.317	-59.870	-50.336
9	-41.756	-44.976	-76.829	-78.185	-68.019	-60.642	-55.171	-48.488
10	-41.727	-45.125	-77.095	-74.966	-60.774	-62.608	-57.485	-52.469
11	-41.964	-45.115	-74.116	-74.665	-69.599	-54.810	-55.479	-51.779
12	-41.864	-45.249	-79.160	-75.122	-65.130	-55.351	-52.104	-55.909
13	-41.793	-45.035	-75.209	-80.062	-69.820	-63.138	-59.029	-53.081
14	-41.723	-45.151	-83.206	-80.707	-62.129	-59.132	-50.453	-53.284
15	-41.770	-45.118	-79.704	-79.448	-68.494	-62.661	-50.886	-56.174
16	-41.741	-45.206	-76.377	-72.962	-60.891	-55.967	-59.634	-49.617
17	-41.677	-45.096	-73.773	-76.207	-66.321	-52.627	-59.509	-50.873
18	-41.776	-45.200	-77.550	-72.113	-66.565	-54.124	-56.768	-52.009
19	-41.899	-45.037	-75.188	-74.782	-61.598	-56.505	-57.095	-54.016
20	-41.986	-45.163	-77.346	-71.645	-63.353	-57.175	-50.594	-49.909
21	-41.812	-45.330	-77.407	-77.576	-62.324	-52.913	-56.660	-53.843
22	-41.966	-45.376	-81.089	-80.949	-66.114	-57.041	-59.109	-54.282
23	-41.457	-44.720	-72.138	-77.851	-69.869	-52.320	-58.526	-48.594
24	-41.603	-45.330	-81.133	-75.620	-70.293	-55.565	-56.763	-52.910
25	-41.648	-45.150	-77.935	-77.067	-65.693	-54.770	-54.845	-52.520
26	-41.974	-45.104	-78.986	-82.110	-62.643	-58.484	-56.374	-49.060
27	-41.839	-45.122	-74.721	-71.536	-61.145	-60.203	-51.426	-52.885
28	-41.836	-45.405	-76.575	-78.808	-68.024	-62.656	-58.739	-54.125
29	-41.744	-45.105	-81.020	-77.538	-67.436	-61.024	-58.781	-55.870
30	-41.684	-44.961	-79.102	-73.457	-65.346	-57.561	-55.987	-49.864

Appendix 3
AE5002 Solderability Report

YAGEO PULSE GROUP

No#: 20251124018

PULSE TEST REPORT			
PRODUCT: AE5002	**REVISION:** A	**DATE:** Nov 18th 2025	**PREPARED BY:** Jufang Yang

1. TEST REQUIRED
- Solderability Test

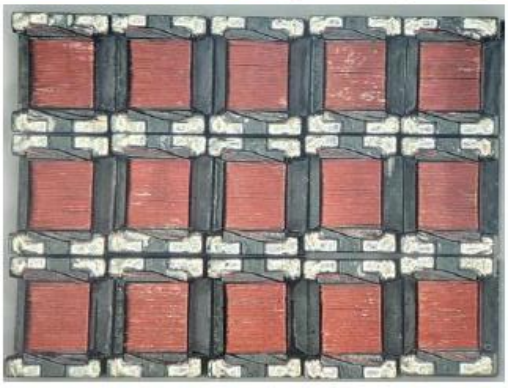
2. SAMPLE SIZE
- 45units

3. TEST CONDITION
- Per J-STD-002E
  a) Method B, 4hrs @ 155°C dry heat @ 235°C
  b) Method B @ 215°C category 3.
  c) Method D category 3 @ 260°C.

4. EQUIPMENT/INSTRUMENT USED
- 2 gallon glass container with non corrosive basket
- Solder pot
- Microscope
- Digital Thermometer

5. TEST RESULT
- The test result is PASS as both sample test area grater than 95% smooth solver coverage and test pictures as below table.

