


Product Change Notification

PCN Date:	July 8, 2022	
Supplier Name:	Pulse Electronics	
Pulse PCN No.	PCN-100000412 Rev. A	
Description of Change	Adding another manufacturing location CLF (the factory code is SV) in Sichuan Province. This location is also an IATF16949 & ISO9001 certified factory. No impact to product form, fit and function. Product process and BOM will remain the same.	
Reason for Change	<ol style="list-style-type: none"> 1. Extend the manufacturing capacity to support customers. 2. Business contingency requirements. 	
Traceability guidelines	These parts will be marked with the -SV suffix after the date code, for example 2225-SV.	
Qualification Data attached?	1000 hours reliability test has passed. Refer to the report below.	
File name(s)	 HMU2102NL Qualification Test report	
Customer Part Number	Pulse Part Number	PCN Effectively Date
/	HM1188NL	Jan 8,2023
/	HM1188NLT	Jan 8,2023
/	HM2106NL	Jan 8,2023
/	HM2106NLT	Jan 8,2023
/	HM1238NL	Jan 8,2023
/	HM1238NLT	Jan 8,2023
/	HMU2129NL	Jan 8,2023
/	HMU2129NLT	Jan 8,2023
/	HM1218CNL	Jan 8,2023
/	HM1218CNLT	Jan 8,2023
/	HMU2102NL	Jan 8,2023
/	HMU2102NLT	Jan 8,2023
/	HM1236NL	Jan 8,2023
/	HM1236NLT	Jan 8,2023
/	HMU2101NL	Jan 8,2023
/	HMU2101NLT	Jan 8,2023
/	HMU2111NL	Jan 8,2023
/	HMU2111NLT	Jan 8,2023
/	HMU1228NL	Jan 8,2023
/	HMU1228NLT	Jan 8,2023

/	HX1335HL	Jan 8,2023
/	HX1335HLT	Jan 8,2023
/	HX5149HL	Jan 8,2023
/	HX5149HLT	Jan 8,2023
/	HX6098FNL	Jan 8,2023
/	HX6098FNLT	Jan 8,2023
/	HX6106NL	Jan 8,2023
/	HX6106NLT	Jan 8,2023
/	HX6116NL	Jan 8,2023
/	HX6116NLT	Jan 8,2023
/	HX5120NL	Jan 8,2023
/	HX5120NLT	Jan 8,2023
/	HX5149NL	Jan 8,2023
/	HX5149NLT	Jan 8,2023
/	B2013FNL	Jan 8,2023
/	B2013FNLT	Jan 8,2023

Customer: Generic

Originator: Levene Xu

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Qualification Report of HMU2102NL

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Qualification Test Summary (Revision: A)

1. Purpose:

This is an internal Pulse Qualification Plan to qualify part number HMU2102NL which build in CLF (Add Second resource), Data will be reviewed after 168 hours for conditional qualification. Testing to complete 1000 hours.

2. SCOPE:

HMU2102NL product is produced in CLF and tested in UPO.

3. REFERENCES

HMU2102NL released document

4. Test summary as below:

Item	Test description	Reference	Pre-	Sample Size	Test conditions	Results	Remarks	Number#
			Condition					
1	Visual/mechanical examination	2.107.001	NO	326	Using 20X magnification and appropriate mechanical measurement tools;	PASS	Appendix 1	ALL
	Electrical characterization	2.107.002			Perform electrical tests as defined on the manufacturing document at standard temperature; parts to be serialized.			
2	High Temperature Exposure (Storage)	MIL-STD-202	Y	77	Stored for 1000 hours @ 125°C	PASS	Appendix 2	1-77
		Method 108						
3	Temperature Cycling	JESD22	Y	77	1000 cycles (-40°C to 125°C) 30min maximum dwell time at each temperature extreme. 1 min. maximum transition time.	PASS	Appendix 3	78-154
		Method JA-104						
4	Operational Life	MIL-PRF-27	Y	77	1000 hours 125°C DC loaded 5V	PASS	Appendix 4	155-231
5	Resistance to Soldering Heat	MIL-STD-202 Method 210	N	30	Method B, solder reflow profile #4 Four times SRP at peak temp. 250°C, as precondition test	PASS	Appendix 5	262-291
		PQ 2.107.032						
6	Electrical Characterization	HMU2102NL datasheet	N	30	Test OCL @ -40°C, 25°C, 125°C.	PASS	Appendix 6	292-321
7	Terminal Strength	AEC-Q200-006	N	30	Apply a 17.7 N (1.8 Kg) force and shall be applied for 60 +1 seconds	PASS	Appendix 7	232-261

Remark : 322-326 is control sample

5.0 ANALYSIS

5.1 All data and test results are to be collected, compiled and statistically analyzed per PQ 3.024.000 by Quality Organization for approval and filing.

5.2 Pulse quality will issue qualification authorization upon successful completion of the qualification plan and data analysis.

6.0 INTERPRETATION

Interpretation of the plan is the responsibility of the Pulse Quality Manager

7.0 APPROVAL

Report Rev A 2022/4/25

Prepared by Cherry Luo

Network-UPO Reliability Engineer

Approved By

JS Hill

PULSE Quality Manager

Appendix 1

0hr Electrical Test Data

Table with 19 columns: Parameter, Lx, Lx, TURN, TURN, TURN, TURN, TURN, TURN, TURN, TURN, TURN, TURN, DCR, DCR, DCR, DCR, Pin Sht, Pin Sht. Includes rows for HighLimit, LowLimit, Average, STD DEV, Cpk, and DATA (lines 41-82).

Appendix 1

0hr Electrical Test Data

Parameter	Lx	Lx	TURN	TURN	TURN	TURN	TURN	TURN	TURN	TURN	TURN	TURN	DCR	DCR	DCR	DCR	Pin Sht	Pin Sht
Condition:	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	RT	RT	RT	RT	RT	RT
Pins	001-003	004-006	012-010	001-002	002-003	012-011	011-010	009-007	004-005	005-006	009-008	008-007	001-003	012-010	004-006	009-007	001-004	012-009
Unit	uH	uH	mT	mT	mT	mT	mT	mT	mT	mT	mT	mT	ohms	ohms	ohms	ohms	Mohms	Mohms
HighLimit	360	360	1020	510	510	510	510	1020	510	510	510	510	0.45	0.85	0.45	0.85	15000	15000
LowLimit	180	180	980	490	490	490	490	980	490	490	490	490	0.01	0.01	0.01	0.01	10	10
Average =	236.53	237.70	998.28	500.77	500.82	500.08	500.23	998.73	500.57	500.80	500.15	500.59	0.31	0.72	0.35	0.72	10,000.00	10,000.00
STD DEV =	10.23	9.89	0.35	0.17	0.17	0.25	0.26	0.34	0.16	0.16	0.26	0.27	0.01	0.01	0.01	0.01	0.02	0.02
Cpk	1.84	1.95	17.23	18.39	18.35	12.97	12.47	18.52	20.01	19.67	12.78	11.71	1.67	3.89	2.40	4.84	75,346.76	75,346.76
DATA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
316	221.610	226.610	997.890	500.660	500.690	500.030	500.230	997.880	500.330	500.560	499.840	500.420	0.318	0.720	0.446	0.726	10000	10000
317	257.850	253.360	998.330	500.640	500.660	499.840	499.940	998.280	500.290	500.490	499.750	500.160	0.308	0.709	0.344	0.720	10000	10000
318	235.710	240.600	998.150	500.770	500.800	499.750	499.950	998.150	500.270	500.500	499.580	499.980	0.314	0.708	0.334	0.704	10000	10000
319	245.990	230.060	997.510	500.370	500.420	499.650	499.800	998.370	500.490	500.670	499.660	500.070	0.317	0.717	0.348	0.713	10000	10000
320	233.750	231.760	998.750	500.980	500.990	500.310	500.520	998.480	500.410	500.620	499.820	500.250	0.314	0.712	0.344	0.721	10000	10000
321	233.400	228.890	998.260	500.740	500.810	500.280	500.490	998.740	500.610	500.790	500.040	500.540	0.310	0.728	0.353	0.728	10000	10000
322	247.020	254.140	998.810	500.990	501.050	500.540	500.750	999.500	500.890	501.030	500.730	501.090	0.306	0.715	0.353	0.729	10000	10000
323	249.860	248.750	997.990	500.590	500.630	500.190	500.280	998.680	500.550	500.800	500.020	500.440	0.312	0.717	0.386	0.713	10000	10000
324	238.790	240.780	997.650	500.340	500.370	499.380	499.550	998.150	500.290	500.510	499.570	500.030	0.313	0.723	0.365	0.712	10000	10000
325	231.130	243.920	998.120	500.700	500.760	499.700	499.840	998.840	500.570	500.790	500.460	500.940	0.308	0.706	0.353	0.716	10000	10000
326	228.750	240.010	998.500	500.910	500.910	500.270	500.450	998.370	500.500	500.680	499.700	500.170	0.311	0.724	0.354	0.713	10000	10000



Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2	Hipot
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M	4300VDC, 60s
Pins	001-007	001-010	004-007	004-010					
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB	2.0 mA
HighLimit	15000	15000	15000	15000			-22	-22	
LowLimit	10	10	10	10	-0.3	-0.3	-100	-100	
Average =	10,000.00	10,000.00	10,000.00	10,000.00	-0.17	-0.17	-32.94	-35.70	
STD DEV =	0.02	0.02	0.02	0.02	0.03	0.02	0.77	0.74	
Cpk	75,346.76	75,346.76	75,346.76	75,346.76	1.74	2.83	4.75	6.19	
DATA									
1	10000	10000	10000	10000	-0.17	-0.14	-33.20	-35.38	Pass
2	10000	10000	10000	10000	-0.17	-0.14	-32.66	-35.77	Pass
3	10000	10000	10000	10000	-0.18	-0.15	-33.77	-36.05	Pass
4	10000	10000	10000	10000	-0.18	-0.13	-31.75	-37.40	Pass
5	10000	10000	10000	10000	-0.17	-0.15	-32.63	-35.80	Pass
6	10000	10000	10000	10000	-0.18	-0.14	-31.98	-36.18	Pass
7	10000	10000	10000	10000	-0.18	-0.14	-32.50	-35.68	Pass
8	10000	10000	10000	10000	-0.15	-0.16	-30.99	-35.01	Pass
9	10000	10000	10000	10000	-0.17	-0.15	-34.07	-34.99	Pass
10	10000	10000	10000	10000	-0.18	-0.16	-32.52	-35.29	Pass
11	10000	10000	10000	10000	-0.16	-0.16	-33.49	-34.89	Pass
12	10000	10000	10000	10000	-0.18	-0.16	-32.83	-35.61	Pass
13	10000	10000	10000	10000	-0.17	-0.17	-34.54	-35.34	Pass
14	10000	10000	10000	10000	-0.17	-0.15	-33.20	-36.57	Pass
15	10000	10000	10000	10000	-0.16	-0.16	-33.41	-34.90	Pass
16	10000	10000	10000	10000	-0.17	-0.15	-32.52	-35.42	Pass
17	10000	10000	10000	10000	-0.15	-0.16	-32.93	-35.84	Pass
18	10000	10000	10000	10000	-0.17	-0.15	-32.93	-35.33	Pass
19	10000	10000	10000	10000	-0.14	-0.16	-33.25	-36.00	Pass
20	10000	10000	10000	10000	-0.15	-0.16	-33.05	-34.92	Pass
21	10000	10000	10000	10000	-0.15	-0.17	-32.14	-35.08	Pass
22	10000	10000	10000	10000	-0.14	-0.15	-31.76	-35.65	Pass
23	10000	10000	10000	10000	-0.14	-0.16	-32.89	-35.58	Pass
24	10000	10000	10000	10000	-0.14	-0.15	-33.38	-36.08	Pass
25	10000	10000	10000	10000	-0.14	-0.17	-33.51	-35.92	Pass
26	10000	10000	10000	10000	-0.14	-0.16	-32.70	-35.67	Pass
27	10000	10000	10000	10000	-0.15	-0.17	-34.31	-35.14	Pass
28	10000	10000	10000	10000	-0.15	-0.16	-32.30	-35.04	Pass
29	10000	10000	10000	10000	-0.14	-0.18	-33.15	-35.68	Pass
30	10000	10000	10000	10000	-0.16	-0.18	-32.18	-35.21	Pass
31	10000	10000	10000	10000	-0.14	-0.17	-31.77	-35.41	Pass
32	10000	10000	10000	10000	-0.14	-0.18	-33.89	-34.69	Pass
33	10000	10000	10000	10000	-0.15	-0.17	-31.69	-35.37	Pass
34	10000	10000	10000	10000	-0.14	-0.16	-33.37	-35.34	Pass
35	10000	10000	10000	10000	-0.15	-0.18	-34.18	-35.83	Pass
36	10000	10000	10000	10000	-0.14	-0.16	-32.57	-35.21	Pass
37	10000	10000	10000	10000	-0.14	-0.17	-32.87	-34.49	Pass
38	10000	10000	10000	10000	-0.13	-0.15	-32.64	-34.20	Pass
39	10000	10000	10000	10000	-0.14	-0.18	-32.20	-34.84	Pass
40	10000	10000	10000	10000	-0.15	-0.16	-32.32	-35.21	Pass



Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2	Hipot
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M	4300VDC, 60s
Pins	001-007	001-010	004-007	004-010					
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB	2.0 mA
HighLimit	15000	15000	15000	15000			-22	-22	
LowLimit	10	10	10	10	-0.3	-0.3	-100	-100	
Average =	10,000.00	10,000.00	10,000.00	10,000.00	-0.17	-0.17	-32.94	-35.70	
STD DEV =	0.02	0.02	0.02	0.02	0.03	0.02	0.77	0.74	
Cpk	75,346.76	75,346.76	75,346.76	75,346.76	1.74	2.83	4.75	6.19	
DATA									
41	10000	10000	10000	10000	-0.15	-0.17	-32.97	-36.07	Pass
42	10000	10000	10000	10000	-0.14	-0.16	-32.42	-35.42	Pass
43	10000	10000	10000	10000	-0.14	-0.17	-32.40	-34.84	Pass
44	10000	10000	10000	10000	-0.13	-0.16	-33.59	-36.00	Pass
45	10000	10000	10000	10000	-0.14	-0.18	-32.66	-35.40	Pass
46	10000	10000	10000	10000	-0.14	-0.15	-31.07	-34.75	Pass
47	10000	10000	10000	10000	-0.14	-0.17	-32.62	-35.12	Pass
48	10000	10000	10000	10000	-0.16	-0.19	-32.09	-35.52	Pass
49	10000	10000	10000	10000	-0.14	-0.18	-31.39	-35.54	Pass
50	10000	10000	10000	10000	-0.15	-0.17	-31.31	-34.94	Pass
51	10000	10000	10000	10000	-0.17	-0.18	-33.75	-36.13	Pass
52	10000	10000	10000	10000	-0.15	-0.17	-31.15	-35.45	Pass
53	10000	10000	10000	10000	-0.16	-0.17	-31.32	-35.22	Pass
54	10000	10000	10000	10000	-0.15	-0.16	-32.59	-35.21	Pass
55	10000	10000	10000	10000	-0.14	-0.16	-32.09	-34.68	Pass
56	10000	10000	10000	10000	-0.15	-0.16	-31.85	-35.54	Pass
57	10000	10000	10000	10000	-0.15	-0.17	-31.87	-35.10	Pass
58	10000	10000	10000	10000	-0.15	-0.16	-31.36	-35.71	Pass
59	10000	10000	10000	10000	-0.14	-0.17	-32.21	-35.27	Pass
60	10000	10000	10000	10000	-0.14	-0.16	-32.56	-35.98	Pass
61	10000	10000	10000	10000	-0.15	-0.15	-32.14	-35.13	Pass
62	10000	10000	10000	10000	-0.15	-0.15	-32.05	-35.09	Pass
63	10000	10000	10000	10000	-0.15	-0.15	-32.13	-35.17	Pass
64	10000	10000	10000	10000	-0.18	-0.17	-32.27	-34.97	Pass
65	10000	10000	10000	10000	-0.16	-0.18	-32.00	-34.31	Pass
66	10000	10000	10000	10000	-0.14	-0.18	-32.71	-33.94	Pass
67	10000	10000	10000	10000	-0.15	-0.19	-32.24	-34.99	Pass
68	10000	10000	10000	10000	-0.15	-0.17	-31.16	-35.48	Pass
69	10000	10000	10000	10000	-0.18	-0.19	-32.02	-34.30	Pass
70	10000	10000	10000	10000	-0.17	-0.16	-31.94	-34.80	Pass
71	10000	10000	10000	10000	-0.19	-0.19	-32.23	-34.28	Pass
72	10000	10000	10000	10000	-0.14	-0.17	-32.79	-34.19	Pass
73	10000	10000	10000	10000	-0.15	-0.21	-33.82	-34.05	Pass
74	10000	10000	10000	10000	-0.16	-0.18	-32.87	-35.17	Pass
75	10000	10000	10000	10000	-0.16	-0.21	-32.56	-34.80	Pass
76	10000	10000	10000	10000	-0.18	-0.17	-31.39	-35.76	Pass
77	10000	10000	10000	10000	-0.16	-0.20	-32.37	-34.61	Pass
78	10000	10000	10000	10000	-0.18	-0.20	-33.06	-34.64	Pass
79	10000	10000	10000	10000	-0.16	-0.18	-33.17	-35.69	Pass
80	10000	10000	10000	10000	-0.17	-0.18	-31.99	-35.33	Pass
81	10000	10000	10000	10000	-0.14	-0.18	-32.79	-34.89	Pass
82	10000	10000	10000	10000	-0.14	-0.18	-33.17	-34.78	Pass



Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2	Hipot
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M	4300VDC, 60s
Pins	001-007	001-010	004-007	004-010					
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB	2.0 mA
HighLimit	15000	15000	15000	15000			-22	-22	
LowLimit	10	10	10	10	-0.3	-0.3	-100	-100	
Average =	10,000.00	10,000.00	10,000.00	10,000.00	-0.17	-0.17	-32.94	-35.70	
STD DEV =	0.02	0.02	0.02	0.02	0.03	0.02	0.77	0.74	
Cpk	75,346.76	75,346.76	75,346.76	75,346.76	1.74	2.83	4.75	6.19	
DATA									
83	10000	10000	10000	10000	-0.14	-0.18	-32.84	-35.64	Pass
84	10000	10000	10000	10000	-0.15	-0.16	-31.65	-34.54	Pass
85	10000	10000	10000	10000	-0.14	-0.18	-31.87	-35.06	Pass
86	10000	10000	10000	10000	-0.14	-0.17	-33.43	-35.05	Pass
87	10000	10000	10000	10000	-0.14	-0.20	-32.69	-37.03	Pass
88	10000	10000	10000	10000	-0.13	-0.15	-33.93	-35.32	Pass
89	10000	10000	10000	10000	-0.16	-0.17	-32.80	-35.99	Pass
90	10000	10000	10000	10000	-0.14	-0.15	-33.56	-36.39	Pass
91	10000	10000	10000	10000	-0.14	-0.17	-33.16	-35.62	Pass
92	10000	10000	10000	10000	-0.14	-0.16	-32.30	-36.35	Pass
93	10000	10000	10000	10000	-0.14	-0.18	-33.28	-35.65	Pass
94	10000	10000	10000	10000	-0.14	-0.14	-33.49	-36.79	Pass
95	10000	10000	10000	10000	-0.14	-0.18	-33.03	-35.41	Pass
96	10000	10000	10000	10000	-0.13	-0.15	-32.57	-35.95	Pass
97	10000	10000	10000	10000	-0.14	-0.18	-32.65	-35.20	Pass
98	10000	10000	10000	10000	-0.14	-0.18	-32.07	-35.64	Pass
99	10000	10000	10000	10000	-0.14	-0.19	-32.41	-34.81	Pass
100	10000	10000	10000	10000	-0.14	-0.17	-33.71	-36.47	Pass
101	10000	10000	10000	10000	-0.14	-0.18	-32.17	-35.34	Pass
102	10000	10000	10000	10000	-0.14	-0.17	-32.31	-35.94	Pass
103	10000	10000	10000	10000	-0.14	-0.18	-33.03	-35.18	Pass
104	10000	10000	10000	10000	-0.14	-0.17	-33.07	-35.69	Pass
105	10000	10000	10000	10000	-0.14	-0.18	-32.87	-38.19	Pass
106	10000	10000	10000	10000	-0.14	-0.18	-32.11	-35.98	Pass
107	10000	10000	10000	10000	-0.14	-0.18	-32.35	-36.17	Pass
108	10000	10000	10000	10000	-0.14	-0.17	-31.85	-35.17	Pass
109	10000	10000	10000	10000	-0.14	-0.19	-32.30	-35.87	Pass
110	10000	10000	10000	10000	-0.16	-0.17	-33.29	-35.38	Pass
111	10000	10000	10000	10000	-0.17	-0.19	-33.31	-36.00	Pass
112	10000	10000	10000	10000	-0.17	-0.18	-32.95	-34.96	Pass
113	10000	10000	10000	10000	-0.18	-0.19	-31.90	-35.63	Pass
114	10000	10000	10000	10000	-0.14	-0.15	-33.03	-34.72	Pass
115	10000	10000	10000	10000	-0.17	-0.17	-32.10	-36.11	Pass
116	10000	10000	10000	10000	-0.17	-0.16	-32.83	-36.33	Pass
117	10000	10000	10000	10000	-0.16	-0.19	-34.00	-35.93	Pass
118	10000	10000	10000	10000	-0.17	-0.18	-33.21	-34.64	Pass
119	10000	10000	10000	10000	-0.15	-0.18	-33.38	-35.52	Pass
120	10000	10000	10000	10000	-0.18	-0.15	-33.09	-36.77	Pass
121	10000	10000	10000	10000	-0.15	-0.17	-33.18	-37.16	Pass
122	10000	10000	10000	10000	-0.16	-0.15	-32.91	-35.18	Pass
123	10000	10000	10000	10000	-0.18	-0.17	-31.66	-34.97	Pass
124	10000	10000	10000	10000	-0.14	-0.16	-33.26	-35.18	Pass

Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2	Hipot
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M	4300VDC, 60s
Pins	001-007	001-010	004-007	004-010					
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB	2.0 mA
HighLimit	15000	15000	15000	15000			-22	-22	
LowLimit	10	10	10	10	-0.3	-0.3	-100	-100	
Average =	10,000.00	10,000.00	10,000.00	10,000.00	-0.17	-0.17	-32.94	-35.70	
STD DEV =	0.02	0.02	0.02	0.02	0.03	0.02	0.77	0.74	
Cpk	75,346.76	75,346.76	75,346.76	75,346.76	1.74	2.83	4.75	6.19	
DATA									
125	10000	10000	10000	10000	-0.18	-0.17	-33.63	-37.67	Pass
126	10000	10000	10000	10000	-0.16	-0.16	-34.00	-35.58	Pass
127	10000	10000	10000	10000	-0.17	-0.17	-33.26	-35.33	Pass
128	10000	10000	10000	10000	-0.16	-0.17	-33.84	-35.66	Pass
129	10000	10000	10000	10000	-0.17	-0.19	-34.01	-36.18	Pass
130	10000	10000	10000	10000	-0.17	-0.17	-33.77	-34.52	Pass
131	10000	10000	10000	10000	-0.17	-0.19	-33.59	-35.43	Pass
132	10000	10000	10000	10000	-0.17	-0.15	-33.33	-35.17	Pass
133	10000	10000	10000	10000	-0.17	-0.16	-32.58	-36.21	Pass
134	10000	10000	10000	10000	-0.14	-0.15	-32.18	-35.09	Pass
135	10000	10000	10000	10000	-0.16	-0.16	-33.94	-35.91	Pass
136	10000	10000	10000	10000	-0.17	-0.15	-33.97	-34.95	Pass
137	10000	10000	10000	10000	-0.16	-0.16	-32.92	-35.29	Pass
138	10000	10000	10000	10000	-0.16	-0.15	-33.57	-36.28	Pass
139	10000	10000	10000	10000	-0.16	-0.17	-32.97	-35.65	Pass
140	10000	10000	10000	10000	-0.17	-0.15	-32.67	-34.81	Pass
141	10000	10000	10000	10000	-0.17	-0.15	-33.49	-37.32	Pass
142	10000	10000	10000	10000	-0.17	-0.16	-32.77	-34.84	Pass
143	10000	10000	10000	10000	-0.16	-0.17	-33.53	-35.48	Pass
144	10000	10000	10000	10000	-0.17	-0.15	-31.54	-35.48	Pass
145	10000	10000	10000	10000	-0.17	-0.15	-33.47	-36.52	Pass
146	10000	10000	10000	10000	-0.14	-0.16	-32.55	-35.32	Pass
147	10000	10000	10000	10000	-0.15	-0.16	-32.81	-35.87	Pass
148	10000	10000	10000	10000	-0.18	-0.15	-32.97	-36.10	Pass
149	10000	10000	10000	10000	-0.17	-0.16	-32.83	-37.19	Pass
150	10000	10000	10000	10000	-0.14	-0.16	-32.63	-36.01	Pass
151	10000	10000	10000	10000	-0.15	-0.20	-32.73	-35.32	Pass
152	10000	10000	10000	10000	-0.17	-0.17	-32.61	-36.36	Pass
153	10000	10000	10000	10000	-0.18	-0.20	-32.43	-35.03	Pass
154	10000	10000	10000	10000	-0.16	-0.16	-33.94	-35.11	Pass
155	10000	10000	10000	10000	-0.16	-0.17	-33.36	-36.35	Pass
156	10000	10000	10000	10000	-0.16	-0.16	-32.51	-35.80	Pass
157	10000	10000	10000	10000	-0.21	-0.19	-32.67	-34.72	Pass
158	10000	10000	10000	10000	-0.14	-0.17	-33.44	-35.52	Pass
159	10000	10000	10000	10000	-0.16	-0.18	-33.00	-36.63	Pass
160	10000	10000	10000	10000	-0.14	-0.15	-33.09	-35.39	Pass
161	10000	10000	10000	10000	-0.14	-0.15	-34.47	-36.49	Pass
162	10000	10000	10000	10000	-0.16	-0.16	-33.32	-34.54	Pass
163	10000	10000	10000	10000	-0.14	-0.16	-32.92	-35.63	Pass
164	10000	10000	10000	10000	-0.15	-0.16	-31.88	-36.36	Pass
165	10000	10000	10000	10000	-0.15	-0.18	-32.53	-35.75	Pass
166	10000	10000	10000	10000	-0.17	-0.19	-32.48	-35.87	Pass
167	10000	10000	10000	10000	-0.15	-0.17	-32.74	-34.54	Pass
168	10000	10000	10000	10000	-0.16	-0.19	-33.40	-34.88	Pass
169	10000	10000	10000	10000	-0.15	-0.21	-32.58	-34.75	Pass
170	10000	10000	10000	10000	-0.17	-0.18	-34.43	-35.29	Pass
171	10000	10000	10000	10000	-0.14	-0.21	-33.62	-35.59	Pass
172	10000	10000	10000	10000	-0.16	-0.19	-33.17	-34.58	Pass
173	10000	10000	10000	10000	-0.14	-0.18	-32.45	-35.65	Pass

Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2	Hipot
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M	4300VDC, 60s
Pins	001-007	001-010	004-007	004-010					
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB	2.0 mA
HighLimit	15000	15000	15000	15000			-22	-22	
LowLimit	10	10	10	10	-0.3	-0.3	-100	-100	
Average =	10,000.00	10,000.00	10,000.00	10,000.00	-0.17	-0.17	-32.94	-35.70	
STD DEV =	0.02	0.02	0.02	0.02	0.03	0.02	0.77	0.74	
Cpk	75,346.76	75,346.76	75,346.76	75,346.76	1.74	2.83	4.75	6.19	
DATA									
174	10000	10000	10000	10000	-0.16	-0.18	-32.16	-35.41	Pass
175	10000	10000	10000	10000	-0.17	-0.19	-33.61	-36.47	Pass
176	10000	10000	10000	10000	-0.14	-0.16	-32.53	-36.09	Pass
177	10000	10000	10000	10000	-0.15	-0.17	-32.51	-35.23	Pass
178	10000	10000	10000	10000	-0.19	-0.16	-32.45	-35.74	Pass
179	10000	10000	10000	10000	-0.15	-0.18	-33.21	-37.54	Pass
180	10000	10000	10000	10000	-0.18	-0.18	-31.93	-35.39	Pass
181	10000	10000	10000	10000	-0.17	-0.19	-32.37	-35.75	Pass
182	10000	10000	10000	10000	-0.15	-0.16	-32.13	-35.71	Pass
183	10000	10000	10000	10000	-0.15	-0.18	-32.78	-35.16	Pass
184	10000	10000	10000	10000	-0.17	-0.18	-32.92	-35.37	Pass
185	10000	10000	10000	10000	-0.19	-0.17	-32.25	-35.71	Pass
186	10000	10000	10000	10000	-0.19	-0.15	-32.98	-35.46	Pass
187	10000	10000	10000	10000	-0.15	-0.16	-32.73	-37.23	Pass
188	10000	10000	10000	10000	-0.15	-0.16	-34.09	-35.78	Pass
189	10000	10000	10000	10000	-0.19	-0.18	-32.91	-34.99	Pass
190	10000	10000	10000	10000	-0.20	-0.14	-34.28	-36.65	Pass
191	10000	10000	10000	10000	-0.22	-0.16	-33.51	-36.56	Pass
192	10000	10000	10000	10000	-0.18	-0.15	-32.85	-34.92	Pass
193	10000	10000	10000	10000	-0.24	-0.16	-33.64	-35.28	Pass
194	10000	10000	10000	10000	-0.19	-0.16	-32.77	-35.32	Pass
195	10000	10000	10000	10000	-0.19	-0.16	-32.34	-35.38	Pass
196	10000	10000	10000	10000	-0.18	-0.15	-32.43	-35.57	Pass
197	10000	10000	10000	10000	-0.17	-0.16	-33.17	-37.21	Pass
198	10000	10000	10000	10000	-0.19	-0.16	-33.86	-34.71	Pass
199	10000	10000	10000	10000	-0.15	-0.18	-33.49	-36.18	Pass
200	10000	10000	10000	10000	-0.21	-0.16	-33.67	-35.92	Pass
201	10000	10000	10000	10000	-0.24	-0.17	-33.07	-35.69	Pass
202	10000	10000	10000	10000	-0.21	-0.18	-33.94	-35.30	Pass
203	10000	10000	10000	10000	-0.20	-0.17	-32.24	-35.29	Pass
204	10000	10000	10000	10000	-0.21	-0.15	-33.52	-37.24	Pass
205	10000	10000	10000	10000	-0.15	-0.18	-33.07	-36.11	Pass
206	10000	10000	10000	10000	-0.19	-0.14	-32.09	-36.58	Pass
207	10000	10000	10000	10000	-0.25	-0.15	-31.55	-36.13	Pass
208	10000	10000	10000	10000	-0.14	-0.21	-32.82	-36.96	Pass
209	10000	10000	10000	10000	-0.18	-0.17	-34.04	-36.56	Pass
210	10000	10000	10000	10000	-0.21	-0.17	-33.25	-36.48	Pass
211	10000	10000	10000	10000	-0.14	-0.17	-32.60	-36.16	Pass
212	10000	10000	10000	10000	-0.20	-0.14	-31.97	-37.35	Pass
213	10000	10000	10000	10000	-0.18	-0.16	-34.41	-35.72	Pass
214	10000	10000	10000	10000	-0.12	-0.16	-35.35	-35.90	Pass
215	10000	10000	10000	10000	-0.25	-0.18	-32.53	-35.10	Pass
216	10000	10000	10000	10000	-0.21	-0.16	-32.63	-34.89	Pass
217	10000	10000	10000	10000	-0.18	-0.17	-32.48	-35.36	Pass
218	10000	10000	10000	10000	-0.18	-0.15	-31.94	-35.29	Pass
219	10000	10000	10000	10000	-0.19	-0.16	-32.20	-35.98	Pass
220	10000	10000	10000	10000	-0.18	-0.17	-32.69	-35.43	Pass
221	10000	10000	10000	10000	-0.17	-0.17	-32.44	-35.72	Pass
222	10000	10000	10000	10000	-0.17	-0.16	-33.77	-37.37	Pass



Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2	Hipot
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M	4300VDC, 60s
Pins	001-007	001-010	004-007	004-010					
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB	2.0 mA
HighLimit	15000	15000	15000	15000			-22	-22	
LowLimit	10	10	10	10	-0.3	-0.3	-100	-100	
Average =	10,000.00	10,000.00	10,000.00	10,000.00	-0.17	-0.17	-32.94	-35.70	
STD DEV =	0.02	0.02	0.02	0.02	0.03	0.02	0.77	0.74	
Cpk	75,346.76	75,346.76	75,346.76	75,346.76	1.74	2.83	4.75	6.19	
DATA									
223	10000	10000	10000	10000	-0.20	-0.15	-32.62	-35.60	Pass
224	10000	10000	10000	10000	-0.16	-0.16	-32.98	-36.39	Pass
225	10000	10000	10000	10000	-0.15	-0.15	-32.98	-34.84	Pass
226	10000	10000	10000	10000	-0.14	-0.16	-34.21	-35.10	Pass
227	10000	10000	10000	10000	-0.18	-0.16	-34.34	-36.03	Pass
228	10000	10000	10000	10000	-0.15	-0.17	-33.28	-35.55	Pass
229	10000	10000	10000	10000	-0.16	-0.16	-33.38	-36.81	Pass
230	10000	10000	10000	10000	-0.17	-0.18	-32.16	-35.22	Pass
231	10000	10000	10000	10000	-0.17	-0.14	-34.26	-36.25	Pass
232	10000	10000	10000	10000	-0.23	-0.16	-33.20	-36.15	Pass
233	10000	10000	10000	10000	-0.17	-0.15	-33.12	-35.21	Pass
234	10000	10000	10000	10000	-0.15	-0.17	-32.50	-35.93	Pass
235	10000	10000	10000	10000	-0.19	-0.17	-33.63	-36.02	Pass
236	10000	10000	10000	10000	-0.16	-0.18	-32.71	-35.85	Pass
237	10000	10000	10000	10000	-0.18	-0.15	-33.87	-37.29	Pass
238	10000	10000	10000	10000	-0.23	-0.17	-33.82	-36.52	Pass
239	10000	10000	10000	10000	-0.16	-0.16	-33.19	-35.76	Pass
240	10000	10000	10000	10000	-0.15	-0.18	-33.72	-36.06	Pass
241	10000	10000	10000	10000	-0.19	-0.16	-33.48	-36.05	Pass
242	10000	10000	10000	10000	-0.17	-0.19	-32.43	-35.74	Pass
243	10000	10000	10000	10000	-0.13	-0.16	-34.72	-36.31	Pass
244	10000	10000	10000	10000	-0.14	-0.18	-32.81	-35.65	Pass
245	10000	10000	10000	10000	-0.16	-0.16	-32.83	-36.05	Pass
246	10000	10000	10000	10000	-0.18	-0.18	-33.99	-36.17	Pass
247	10000	10000	10000	10000	-0.18	-0.16	-33.13	-36.68	Pass
248	10000	10000	10000	10000	-0.17	-0.18	-32.97	-35.26	Pass
249	10000	10000	10000	10000	-0.21	-0.17	-32.25	-34.59	Pass
250	10000	10000	10000	10000	-0.24	-0.20	-33.14	-36.36	Pass
251	10000	10000	10000	10000	-0.16	-0.14	-34.47	-36.12	Pass
252	10000	10000	10000	10000	-0.14	-0.16	-33.77	-36.64	Pass
253	10000	10000	10000	10000	-0.16	-0.15	-33.65	-35.60	Pass
254	10000	10000	10000	10000	-0.27	-0.16	-33.55	-35.73	Pass
255	10000	10000	10000	10000	-0.18	-0.15	-33.19	-35.99	Pass
256	10000	10000	10000	10000	-0.16	-0.16	-32.62	-36.35	Pass
257	10000	10000	10000	10000	-0.18	-0.15	-33.32	-36.79	Pass
258	10000	10000	10000	10000	-0.15	-0.17	-32.79	-34.48	Pass
259	10000	10000	10000	10000	-0.17	-0.14	-34.32	-38.00	Pass
260	10000	10000	10000	10000	-0.22	-0.15	-32.75	-35.07	Pass
261	10000	10000	10000	10000	-0.14	-0.14	-32.78	-35.96	Pass
262	10000	10000	10000	10000	-0.17	-0.14	-33.79	-36.59	Pass
263	10000	10000	10000	10000	-0.17	-0.14	-34.15	-37.38	Pass
264	10000	10000	10000	10000	-0.16	-0.15	-32.74	-36.32	Pass
265	10000	10000	10000	10000	-0.18	-0.16	-34.67	-36.57	Pass
266	10000	10000	10000	10000	-0.15	-0.15	-33.53	-35.67	Pass
267	10000	10000	10000	10000	-0.16	-0.15	-35.33	-36.49	Pass
268	10000	10000	10000	10000	-0.18	-0.15	-32.99	-36.59	Pass

Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2	Hipot
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M	4300VDC, 60s
Pins	001-007	001-010	004-007	004-010					
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB	2.0 mA
HighLimit	15000	15000	15000	15000			-22	-22	
LowLimit	10	10	10	10			-100	-100	
Average =	10,000.00	10,000.00	10,000.00	10,000.00	-0.17	-0.17	-32.94	-35.70	
STD DEV =	0.02	0.02	0.02	0.02	0.03	0.02	0.77	0.74	
Cpk	75,346.76	75,346.76	75,346.76	75,346.76	1.74	2.83	4.75	6.19	
DATA									
269	10000	10000	10000	10000	-0.15	-0.16	-33.37	-35.18	Pass
270	10000	10000	10000	10000	-0.18	-0.14	-33.41	-36.71	Pass
271	10000	10000	10000	10000	-0.16	-0.15	-32.95	-36.16	Pass
272	10000	10000	10000	10000	-0.14	-0.15	-32.60	-36.41	Pass
273	10000	10000	10000	10000	-0.21	-0.17	-33.80	-35.13	Pass
274	10000	10000	10000	10000	-0.19	-0.15	-32.75	-36.01	Pass
275	10000	10000	10000	10000	-0.15	-0.18	-33.85	-35.75	Pass
276	10000	10000	10000	10000	-0.14	-0.16	-32.88	-36.88	Pass
277	10000	10000	10000	10000	-0.19	-0.18	-32.68	-35.25	Pass
278	10000	10000	10000	10000	-0.18	-0.18	-34.10	-35.85	Pass
279	10000	10000	10000	10000	-0.21	-0.17	-32.24	-35.28	Pass
280	10000	10000	10000	10000	-0.18	-0.16	-34.23	-34.61	Pass
281	10000	10000	10000	10000	-0.21	-0.17	-32.86	-36.47	Pass
282	10000	10000	10000	10000	-0.20	-0.17	-32.96	-35.34	Pass
283	10000	10000	10000	10000	-0.18	-0.18	-33.39	-36.63	Pass
284	10000	10000	10000	10000	-0.20	-0.17	-32.71	-35.95	Pass
285	10000	10000	10000	10000	-0.16	-0.19	-32.56	-35.94	Pass
286	10000	10000	10000	10000	-0.15	-0.18	-32.86	-35.56	Pass
287	10000	10000	10000	10000	-0.19	-0.19	-33.32	-36.61	Pass
288	10000	10000	10000	10000	-0.19	-0.15	-32.68	-36.93	Pass
289	10000	10000	10000	10000	-0.17	-0.18	-33.76	-36.85	Pass
290	10000	10000	10000	10000	-0.14	-0.15	-33.89	-36.45	Pass
291	10000	10000	10000	10000	-0.15	-0.18	-32.07	-35.53	Pass
292	10000	10000	10000	10000	-0.18	-0.16	-32.41	-35.51	Pass
293	10000	10000	10000	10000	-0.18	-0.18	-33.87	-35.73	Pass
294	10000	10000	10000	10000	-0.17	-0.16	-33.34	-35.35	Pass
295	10000	10000	10000	10000	-0.18	-0.17	-31.88	-35.55	Pass
296	10000	10000	10000	10000	-0.16	-0.15	-34.12	-35.62	Pass
297	10000	10000	10000	10000	-0.17	-0.17	-33.99	-36.13	Pass
298	10000	10000	10000	10000	-0.16	-0.17	-32.40	-35.90	Pass
299	10000	10000	10000	10000	-0.17	-0.17	-33.63	-35.39	Pass
300	10000	10000	10000	10000	-0.17	-0.18	-33.62	-35.51	Pass
301	10000	10000	10000	10000	-0.15	-0.18	-32.33	-34.80	Pass
302	10000	10000	10000	10000	-0.18	-0.20	-32.05	-35.62	Pass
303	10000	10000	10000	10000	-0.24	-0.19	-33.89	-36.65	Pass
304	10000	10000	10000	10000	-0.21	-0.20	-31.75	-36.54	Pass
305	10000	10000	10000	10000	-0.21	-0.22	-33.75	-35.44	Pass
306	10000	10000	10000	10000	-0.17	-0.17	-32.81	-36.59	Pass
307	10000	10000	10000	10000	-0.19	-0.20	-33.09	-36.67	Pass
308	10000	10000	10000	10000	-0.18	-0.18	-31.64	-35.12	Pass
309	10000	10000	10000	10000	-0.16	-0.18	-33.22	-36.56	Pass
310	10000	10000	10000	10000	-0.17	-0.18	-32.87	-37.65	Pass
311	10000	10000	10000	10000	-0.24	-0.19	-32.05	-36.02	Pass
312	10000	10000	10000	10000	-0.19	-0.18	-32.19	-36.43	Pass
313	10000	10000	10000	10000	-0.14	-0.20	-34.34	-35.42	Pass
314	10000	10000	10000	10000	-0.17	-0.17	-33.08	-36.30	Pass
315	10000	10000	10000	10000	-0.21	-0.19	-32.48	-34.93	Pass



Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2	Hipot
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M	4300VDC, 60s
Pins	001-007	001-010	004-007	004-010					
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB	2.0 mA
HighLimit	15000	15000	15000	15000			-22	-22	
LowLimit	10	10	10	10	-0.3	-0.3	-100	-100	
Average =	10,000.00	10,000.00	10,000.00	10,000.00	-0.17	-0.17	-32.94	-35.70	
STD DEV =	0.02	0.02	0.02	0.02	0.03	0.02	0.77	0.74	
Cpk	75,346.76	75,346.76	75,346.76	75,346.76	1.74	2.83	4.75	6.19	
DATA									
316	10000	10000	10000	10000	-0.23	-0.18	-32.69	-34.51	Pass
317	10000	10000	10000	10000	-0.25	-0.15	-32.65	-35.62	Pass
318	10000	10000	10000	10000	-0.15	-0.16	-32.09	-35.13	Pass
319	10000	10000	10000	10000	-0.20	-0.17	-33.42	-35.27	Pass
320	10000	10000	10000	10000	-0.15	-0.18	-33.34	-35.80	Pass
321	10000	10000	10000	10000	-0.19	-0.19	-35.49	-35.14	Pass
322	10000	10000	10000	10000	-0.19	-0.16	-32.90	-36.99	Pass
323	10000	10000	10000	10000	-0.15	-0.16	-32.96	-35.87	Pass
324	10000	10000	10000	10000	-0.18	-0.17	-33.53	-35.76	Pass
325	10000	10000	10000	10000	-0.28	-0.20	-33.56	-37.16	Pass
326	10000	10000	10000	10000	-0.22	-0.20	-32.66	-34.75	Pass



Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M
Pins	001-007	001-010	004-007	004-010				
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB
HighLimit	15000	15000	15000	15000			-22	-22
LowLimit	10	10	10	10			-100	-100
Average =	10,000.01	10,000.01	10,000.01	10,000.01	-0.19	-0.19	-33.03	-35.36
STD DEV =	0.05	0.05	0.05	0.05	0.01	0.01	0.82	0.60
Cpk	36,802.07	36,802.07	36,802.07	36,802.07	2.69	3.79	4.47	7.38
DATA								
1	10000	10000	10000	10000	-0.19	-0.17	-34.02	-34.43
2	10000	10000	10000	10000	-0.19	-0.19	-32.73	-35.11
3	10000	10000	10000	10000	-0.21	-0.17	-33.68	-35.05
4	10000	10000	10000	10000	-0.19	-0.18	-32.32	-36.45
5	10000	10000	10000	10000	-0.20	-0.19	-33.07	-35.38
6	10000	10000	10000	10000	-0.19	-0.19	-32.38	-35.93
7	10000	10000	10000	10000	-0.18	-0.19	-31.63	-34.96
8	10000	10000	10000	10000	-0.19	-0.19	-31.39	-34.05
9	10000	10000	10000	10000	-0.17	-0.19	-32.97	-34.26
10	10000	10000	10000	10000	-0.19	-0.19	-32.56	-34.56
11	10000	10000	10000	10000	-0.18	-0.18	-33.06	-35.03
12	10000	10000	10000	10000	-0.18	-0.22	-33.01	-35.56
13	10000	10000	10000	10000	-0.19	-0.20	-34.95	-34.38
14	10000	10000	10000	10000	-0.18	-0.19	-32.04	-35.14
15	10000	10000	10000	10000	-0.19	-0.19	-34.13	-35.37
16	10000	10000	10000	10000	-0.19	-0.19	-32.34	-35.31
17	10000	10000	10000	10000	-0.19	-0.17	-34.11	-34.99
18	10000	10000	10000	10000	-0.17	-0.18	-32.10	-34.71
19	10000	10000	10000	10000	-0.16	-0.18	-32.56	-35.26
20	10000	10000	10000	10000	-0.19	-0.18	-33.21	-35.03
21	10000	10000	10000	10000	-0.19	-0.18	-32.44	-35.63
22	10000	10000	10000	10000	-0.18	-0.20	-32.28	-35.29
23	10000	10000	10000	10000	-0.16	-0.18	-32.39	-35.70
24	10000	10000	10000	10000	-0.19	-0.17	-33.75	-35.24
25	10000	10000	10000	10000	-0.20	-0.18	-34.63	-35.52
26	10000	10000	10000	10000	-0.20	-0.18	-32.98	-35.22
27	10000	10000	10000	10000	-0.17	-0.19	-34.00	-34.65
28	10000	10000	10000	10000	-0.19	-0.21	-32.72	-34.70
29	10000	10000	10000	10000	-0.19	-0.20	-33.11	-35.29
30	10000	10000	10000	10000	-0.20	-0.20	-33.27	-34.74
31	10000	10000	10000	10000	-0.21	-0.20	-32.32	-35.77
32	10000	10000	10000	10000	-0.16	-0.19	-34.92	-35.34
33	10000	10000	10000	10000	-0.19	-0.19	-32.61	-35.81
34	10000	10000	10000	10000	-0.18	-0.21	-33.10	-35.91
35	10000	10000	10000	10000	-0.18	-0.19	-34.60	-36.60
36	10000	10000	10000	10000	-0.20	-0.18	-33.66	-36.59
37	10000	10000	10000	10000	-0.17	-0.19	-32.62	-34.73
38	10000	10000	10000	10000	-0.18	-0.19	-33.49	-34.79
39	10000	10000	10000	10000	-0.19	-0.18	-32.88	-34.98
40	10000	10000	10000	10000	-0.20	-0.18	-33.16	-35.84

Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M
Pins	001-007	001-010	004-007	004-010				
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB
HighLimit	15000	15000	15000	15000			-22	-22
LowLimit	10	10	10	10	-0.3	-0.3	-100	-100
Average =	10,000.01	10,000.01	10,000.01	10,000.01	-0.19	-0.19	-33.03	-35.36
STD DEV =	0.05	0.05	0.05	0.05	0.01	0.01	0.82	0.60
Cpk	36,802.07	36,802.07	36,802.07	36,802.07	2.69	3.79	4.47	7.38
DATA								
41	10000	10000	10000	10000	-0.19	-0.19	-33.32	-35.82
42	10000	10000	10000	10000	-0.21	-0.18	-32.89	-35.85
43	10000	10000	10000	10000	-0.17	-0.19	-32.62	-35.18
44	10000	10000	10000	10000	-0.22	-0.18	-34.63	-36.04
45	10000	10000	10000	10000	-0.20	-0.19	-33.57	-35.59
46	10000	10000	10000	10000	-0.18	-0.19	-31.55	-35.14
47	10000	10000	10000	10000	-0.18	-0.19	-32.24	-35.17
48	10000	10000	10000	10000	-0.21	-0.18	-33.06	-35.54
49	10000	10000	10000	10000	-0.21	-0.19	-32.16	-35.87
50	10000	10000	10000	10000	-0.20	-0.18	-31.31	-35.45
51	10000	10000	10000	10000	-0.19	-0.18	-34.21	-36.21
52	10000	10000	10000	10000	-0.18	-0.18	-31.58	-36.01
53	10000	10000	10000	10000	-0.22	-0.18	-32.09	-36.29
54	10000	10000	10000	10000	-0.22	-0.19	-33.58	-35.79
55	10000	10000	10000	10000	-0.19	-0.18	-33.24	-35.01
56	10000	10000	10000	10000	-0.19	-0.18	-32.15	-36.06
57	10000	10000	10000	10000	-0.18	-0.19	-32.74	-35.36
58	10000	10000	10000	10000	-0.20	-0.19	-32.27	-36.66
59	10000	10000	10000	10000	-0.20	-0.18	-32.54	-35.24
60	10000	10000	10000	10000	-0.19	-0.18	-33.69	-36.95
61	10000	10000	10000	10000	-0.18	-0.19	-33.16	-35.30
62	10000	10000	10000	10000	-0.18	-0.18	-33.37	-35.46
63	10000	10000	10000	10000	-0.19	-0.19	-33.45	-35.73
64	10000	10000	10000	10000	-0.18	-0.20	-34.05	-34.87
65	10000	10000	10000	10000	-0.18	-0.22	-33.34	-34.81
66	10000	10000	10000	10000	-0.21	-0.19	-33.44	-34.47
67	10000	10000	10000	10000	-0.18	-0.18	-33.31	-36.01
68	10000	10000	10000	10000	-0.19	-0.19	-32.25	-35.98
69	10000	10000	10000	10000	-0.22	-0.18	-32.65	-34.53
70	10000	10000	10000	10000	-0.17	-0.19	-32.50	-34.93
71	10000	10000	10000	10000	-0.20	-0.19	-32.97	-35.03
72	10000	10000	10000	10000	-0.19	-0.21	-33.33	-34.45
73	10000	10000	10000	10000	-0.20	-0.21	-34.41	-34.97
74	10000	10000	10000	10000	-0.18	-0.18	-33.65	-35.34
75	10000	10000	10000	10000	-0.21	-0.19	-33.81	-34.89
76	10000	10000	10000	10000	-0.22	-0.21	-32.07	-36.10
77	10000	10000	10000	10000	-0.19	-0.19	-33.20	-35.08

Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M
Pins	001-007	001-010	004-007	004-010				
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB
HighLimit	15000	15000	15000	15000			-22	-22
LowLimit	10	10	10	10			-100	-100
Average =	10,000.01	10,000.01	10,000.01	10,000.01	-0.20	-0.20	-33.37	-35.76
STD DEV =	0.05	0.05	0.05	0.05	0.01	0.02	0.78	0.72
Cpk	36,802.07	36,802.07	36,802.07	36,802.07	2.97	2.06	4.86	6.40
DATA								
78	10000	10000	10000	10000	-0.18	-0.20	-33.38	-35.62
79	10000	10000	10000	10000	-0.18	-0.20	-34.83	-35.55
80	10000	10000	10000	10000	-0.19	-0.19	-33.52	-35.84
81	10000	10000	10000	10000	-0.21	-0.19	-33.22	-34.91
82	10000	10000	10000	10000	-0.20	-0.22	-33.54	-34.70
83	10000	10000	10000	10000	-0.21	-0.20	-33.61	-35.80
84	10000	10000	10000	10000	-0.20	-0.21	-32.55	-34.81
85	10000	10000	10000	10000	-0.21	-0.21	-32.11	-35.22
86	10000	10000	10000	10000	-0.20	-0.21	-34.44	-35.48
87	10000	10000	10000	10000	-0.20	-0.21	-33.18	-36.87
88	10000	10000	10000	10000	-0.20	-0.21	-34.54	-35.45
89	10000	10000	10000	10000	-0.21	-0.21	-33.22	-35.85
90	10000	10000	10000	10000	-0.19	-0.20	-35.25	-36.18
91	10000	10000	10000	10000	-0.20	-0.18	-34.45	-35.70
92	10000	10000	10000	10000	-0.19	-0.19	-33.15	-36.88
93	10000	10000	10000	10000	-0.17	-0.18	-32.96	-36.43
94	10000	10000	10000	10000	-0.20	-0.23	-34.38	-37.15
95	10000	10000	10000	10000	-0.18	-0.19	-33.84	-35.38
96	10000	10000	10000	10000	-0.19	-0.20	-32.34	-35.36
97	10000	10000	10000	10000	-0.20	-0.23	-33.82	-35.40
98	10000	10000	10000	10000	-0.19	-0.19	-33.39	-36.07
99	10000	10000	10000	10000	-0.20	-0.19	-33.22	-35.19
100	10000	10000	10000	10000	-0.19	-0.21	-35.12	-35.71
101	10000	10000	10000	10000	-0.18	-0.23	-32.20	-35.66
102	10000	10000	10000	10000	-0.18	-0.18	-32.95	-36.06
103	10000	10000	10000	10000	-0.19	-0.22	-33.87	-35.13
104	10000	10000	10000	10000	-0.20	-0.20	-34.03	-35.69
105	10000	10000	10000	10000	-0.22	-0.21	-33.40	-37.88
106	10000	10000	10000	10000	-0.18	-0.20	-32.76	-35.91
107	10000	10000	10000	10000	-0.18	-0.21	-32.97	-36.01
108	10000	10000	10000	10000	-0.21	-0.21	-32.37	-35.17
109	10000	10000	10000	10000	-0.18	-0.23	-32.49	-35.77
110	10000	10000	10000	10000	-0.19	-0.22	-33.64	-35.27
111	10000	10000	10000	10000	-0.21	-0.18	-33.43	-35.92
112	10000	10000	10000	10000	-0.20	-0.18	-33.24	-35.12
113	10000	10000	10000	10000	-0.19	-0.19	-32.28	-35.54
114	10000	10000	10000	10000	-0.21	-0.18	-33.78	-34.91
115	10000	10000	10000	10000	-0.21	-0.18	-32.08	-36.56
116	10000	10000	10000	10000	-0.20	-0.19	-33.17	-36.11
117	10000	10000	10000	10000	-0.17	-0.19	-33.89	-35.93

Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M
Pins	001-007	001-010	004-007	004-010				
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB
HighLimit	15000	15000	15000	15000			-22	-22
LowLimit	10	10	10	10	-0.3	-0.3	-100	-100
Average =	10,000.01	10,000.01	10,000.01	10,000.01	-0.20	-0.20	-33.37	-35.76
STD DEV =	0.05	0.05	0.05	0.05	0.01	0.02	0.78	0.72
Cpk	36,802.07	36,802.07	36,802.07	36,802.07	2.97	2.06	4.86	6.40
DATA								
118	10000	10000	10000	10000	-0.20	-0.19	-32.90	-35.17
119	10000	10000	10000	10000	-0.20	-0.19	-33.47	-35.55
120	10000	10000	10000	10000	-0.19	-0.23	-33.27	-37.18
121	10000	10000	10000	10000	-0.18	-0.22	-33.16	-36.82
122	10000	10000	10000	10000	-0.19	-0.18	-33.92	-35.08
123	10000	10000	10000	10000	-0.18	-0.18	-31.83	-34.84
124	10000	10000	10000	10000	-0.21	-0.23	-33.42	-34.96
125	10000	10000	10000	10000	-0.20	-0.19	-34.01	-37.50
126	10000	10000	10000	10000	-0.19	-0.19	-34.85	-35.83
127	10000	10000	10000	10000	-0.18	-0.20	-33.28	-35.29
128	10000	10000	10000	10000	-0.20	-0.23	-34.26	-35.97
129	10000	10000	10000	10000	-0.21	-0.20	-34.31	-36.21
130	10000	10000	10000	10000	-0.21	-0.22	-34.12	-34.56
131	10000	10000	10000	10000	-0.20	-0.18	-34.17	-35.46
132	10000	10000	10000	10000	-0.19	-0.19	-32.72	-35.52
133	10000	10000	10000	10000	-0.22	-0.19	-33.04	-36.32
134	10000	10000	10000	10000	-0.20	-0.23	-32.79	-35.23
135	10000	10000	10000	10000	-0.22	-0.22	-34.54	-35.76
136	10000	10000	10000	10000	-0.18	-0.22	-33.80	-34.96
137	10000	10000	10000	10000	-0.18	-0.22	-33.53	-35.34
138	10000	10000	10000	10000	-0.20	-0.21	-33.48	-36.47
139	10000	10000	10000	10000	-0.19	-0.23	-32.88	-35.78
140	10000	10000	10000	10000	-0.18	-0.23	-32.46	-34.73
141	10000	10000	10000	10000	-0.21	-0.22	-34.14	-37.21
142	10000	10000	10000	10000	-0.20	-0.20	-32.65	-34.91
143	10000	10000	10000	10000	-0.19	-0.22	-34.03	-35.52
144	10000	10000	10000	10000	-0.19	-0.19	-31.70	-35.71
145	10000	10000	10000	10000	-0.19	-0.22	-32.94	-36.61
146	10000	10000	10000	10000	-0.20	-0.18	-33.13	-35.28
147	10000	10000	10000	10000	-0.21	-0.19	-33.27	-36.30
148	10000	10000	10000	10000	-0.22	-0.18	-33.05	-35.90
149	10000	10000	10000	10000	-0.20	-0.22	-33.23	-37.54
150	10000	10000	10000	10000	-0.21	-0.18	-33.35	-36.18
151	10000	10000	10000	10000	-0.19	-0.20	-32.60	-34.82
152	10000	10000	10000	10000	-0.18	-0.22	-32.02	-36.09
153	10000	10000	10000	10000	-0.19	-0.19	-32.17	-35.14
154	10000	10000	10000	10000	-0.19	-0.18	-34.25	-35.34

Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M
Pins	001-007	001-010	004-007	004-010				
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB
HighLimit	15000	15000	15000	15000			-22	-22
LowLimit	10	10	10	10			-100	-100
Average =	10,000.01	10,000.01	10,000.01	10,000.01	-0.19	-0.19	-32.81	-35.55
STD DEV =	0.05	0.05	0.05	0.05	0.01	0.01	0.78	0.71
Cpk	36,802.07	36,802.07	36,802.07	36,802.07	2.68	3.92	4.63	6.39
DATA								
155	10000	10000	10000	10000	-0.17	-0.19	-33.12	-36.18
156	10000	10000	10000	10000	-0.19	-0.20	-33.49	-34.95
157	10000	10000	10000	10000	-0.19	-0.19	-31.60	-34.42
158	10000	10000	10000	10000	-0.22	-0.18	-33.80	-35.21
159	10000	10000	10000	10000	-0.19	-0.20	-32.85	-36.11
160	10000	10000	10000	10000	-0.19	-0.19	-32.25	-35.69
161	10000	10000	10000	10000	-0.17	-0.20	-33.77	-35.86
162	10000	10000	10000	10000	-0.18	-0.21	-33.18	-34.26
163	10000	10000	10000	10000	-0.18	-0.18	-32.77	-35.53
164	10000	10000	10000	10000	-0.20	-0.19	-32.28	-35.11
165	10000	10000	10000	10000	-0.17	-0.19	-32.44	-35.21
166	10000	10000	10000	10000	-0.19	-0.19	-31.86	-35.07
167	10000	10000	10000	10000	-0.17	-0.19	-32.16	-34.26
168	10000	10000	10000	10000	-0.22	-0.21	-33.91	-34.79
169	10000	10000	10000	10000	-0.20	-0.20	-33.03	-34.55
170	10000	10000	10000	10000	-0.19	-0.19	-34.05	-34.78
171	10000	10000	10000	10000	-0.18	-0.17	-33.36	-35.69
172	10000	10000	10000	10000	-0.20	-0.22	-33.37	-34.44
173	10000	10000	10000	10000	-0.18	-0.19	-32.39	-35.09
174	10000	10000	10000	10000	-0.18	-0.21	-33.09	-35.55
175	10000	10000	10000	10000	-0.22	-0.18	-34.08	-37.03
176	10000	10000	10000	10000	-0.17	-0.19	-33.24	-35.76
177	10000	10000	10000	10000	-0.19	-0.21	-32.65	-35.32
178	10000	10000	10000	10000	-0.18	-0.18	-31.93	-35.96
179	10000	10000	10000	10000	-0.20	-0.18	-33.59	-37.52
180	10000	10000	10000	10000	-0.19	-0.18	-31.80	-35.95
181	10000	10000	10000	10000	-0.17	-0.18	-32.15	-35.81
182	10000	10000	10000	10000	-0.18	-0.18	-31.60	-36.06
183	10000	10000	10000	10000	-0.18	-0.18	-32.60	-35.60
184	10000	10000	10000	10000	-0.21	-0.18	-33.71	-35.61
185	10000	10000	10000	10000	-0.18	-0.19	-31.75	-35.33
186	10000	10000	10000	10000	-0.19	-0.19	-33.22	-35.36
187	10000	10000	10000	10000	-0.19	-0.19	-32.33	-36.74
188	10000	10000	10000	10000	-0.16	-0.19	-33.24	-35.59
189	10000	10000	10000	10000	-0.18	-0.21	-31.97	-34.60
190	10000	10000	10000	10000	-0.21	-0.18	-34.30	-36.44
191	10000	10000	10000	10000	-0.19	-0.20	-33.08	-36.30
192	10000	10000	10000	10000	-0.21	-0.18	-32.04	-34.83
193	10000	10000	10000	10000	-0.19	-0.18	-32.98	-34.78
194	10000	10000	10000	10000	-0.17	-0.18	-32.10	-35.86

Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M
Pins	001-007	001-010	004-007	004-010				
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB
HighLimit	15000	15000	15000	15000			-22	-22
LowLimit	10	10	10	10	-0.3	-0.3	-100	-100
Average =	10,000.01	10,000.01	10,000.01	10,000.01	-0.19	-0.19	-32.81	-35.55
STD DEV =	0.05	0.05	0.05	0.05	0.01	0.01	0.78	0.71
Cpk	36,802.07	36,802.07	36,802.07	36,802.07	2.68	3.92	4.63	6.39
DATA								
195	10000	10000	10000	10000	-0.17	-0.19	-31.70	-35.31
196	10000	10000	10000	10000	-0.17	-0.18	-32.12	-35.40
197	10000	10000	10000	10000	-0.17	-0.18	-32.30	-37.24
198	10000	10000	10000	10000	-0.17	-0.17	-33.02	-34.69
199	10000	10000	10000	10000	-0.16	-0.19	-32.29	-35.50
200	10000	10000	10000	10000	-0.17	-0.19	-32.68	-35.16
201	10000	10000	10000	10000	-0.17	-0.18	-32.29	-34.94
202	10000	10000	10000	10000	-0.17	-0.18	-32.74	-34.99
203	10000	10000	10000	10000	-0.17	-0.19	-31.50	-35.49
204	10000	10000	10000	10000	-0.17	-0.19	-32.41	-36.35
205	10000	10000	10000	10000	-0.18	-0.19	-33.39	-35.91
206	10000	10000	10000	10000	-0.18	-0.18	-31.96	-36.18
207	10000	10000	10000	10000	-0.18	-0.17	-32.53	-35.78
208	10000	10000	10000	10000	-0.22	-0.20	-32.82	-36.45
209	10000	10000	10000	10000	-0.20	-0.18	-34.08	-36.04
210	10000	10000	10000	10000	-0.19	-0.18	-34.28	-36.06
211	10000	10000	10000	10000	-0.17	-0.20	-32.71	-35.95
212	10000	10000	10000	10000	-0.19	-0.18	-32.14	-36.90
213	10000	10000	10000	10000	-0.18	-0.18	-35.06	-35.22
214	10000	10000	10000	10000	-0.20	-0.19	-34.94	-35.30
215	10000	10000	10000	10000	-0.18	-0.20	-32.38	-35.37
216	10000	10000	10000	10000	-0.20	-0.19	-32.79	-34.86
217	10000	10000	10000	10000	-0.18	-0.18	-32.50	-35.12
218	10000	10000	10000	10000	-0.18	-0.19	-31.43	-34.97
219	10000	10000	10000	10000	-0.19	-0.21	-33.01	-35.34
220	10000	10000	10000	10000	-0.18	-0.18	-32.27	-34.83
221	10000	10000	10000	10000	-0.18	-0.19	-32.87	-35.53
222	10000	10000	10000	10000	-0.17	-0.18	-32.96	-36.91
223	10000	10000	10000	10000	-0.21	-0.19	-32.45	-35.69
224	10000	10000	10000	10000	-0.18	-0.19	-33.08	-36.26
225	10000	10000	10000	10000	-0.18	-0.19	-32.46	-34.70
226	10000	10000	10000	10000	-0.21	-0.19	-33.76	-34.82
227	10000	10000	10000	10000	-0.17	-0.18	-33.25	-35.77
228	10000	10000	10000	10000	-0.20	-0.19	-32.78	-35.40
229	10000	10000	10000	10000	-0.19	-0.20	-32.61	-36.83
230	10000	10000	10000	10000	-0.19	-0.18	-32.09	-35.06
231	10000	10000	10000	10000	-0.200	-0.180	-33.213	-35.994

Appendix 5

HMU2102NL Electrical Test Data After Resistance To Solder Heat

Parameter	Lx	Lx	TURN	TURN	TURN	TURN	TURN	TURN	TURN	TURN	TURN	TURN	DCR	DCR	DCR	DCR	Pin Sht	Pin Sht
Condition:	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	RT	RT	RT	RT	RT	RT
Pins	001-003	004-006	012-010	001-002	002-003	012-011	011-010	009-007	004-005	005-006	009-008	008-007	001-003	012-010	004-006	009-007	001-004	012-009
Unit	uH	uH	mT	mT	mT	mT	mT	mT	mT	mT	mT	mT	ohms	ohms	ohms	ohms	Mohms	Mohms
HighLimit	360	360	1020	510	510	510	510	1020	510	510	510	510	0.45	0.85	0.45	0.85	15000	15000
LowLimit	180	180	980	490	490	490	490	980	490	490	490	490	0.01	0.01	0.01	0.01	10	10
Average =	246.46	243.24	998.24	500.75	500.80	500.10	500.25	999.02	500.71	500.94	500.35	500.79	0.30	0.70	0.30	0.65	10,000.01	10,000.01
STD DEV =	10.69	10.83	0.28	0.10	0.09	0.22	0.22	0.13	0.06	0.06	0.16	0.18	0.01	0.01	0.00	0.01	0.07	0.07
Cpk	2.07	1.95	21.40	29.40	33.22	15.23	14.74	50.37	49.17	51.33	19.57	17.37	8.58	4.88	10.93	12.72	23,211.86	23,211.86
DATA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
262	259.090	259.980	998.550	500.760	500.780	500.310	500.490	998.900	500.600	500.860	500.250	500.730	0.294	0.698	0.300	0.645	10000	10000
263	257.650	261.670	998.220	500.740	500.800	500.240	500.430	999.120	500.740	500.990	500.210	500.660	0.302	0.686	0.300	0.651	10000	10000
264	261.340	253.220	998.060	500.580	500.670	500.200	500.340	999.110	500.750	500.990	500.340	500.870	0.296	0.692	0.295	0.644	10000	10000
265	266.570	257.460	998.050	500.780	500.800	500.090	500.320	999.010	500.570	500.810	500.560	500.860	0.315	0.702	0.301	0.652	10000	10000
266	226.390	235.740	998.420	500.790	500.860	499.880	500.010	999.240	500.790	501.020	500.560	501.100	0.290	0.685	0.301	0.646	10000	10000
267	249.820	264.130	998.020	500.780	500.810	500.080	500.290	998.940	500.580	500.890	500.440	500.930	0.299	0.689	0.301	0.643	10000	10000
268	230.920	238.270	998.390	500.820	500.890	500.320	500.480	999.130	500.760	500.890	500.500	500.940	0.302	0.703	0.300	0.654	10000	10000
269	233.130	243.400	997.640	500.710	500.670	499.610	499.880	999.040	500.770	500.960	500.140	500.510	0.305	0.710	0.301	0.648	10000	10000
270	246.250	235.840	998.340	500.890	500.890	500.200	500.200	998.870	500.740	500.960	500.250	500.700	0.299	0.710	0.306	0.655	10000	10000
271	248.280	235.550	998.000	500.780	500.770	500.070	500.220	998.830	500.720	500.940	500.330	500.830	0.297	0.682	0.304	0.649	10000	10000
272	241.670	244.250	997.550	500.490	500.560	499.780	499.740	998.730	500.650	500.910	500.210	500.780	0.301	0.685	0.302	0.659	10000	10000
273	240.980	237.830	998.170	500.830	500.880	500.020	500.110	999.180	500.740	500.980	500.520	500.910	0.292	0.709	0.304	0.659	10000	10000
274	236.590	253.820	998.590	500.900	500.960	500.450	500.520	999.010	500.740	501.050	500.520	500.870	0.292	0.692	0.301	0.645	10000	10000
275	236.170	233.320	998.040	500.790	500.800	500.040	500.360	998.960	500.680	500.960	500.530	500.950	0.289	0.682	0.301	0.659	10000	10000
276	259.570	231.810	998.430	500.690	500.770	500.180	500.430	998.870	500.690	500.900	499.940	500.410	0.299	0.698	0.303	0.653	10000	10000
277	235.150	248.860	997.800	500.530	500.610	499.960	500.130	998.800	500.660	500.900	500.280	500.670	0.301	0.686	0.309	0.661	10000	10000
278	246.450	234.880	998.510	500.780	500.830	500.390	500.630	999.160	500.780	500.990	500.150	500.580	0.297	0.695	0.303	0.647	10000	10000
279	248.780	244.930	998.240	500.630	500.720	499.970	500.170	998.940	500.640	500.830	499.980	500.420	0.298	0.685	0.295	0.645	10000	10000
280	253.580	240.710	998.570	500.830	500.900	500.250	500.370	999.180	500.750	501.010	500.520	500.880	0.300	0.691	0.309	0.648	10000	10000
281	247.810	248.270	997.910	500.590	500.670	499.860	499.980	999.070	500.750	500.920	500.480	500.970	0.300	0.699	0.303	0.650	10000	10000
282	255.870	250.650	998.440	500.720	500.830	499.880	500.020	999.070	500.660	500.910	500.340	500.620	0.305	0.734	0.306	0.651	10000	10000
283	225.910	243.920	997.940	500.710	500.760	499.830	499.990	999.130	500.720	500.950	500.460	500.890	0.296	0.699	0.301	0.652	10000	10000
284	241.760	233.550	998.670	500.860	500.910	500.530	500.590	998.900	500.640	500.910	500.340	500.810	0.298	0.701	0.300	0.650	10000	10000
285	252.200	244.620	998.200	500.760	500.820	500.070	500.130	999.010	500.710	500.900	500.460	500.840	0.307	0.700	0.308	0.655	10000	10000
286	236.270	234.030	998.440	500.700	500.780	500.000	500.090	999.000	500.670	500.910	500.110	500.430	0.309	0.696	0.316	0.648	10000	10000
287	248.840	227.620	998.370	500.740	500.770	500.250	500.500	999.150	500.820	501.030	500.370	500.910	0.295	0.694	0.312	0.648	10000	10000
288	259.340	244.370	998.650	500.920	500.930	500.440	500.480	999.030	500.740	500.920	500.350	500.710	0.308	0.693	0.305	0.655	10000	10000
289	257.030	262.560	998.220	500.860	500.820	499.920	500.160	999.070	500.760	501.000	500.450	501.000	0.299	0.693	0.303	0.645	10000	10000
290	252.650	227.520	998.380	500.680	500.790	500.300	500.440	999.050	500.630	500.860	500.420	500.880	0.291	0.686	0.298	0.646	10000	10000
291	237.800	224.300	998.240	500.850	500.880	499.970	500.120	999.190	500.750	500.990	500.420	500.890	0.299	0.696	0.300	0.640	10000	10000

Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M
Pins	001-007	001-010	004-007	004-010				
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB
HighLimit	15000	15000	15000	15000			-22	-22
LowLimit	10	10	10	10	-0.3	-0.3	-100	-100
Average =	10,000.01	10,000.01	10,000.01	10,000.01	-0.19	-0.19	-33.02	-35.68
STD DEV =	0.07	0.07	0.07	0.07	0.02	0.01	0.91	0.59
Cpk	23,211.86	23,211.86	23,211.86	23,211.86	2.28	2.52	4.02	7.70
DATA								
262	10000	10000	10000	10000	-0.22	-0.21	-34.30	-36.62
263	10000	10000	10000	10000	-0.17	-0.19	-33.37	-36.70
264	10000	10000	10000	10000	-0.16	-0.17	-32.10	-36.06
265	10000	10000	10000	10000	-0.17	-0.19	-33.75	-36.25
266	10000	10000	10000	10000	-0.19	-0.21	-32.91	-34.98
267	10000	10000	10000	10000	-0.21	-0.19	-35.76	-35.98
268	10000	10000	10000	10000	-0.17	-0.19	-32.00	-36.72
269	10000	10000	10000	10000	-0.21	-0.19	-32.67	-35.17
270	10000	10000	10000	10000	-0.19	-0.19	-33.32	-36.37
271	10000	10000	10000	10000	-0.19	-0.22	-32.34	-35.56
272	10000	10000	10000	10000	-0.21	-0.20	-32.95	-35.78
273	10000	10000	10000	10000	-0.21	-0.21	-33.73	-34.95
274	10000	10000	10000	10000	-0.22	-0.21	-32.58	-35.89
275	10000	10000	10000	10000	-0.20	-0.19	-34.05	-35.45
276	10000	10000	10000	10000	-0.17	-0.21	-33.45	-36.12
277	10000	10000	10000	10000	-0.19	-0.22	-32.45	-34.79
278	10000	10000	10000	10000	-0.21	-0.17	-33.68	-35.36
279	10000	10000	10000	10000	-0.19	-0.17	-31.93	-35.00
280	10000	10000	10000	10000	-0.21	-0.19	-34.02	-34.59
281	10000	10000	10000	10000	-0.20	-0.18	-32.39	-36.01
282	10000	10000	10000	10000	-0.17	-0.18	-32.71	-34.96
283	10000	10000	10000	10000	-0.20	-0.19	-31.43	-36.03
284	10000	10000	10000	10000	-0.20	-0.22	-32.68	-35.35
285	10000	10000	10000	10000	-0.20	-0.17	-32.10	-35.74
286	10000	10000	10000	10000	-0.19	-0.18	-32.76	-35.08
287	10000	10000	10000	10000	-0.22	-0.18	-33.48	-35.64
288	10000	10000	10000	10000	-0.20	-0.19	-32.10	-36.37
289	10000	10000	10000	10000	-0.18	-0.18	-33.78	-36.22
290	10000	10000	10000	10000	-0.18	-0.19	-33.90	-35.68
291	10000	10000	10000	10000	-0.18	-0.18	-31.91	-35.10



Appendix 6

HMU2102NL Electrical Characterization

Parameter	OCL (-40°C)	OCL(25°C)	OCL(125°C)
Condition:	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV
Pins	001-003	001-003	001-003
Unit	uH	uH	uH
HighLimit	370	360	370
LowLimit	150	180	150
Average =	181.84	248.10	277.18
DATA	-	-	-
292	176.10	248.50	305.18
293	186.06	236.77	260.10
294	183.10	240.39	262.10
295	171.76	242.96	281.44
296	181.10	257.16	297.50
297	176.23	259.21	288.30
298	183.35	264.06	290.51
299	192.54	263.48	287.98
300	182.28	252.40	281.50
301	181.66	240.88	269.15
302	176.13	225.96	247.25
303	181.17	242.26	269.45
304	176.98	230.02	255.45
305	195.38	262.10	286.05
306	179.80	256.40	295.78
307	175.68	227.63	251.40
308	184.40	258.41	289.26
309	189.02	232.13	253.66
310	188.46	269.13	303.77
311	179.88	247.98	267.42
312	182.40	256.89	284.60
313	189.11	242.94	259.98
314	174.90	245.03	286.95
315	177.50	239.81	283.50
316	171.40	236.98	259.53
317	189.27	271.40	304.12
318	180.24	250.40	282.30
319	184.38	258.50	278.13
320	180.37	244.25	274.20
321	184.51	239.10	258.90

Appendix 7

HMU2102NL After Terminal Strength

Parameter	Lx	Lx	TURN	TURN	TURN	TURN	TURN	TURN	TURN	TURN	TURN	TURN	DCR	DCR	DCR	DCR	Pin Sht	Pin Sht
Condition:	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	100KHZ, 100mV	RT	RT	RT	RT	RT	RT
Pins	001-003	004-006	012-010	001-002	002-003	012-011	011-010	009-007	004-005	005-006	009-008	008-007	001-003	012-010	004-006	009-007	001-004	012-009
Unit	uH	uH	mT	mT	mT	mT	mT	mT	mT	mT	mT	mT	ohms	ohms	ohms	ohms	Mohms	Mohms
HighLimit	360	360	1020	510	510	510	510	1020	510	510	510	510	0.45	0.85	0.45	0.85	15000	15000
LowLimit	180	180	980	490	490	490	490	980	490	490	490	490	0.01	0.01	0.01	0.01	10	10
Average =	244.68	247.05	998.24	500.75	500.80	500.10	500.25	999.02	500.71	500.94	500.35	500.79	0.30	0.69	0.30	0.65	10,000.01	10,000.01
STD DEV =	10.06	10.01	0.28	0.10	0.09	0.22	0.22	0.13	0.06	0.06	0.16	0.18	0.01	0.01	0.01	0.01	0.07	0.07
Cpk	2.14	2.23	21.40	29.40	33.22	15.23	14.74	50.37	49.17	51.33	19.57	17.37	5.67	4.86	8.42	7.60	23,211.86	23,211.86
DATA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
232	244.130	232.720	998.550	500.760	500.780	500.310	500.490	998.900	500.600	500.860	500.250	500.730	0.297	0.688	0.298	0.644	10000	10000
233	234.850	253.260	998.220	500.740	500.800	500.240	500.430	999.120	500.740	500.990	500.210	500.660	0.287	0.722	0.300	0.654	10000	10000
234	258.370	242.800	998.060	500.580	500.670	500.200	500.340	999.110	500.750	500.990	500.340	500.870	0.297	0.690	0.300	0.648	10000	10000
235	229.420	239.720	998.050	500.780	500.800	500.090	500.320	999.010	500.570	500.810	500.560	500.860	0.295	0.696	0.294	0.639	10000	10000
236	229.290	255.620	998.420	500.790	500.860	499.880	500.010	999.240	500.790	501.020	500.560	501.100	0.331	0.676	0.303	0.649	10000	10000
237	259.840	261.500	998.020	500.780	500.810	500.080	500.290	998.940	500.580	500.890	500.440	500.930	0.313	0.693	0.319	0.662	10000	10000
238	249.730	245.910	998.390	500.820	500.890	500.320	500.480	999.130	500.760	500.890	500.500	500.940	0.297	0.693	0.300	0.659	10000	10000
239	243.870	240.050	997.640	500.710	500.670	499.610	499.880	999.040	500.770	500.960	500.140	500.510	0.300	0.691	0.302	0.662	10000	10000
240	256.180	253.050	998.340	500.890	500.890	500.200	500.200	998.870	500.740	500.960	500.250	500.700	0.306	0.688	0.305	0.651	10000	10000
241	245.460	264.600	998.000	500.780	500.770	500.070	500.220	998.830	500.720	500.940	500.330	500.830	0.302	0.680	0.309	0.647	10000	10000
242	223.780	251.630	997.550	500.490	500.560	499.780	499.740	998.730	500.650	500.910	500.210	500.780	0.301	0.691	0.314	0.655	10000	10000
243	257.660	252.230	998.170	500.830	500.880	500.020	500.110	999.180	500.740	500.980	500.520	500.910	0.301	0.691	0.300	0.664	10000	10000
244	253.110	232.350	998.590	500.900	500.960	500.450	500.520	999.010	500.740	501.050	500.520	500.870	0.292	0.689	0.296	0.640	10000	10000
245	225.400	258.740	998.040	500.790	500.800	500.040	500.360	998.960	500.680	500.960	500.530	500.950	0.291	0.685	0.308	0.651	10000	10000
246	254.420	251.370	998.430	500.690	500.770	500.180	500.430	998.870	500.690	500.900	499.940	500.410	0.293	0.