TABLE 1: result of a) Method B, 4hrs @ 155°C dry heat @ 235°C

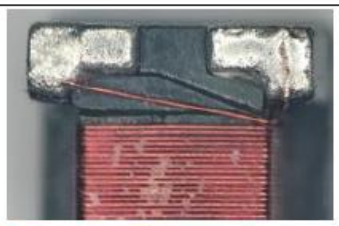


Sample 1

Export Process Zone, High-Tech Industrial Development Zone, Mianyang, Sichuan,PR China
TEL#: (86-816)7077888-2012 FAX#(86)816 7077888-1008

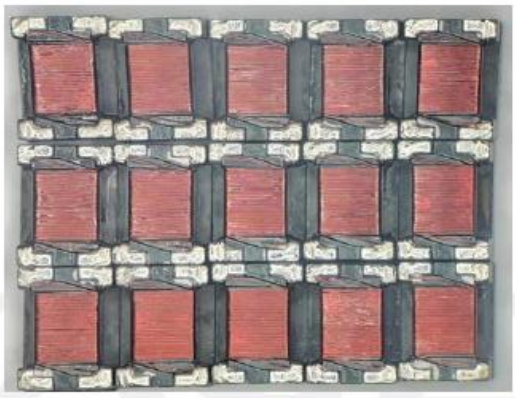
YAGEO PULSE GROUP

No#: 20251124018

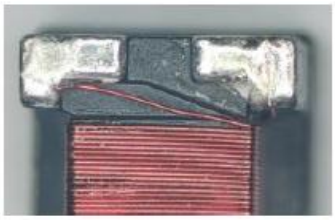


Sampling partial view

TABLE 2: result of Method B @ 215°C category 3.



Sample 2



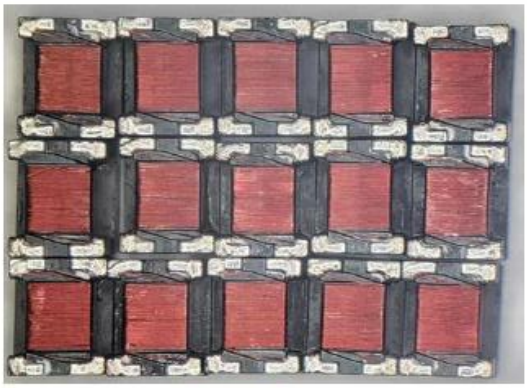
Sampling partial view

TABLE 3: result of c) Method D category 3 @ 260°C.

Appendix 3
AE5002 Solderability Report

YAGEO PULSE GROUP

No#: 20251124018



Sample 3

Sampling partial view

Prepared by: Jufang Yang
Pulse MPO Lab Technician

Reviewed by: Colin Zhang
Pulse MPO Lab Engineer

MIANYANG PULSE ELECTRONICS CO.,LTD
RELIABILITY LABORATORY

----------End of the Report----------

Export Process Zone, High-Tech Industrial Development Zone, Mianyang, Sichuan,PR China
TEL#: (86-816)7077888-2012 FAX#(86)816 7077888-1008

Appendix 4

AE5002 Electrical Characterization Test Data

Parameter	OCL of 1st lot							OCL of 2nd lot							OCL of 3rd lot						
Condition:	-40C	-40C	25C	25C	125C	125C		-40C	-40C	25C	25C	125C	125C		-40C	-40C	25C	25C	125C	125C	
Pin	1-4	2-3	1-4	2-3	1-4	2-3		1-4	2-3	1-4	2-3	1-4	2-3		1-4	2-3	1-4	2-3	1-4	2-3	
Unit	uH	uH	uH	uH	uH	uH		uH	uH	uH	uH	uH	uH		uH	uH	uH	uH	uH	uH	
HighLimit			150	150						150	150						150	150			
LowLimit	60	60	60	60	60	60		60	60	60	60	60	60		60	60	60	60	60	60	
Average =	84.46	84.47	111.22	111.27	147.91	147.90		85.01	85.01	108.00	108.00	145.46	145.39		83.82	83.82	108.07	107.97	144.41	144.36	
STD DEV =	4.56	4.61	7.26	7.27	16.29	16.30		4.68	4.71	7.77	7.88	16.66	16.81		4.66	4.68	7.57	7.46	14.59	14.56	
Cpu			1.78	1.78						1.80	1.78						1.85	1.88			
Cpl	1.79	1.77	2.35	2.35	1.80	1.80		1.78	1.77	2.06	2.03	1.71	1.69		1.71	1.70	2.12	2.14	1.93	1.93	
Cpk	1.79	1.77	1.78	1.78	1.80	1.80		1.78	1.77	1.80	1.78	1.71	1.69		1.71	1.70	1.85	1.88	1.93	1.93	
DATA	-	-	-	-	-	-		-	-	-	-	-	-		-	-	-	-	-	-	
1	89.94	90.05	122.41	123.05	127.65	128.06	31	81.633	81.785	104.62	104.37	120.96	120.43	61	79.27	79.4	115.45	115.4	128.53	128.93	
2	90.18	89.71	120.18	119.72	167.21	167.24	32	85.418	85.249	104.24	103.93	164.55	164.79	62	90.63	90.1	114.35	113.67	170.68	171	
3	93.09	93.39	112.26	112.22	146.26	146.21	33	81.59	81.64	111	110.5	165.21	165.98	63	83.09	83.05	101.3	102.05	157.66	157.44	
4	81.96	82	112.39	113.09	131.06	131.56	34	83.206	83.16	98.802	99.609	127.55	127.04	64	90.72	91.2	112.45	111.65	163.84	163.6	
5	86.19	86.69	104.69	103.96	164.11	164.03	35	91.065	91.429	117.61	117.49	127.31	127.58	65	81.29	81.03	98.118	97.397	129.39	129.62	
6	83.09	83.33	96.023	96.444	163.78	163.87	36	80.201	80.38	101.92	101.7	159.21	159.01	66	88.3	88.77	115.11	115.09	126.32	125.99	
7	89.59	90.12	107.05	106.56	130.54	130.96	37	91.929	91.891	99.332	99.478	126.78	126.54	67	83.12	83.51	104.72	104.21	157.05	156.62	
8	79.88	79.34	120.76	121.27	144.96	144.05	38	81.057	80.903	120.58	120.5	132.65	131.47	68	79.99	79.69	96.676	96.23	132.43	132.08	
9	90.55	91.06	109.45	109.38	171.54	171.52	39	92.532	92.775	107.35	107.3	130.54	130.16	69	81.75	81.85	99.249	99.72	153.72	153.71	
10	80.63	80.58	110.13	110.45	164.35	164.01	40	93.063	92.809	110.96	110.62	144.79	143.51	70	85.79	85.97	108.89	108.09	153.59	153.63	
11	85.77	85.53	121.13	120.77	153.48	153.13	41	80.827	81.25	99.533	99.213	176.24	176.55	71	77.8	77.81	103.47	104.3	133.55	134.02	
12	91.23	90.88	99.798	100.3	116.86	116.94	42	78.632	78.197	106.82	107.16	171.18	171.51	72	85.13	84.7	120.45	119.6	134.34	133.93	
13	82.19	82.72	115.79	115.68	137.56	137.15	43	77.735	77.456	111.58	111.08	137.97	137.95	73	84.91	85.14	105.69	105.79	144.99	145.27	
14	81.73	81.35	122.16	121.4	143.87	143.09	44	76.669	76.189	118.48	118.6	170.79	170.94	74	79.17	79.17	102.41	101.89	157.51	157.29	
15	90.9	90.65	114.14	114.07	167.21	167.5	45	86.371	86.689	112.07	111.86	148.94	148.91	75	79.17	79.25	100.07	100.54	144.81	144.62	
16	78.91	79.46	107.08	106.55	130.62	130.58	46	85.936	85.915	109.45	110.08	155.24	154.81	76	79.72	80.19	122.59	121.74	136.91	136.74	
17	82.58	82.71	99.599	99.038	127.45	127.09	47	91.495	91.452	121.84	122.23	131.63	132.12	77	86.49	86.26	111.65	112.04	139.33	139.45	
18	79.98	79.85	110.31	110.89	137.74	137.83	48	86.698	86.919	107.34	107.25	165.32	165	78	88.78	88.45	102.3	102.44	156.55	156.61	
19	86.09	86.54	116.53	117.11	128.56	128.64	49	88.536	88.204	111.54	111.72	131.77	131.77	79	76.62	76.71	97.237	97.828	153.24	153.15	
20	83.56	83.79	101.31	101.68	145.69	145.01	50	86.916	86.442	98.127	97.308	142.74	143.05	80	78.16	78.18	99.699	99.352	116.51	116.97	
21	83.52	83.01	108.44	107.96	144.36	144.56	51	92.115	91.989	96.23	96.036	143.9	143.53	81	88.43	88.01	109.17	109.52	151.43	151.45	
22	86.64	86.85	118	118.49	168.56	168.51	52	84.674	85.197	112.58	112.23	164.84	164.98	82	80.76	80.34	101.55	101.56	114.98	114.99	
23	79.13	79.18	107.42	106.95	171.55	171.33	53	86.36	86.198	103.39	102.94	117.76	118.15	83	76.01	75.49	120.39	120.36	128.41	128.28	
24	79.87	80.16	111.3	110.82	132.52	132.88	54	82.905	83.364	97.723	98.314	144.27	144.73	84	87.84	87.39	109.94	109.22	165.01	164.75	
25	91.76	91.69	100.03	100.69	135.62	135.89	55	82.748	83.189	112.41	112.95	124.41	123.93	85	83.92	84.34	113.72	113.76	153.46	153.54	
26	84.98	84.65	116.77	117.15	158.39	159.48	56	78.464	78.141	101.41	100.67	154.41	154.28	86	85.55	85.99	111.96	112.36	149.75	149.65	
27	81.39	81.21	107.35	107.37	133.77	133.06	57	84.964	84.657	118.74	119.52	147.32	147.5	87	91.86	91.84	109.71	109.14	161.14	161.23	
28	77.29	76.88	117.15	117.19	170.56	170.25	58	80.617	81.075	103.09	103.42	130.19	130.18	88	87.3	86.87	104.56	104.29	127.22	127.01	
29	83.38	83	108.75	109.48	159.31	159.84	59	88.702	88.472	122.91	123.47	162.57	162.86	89	92.41	92.96	106.56	106.93	137.66	137.21	
30	77.68	77.71	118.23	118.28	162.21	162.79	60	87.131	87.432	98.261	98.492	142.85	142.54	90	80.75	81.09	122.53	122.95	152.18	152.03	

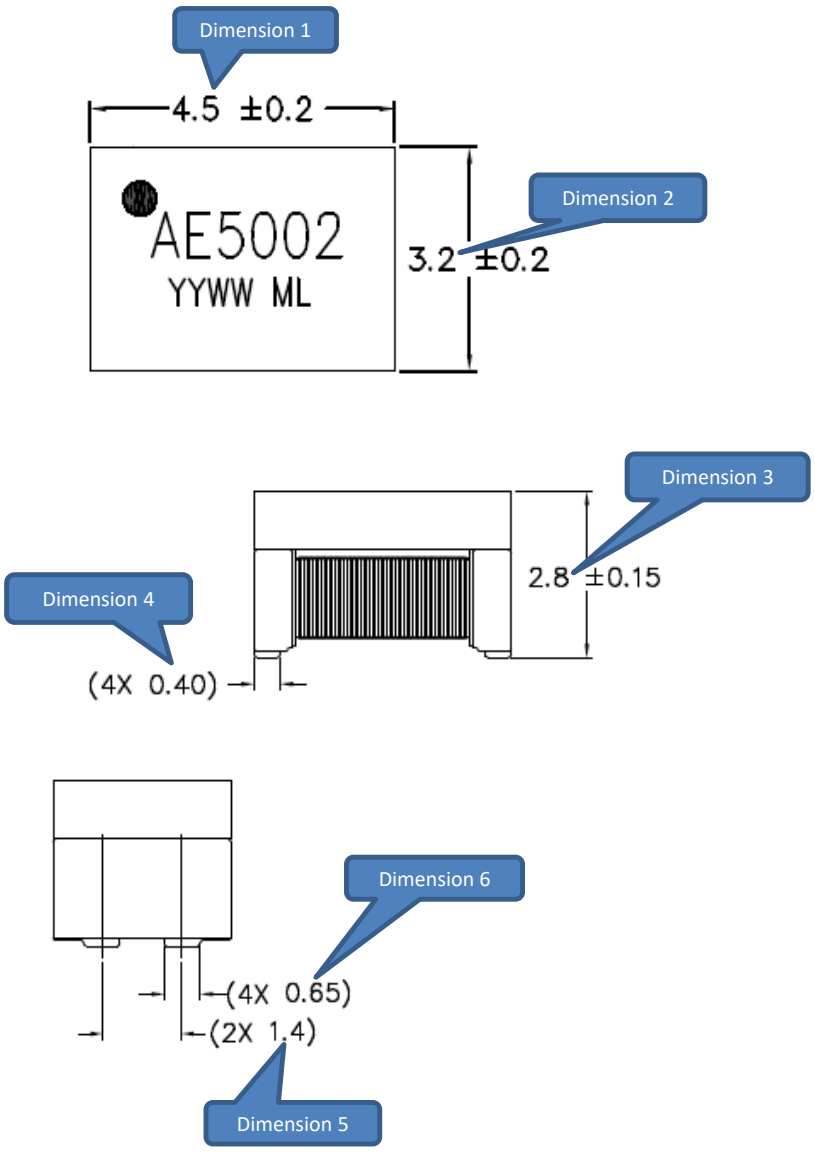
Appendix 5

AE5002NL Terminal Strength Test

Specimens#	Test Condition	Test Result	Remark
1	1.8kg/f @60s holding	*Pass*	N/A
2	1.8kg/f @60s holding	*Pass*	N/A
3	1.8kg/f @60s holding	*Pass*	N/A
4	1.8kg/f @60s holding	*Pass*	N/A
5	1.8kg/f @60s holding	*Pass*	N/A
6	1.8kg/f @60s holding	*Pass*	N/A
7	1.8kg/f @60s holding	*Pass*	N/A
8	1.8kg/f @60s holding	*Pass*	N/A
9	1.8kg/f @60s holding	*Pass*	N/A
10	1.8kg/f @60s holding	*Pass*	N/A
11	1.8kg/f @60s holding	*Pass*	N/A
12	1.8kg/f @60s holding	*Pass*	N/A
13	1.8kg/f @60s holding	*Pass*	N/A
14	1.8kg/f @60s holding	*Pass*	N/A
15	1.8kg/f @60s holding	*Pass*	N/A
16	1.8kg/f @60s holding	*Pass*	N/A
17	1.8kg/f @60s holding	*Pass*	N/A
18	1.8kg/f @60s holding	*Pass*	N/A
19	1.8kg/f @60s holding	*Pass*	N/A
20	1.8kg/f @60s holding	*Pass*	N/A
21	1.8kg/f @60s holding	*Pass*	N/A
22	1.8kg/f @60s holding	*Pass*	N/A
23	1.8kg/f @60s holding	*Pass*	N/A
24	1.8kg/f @60s holding	*Pass*	N/A
25	1.8kg/f @60s holding	*Pass*	N/A
26	1.8kg/f @60s holding	*Pass*	N/A
27	1.8kg/f @60s holding	*Pass*	N/A
28	1.8kg/f @60s holding	*Pass*	N/A
29	1.8kg/f @60s holding	*Pass*	N/A
30	1.8kg/f @60s holding	*Pass*	N/A

Appendix 6

AE5002NL Dimension Drawing



The Dimension test data is as next page.

Appendix 7

AE5002 Dimension Test Data

Dimension	1	2	3	4-1	4-2	4-3	4-4	5-1	5-2	6-1	6-2	6-3	6-4
Unit	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
HighLimit	4.7	3.4	2.95	0.5	0.5	0.5	0.5	1.5	1.5	0.75	0.75	0.75	0.75
LowLimit	4.3	3	2.65	0.3	0.3	0.3	0.3	1.3	1.3	0.55	0.55	0.55	0.55
Average =	4.61	3.20	2.85	0.40	0.40	0.40	0.40	1.43	1.43	0.64	0.64	0.63	0.64
STD DEV =	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02
Cpu	3.67	5.69	2.49	4.37	4.62	3.80	4.18	1.78	1.70	2.30	1.91	2.25	2.18
Cpl	12.66	5.95	4.62	4.08	4.47	3.82	4.26	3.16	3.10	1.76	1.44	1.59	1.76
Cpk	3.67	5.69	2.49	4.08	4.47	3.80	4.18	1.78	1.70	1.76	1.44	1.59	1.76
DATA	-	-	-	-	-	-	-	-	-	-	-	-	-
1	4.61	3.2	2.83	0.39	0.39	0.41	0.4	1.45	1.41	0.64	0.62	0.64	0.65
2	4.6	3.2	2.84	0.41	0.39	0.41	0.39	1.42	1.41	0.65	0.61	0.61	0.63
3	4.61	3.19	2.84	0.39	0.4	0.4	0.41	1.41	1.41	0.62	0.62	0.61	0.65
4	4.62	3.22	2.86	0.39	0.39	0.39	0.39	1.42	1.45	0.65	0.65	0.61	0.61
5	4.61	3.21	2.87	0.39	0.41	0.41	0.4	1.45	1.43	0.63	0.64	0.64	0.65
6	4.6	3.2	2.86	0.41	0.41	0.41	0.39	1.41	1.45	0.61	0.62	0.64	0.61
7	4.62	3.2	2.86	0.4	0.39	0.39	0.4	1.43	1.43	0.62	0.65	0.61	0.62
8	4.61	3.2	2.83	0.39	0.4	0.39	0.39	1.45	1.43	0.64	0.66	0.63	0.61
9	4.61	3.21	2.83	0.4	0.4	0.39	0.41	1.43	1.45	0.65	0.61	0.61	0.66
10	4.6	3.19	2.84	0.39	0.41	0.41	0.39	1.45	1.43	0.63	0.62	0.65	0.63
11	4.61	3.22	2.86	0.39	0.4	0.41	0.39	1.42	1.45	0.65	0.61	0.62	0.65
12	4.61	3.21	2.86	0.41	0.39	0.39	0.41	1.41	1.41	0.63	0.62	0.63	0.64
13	4.6	3.19	2.85	0.4	0.4	0.4	0.4	1.45	1.42	0.63	0.66	0.66	0.66
14	4.62	3.22	2.86	0.39	0.39	0.39	0.39	1.43	1.45	0.66	0.63	0.66	0.64
15	4.62	3.19	2.85	0.39	0.4	0.41	0.4	1.43	1.43	0.61	0.66	0.61	0.66
16	4.6	3.22	2.83	0.4	0.41	0.39	0.41	1.42	1.42	0.66	0.65	0.64	0.63
17	4.62	3.19	2.84	0.41	0.4	0.41	0.4	1.43	1.44	0.63	0.65	0.64	0.62
18	4.62	3.22	2.86	0.39	0.4	0.4	0.4	1.43	1.42	0.65	0.61	0.66	0.65
19	4.6	3.2	2.83	0.41	0.41	0.39	0.41	1.41	1.41	0.65	0.61	0.66	0.64
20	4.62	3.19	2.84	0.39	0.39	0.41	0.41	1.44	1.43	0.64	0.66	0.64	0.63
21	4.62	3.19	2.84	0.4	0.4	0.41	0.41	1.41	1.43	0.64	0.62	0.64	0.66
22	4.61	3.22	2.83	0.39	0.4	0.4	0.4	1.41	1.45	0.66	0.65	0.64	0.66
23	4.6	3.2	2.83	0.41	0.4	0.4	0.4	1.42	1.43	0.61	0.66	0.62	0.61
24	4.61	3.2	2.84	0.39	0.39	0.41	0.41	1.43	1.41	0.62	0.61	0.65	0.64
25	4.6	3.22	2.87	0.39	0.4	0.4	0.41	1.43	1.43	0.64	0.61	0.61	0.64
26	4.6	3.21	2.83	0.4	0.39	0.39	0.4	1.42	1.45	0.63	0.65	0.62	0.65
27	4.62	3.2	2.87	0.39	0.39	0.39	0.4	1.45	1.42	0.61	0.65	0.61	0.66
28	4.6	3.21	2.83	0.4	0.4	0.4	0.39	1.43	1.42	0.62	0.66	0.64	0.66
29	4.62	3.22	2.84	0.4	0.41	0.41	0.41	1.43	1.43	0.66	0.65	0.64	0.64
30	4.61	3.19	2.83	0.39	0.39	0.39	0.41	1.42	1.43	0.66	0.66	0.65	0.62

AE5002 Comparison data between CRC, CQZF and ACME Core

Electrical Characterization Test Data

Core supplier	ACME Core	CQZF Core	CRC Core	ACME Core	CQZF Core	CRC Core	ACME Core	CQZF Core	CRC Core
Parameter	OCL@-40C	OCL@-40C	OCL@-40C	OCL@25C	OCL@25C	OCL@25C	OCL@125C	OCL@125C	OCL@125C
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4	1-4
Unit	u	u	u	u	u	u	u	u	u
HigLimilt				150	150	150			
LowLimilt	60	60	60	60	60	60	60	60	60
Average =	77.828	87.965	84.456	92.332	115.221	111.221	104.286	138.491	147.912
STD DEV =	3.084	3.309	4.559	5.752	6.402	7.259	7.000	5.307	16.286
MAX =	87.907	95.420	93.090	98.850	129.550	122.410	122.910	148.570	171.550
MIN =	70.780	82.860	77.290	69.990	105.490	96.023	87.140	129.200	116.860
Cpu				3.342	1.811	1.781			
Cpl	1.927	2.817	1.788	1.874	2.875	2.352	2.109	4.930	1.799
CP				2.608	2.343	2.066			
Cpk	1.927	2.817	1.788	1.874	1.811	1.781	2.109	4.930	1.799
DATA	-	-	-	-	-	-	-	-	-
1	79.85	86.28	89.94	92.82	113.8	122.41	107.04	133.93	127.65
2	79.37	89.52	90.18	93.36	117.46	120.18	105.38	140.68	167.21
3	78.77	90.85	93.09	98.12	118.51	112.26	100.41	141.71	146.26
4	77.47	91.58	81.96	90.09	121.93	112.39	102.23	143.58	131.06
5	73.82	84.62	86.19	95.74	111.01	104.69	107.98	131.96	164.11
6	75.15	93.8	83.09	98.85	126.86	96.023	100.69	142.38	163.78
7	75.09	82.86	89.59	96.41	105.72	107.05	107.99	134.28	130.54
8	79.78	90.83	79.88	93.21	120.82	120.76	106.29	142.05	144.96
9	78.34	86.25	90.55	69.99	111.67	109.45	96.12	130.31	171.54
10	75.43	88.46	80.63	95.26	115.44	110.13	106.1	135.65	164.35
11	75.75	95.42	85.77	80.36	127.67	121.13	87.14	141.49	153.48
12	75.53	85.75	91.23	98.44	111.89	99.798	107.56	130.76	116.86
13	75.15	87.37	82.19	97.32	115.15	115.79	109.37	136.65	137.56
14	78.17	84.66	81.73	83.68	109.94	122.16	91.82	145.9	143.87
15	79.47	94.65	90.9	90.66	129.55	114.14	102.31	144.97	167.21
16	73.38	88	78.91	95.72	117.33	107.08	106.17	138.11	130.62
17	79.28	88.14	82.58	91.41	109.76	99.599	104.58	137.59	127.45
18	79.37	90.01	79.98	94.86	119.81	110.31	108.6	138.56	137.74
19	74.78	90.41	86.09	94.14	120.86	116.53	104.72	145.15	128.56
20	79.77	90.12	83.56	91.68	118.71	101.31	104.66	138.4	145.69
21	80.72	83.41	83.52	97.71	108.17	108.44	122.91	130.09	144.36
22	78.54	83.44	86.64	89.21	118.33	118	97.53	129.2	168.56
23	79.7	84.88	79.13	95.67	107.35	107.42	122.21	129.56	171.55
24	70.78	86.56	79.87	90.37	108.05	111.3	101.53	148.57	132.52
25	78.94	84.74	91.76	93.29	118.37	100.03	105.48	140.4	135.62
26	75.53	85.98	84.98	93.37	113.23	116.77	103.68	141.93	158.39
27	79.77	90.86	81.39	89.07	116.31	107.35	97.44	144.54	133.77
28	79.85	85.16	77.29	92.82	105.49	117.15	107.04	141.24	170.56
29	79.37	85.89	83.38	93.36	111.34	108.75	105.38	135.82	159.31
30	87.91	88.46	77.68	92.98	106.1	118.23	98.23	139.27	162.21

AE5002 Comparison data between CRC, CQZF and ACME Core

Dimension Data

ACME Core	CQZF Core	CRC Core	ACME Core	CQZF Core	CRC Core	ACME Core	CQZF Core	CRC Core
Length	Length	Length	Width	Width	Width	Height	Height	Height
normal	normal	normal	normal	normal	normal	normal	normal	normal
N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A	N.A
mm	mm	mm	mm	mm	mm	mm	mm	mm
4.7	4.7	4.7	3.4	3.4	3.4	2.95	2.95	2.95
4.3	4.3	4.3	3.0	3.0	3.0	2.65	2.65	2.65
4.611	4.607	4.609	3.208	3.206	3.204	2.852	2.852	2.845
0.008	0.009	0.008	0.011	0.011	0.011	0.015	0.016	0.014
4.620	4.620	4.620	3.220	3.220	3.220	2.870	2.870	2.870
4.600	4.600	4.600	3.190	3.190	3.190	2.830	2.830	2.830
3.571	3.618	3.714	5.942	5.804	5.694	2.207	2.057	2.453
12.480	11.999	12.671	6.437	6.143	5.946	4.526	4.219	4.533
8.026	7.809	8.192	6.190	5.973	5.820	3.367	3.138	3.493
3.571	3.618	3.714	5.942	5.804	5.694	2.207	2.057	2.453
-	-	-	-	-	-	-	-	-
4.62	4.61	4.61	3.19	3.20	3.20	2.84	2.84	2.83
4.6	4.6	4.6	3.20	3.21	3.20	2.87	2.85	2.84
4.62	4.62	4.61	3.21	3.20	3.19	2.84	2.87	2.84
4.6	4.6	4.62	3.22	3.20	3.22	2.86	2.87	2.86
4.62	4.6	4.61	3.21	3.19	3.21	2.87	2.87	2.87
4.6	4.62	4.6	3.19	3.22	3.20	2.84	2.84	2.86
4.61	4.6	4.62	3.19	3.22	3.20	2.87	2.85	2.86
4.6	4.6	4.61	3.20	3.21	3.20	2.84	2.83	2.83
4.61	4.61	4.61	3.19	3.21	3.21	2.84	2.83	2.83
4.62	4.6	4.6	3.20	3.19	3.19	2.87	2.85	2.83
4.6	4.6	4.61	3.21	3.22	3.22	2.85	2.83	2.86
4.61	4.62	4.61	3.19	3.20	3.21	2.83	2.87	2.86
4.61	4.6	4.6	3.21	3.22	3.19	2.86	2.87	2.85
4.61	4.61	4.62	3.20	3.19	3.22	2.87	2.86	2.86
4.61	4.61	4.62	3.22	3.21	3.19	2.84	2.83	2.85
4.6	4.61	4.6	3.22	3.22	3.22	2.87	2.84	2.83
4.61	4.62	4.62	3.21	3.20	3.19	2.83	2.83	2.84
4.6	4.62	4.62	3.22	3.22	3.22	2.85	2.84	2.86
4.62	4.62	4.61	3.21	3.20	3.20	2.87	2.87	2.83
4.62	4.6	4.6	3.21	3.22	3.19	2.86	2.84	2.84
4.6	4.6	4.61	3.20	3.21	3.19	2.87	2.87	2.84
4.61	4.6	4.6	3.22	3.19	3.22	2.87	2.87	2.83
4.62	4.6	4.6	3.21	3.21	3.20	2.83	2.86	2.83
4.61	4.61	4.62	3.22	3.20	3.20	2.83	2.86	2.84
4.62	4.62	4.6	3.22	3.22	3.22	2.85	2.86	2.87
4.62	4.6	4.6	3.22	3.19	3.21	2.86	2.83	2.83
4.62	4.62	4.62	3.21	3.21	3.20	2.84	2.85	2.87
4.62	4.6	4.6	3.20	3.19	3.21	2.85	2.87	2.83
4.6	4.6	4.62	3.22	3.21	3.22	2.85	2.87	2.84
4.62	4.6	4.61	3.22	3.19	3.19	2.83	2.83	2.83

Item	Tests	Condition	ACME Core	CQZF Core	CRC Core
1	Mechanical Shock	Pulse shape: half sine Nominal pulse length: 6ms Peak acceleration: 100g Number of shocks: 6 each in both direction of each axis (total 36)	Pass	Pass	Pass
2	Vibration	Pulse shape: sine wave Range of frequency 1: 10 - 55Hz Amplitude: 0,75mm Range of frequency 2: 55 - 2000Hz Amplitude: 10g Frequency sweep: 0.5 oct/min Duration: 24h each of 3 axis	Pass	Pass	Pass
3	Board Flex	Speed: 1mm/s no cracks allowed	Pass	Pass	Pass
4	Terminal Strength (SMD)	1.8kg/f 60s holding	Pass	Pass	Pass

Remark: Manual open and short test by multimeter after each mechanical tests as the component could not be dis-assembled from the PCB.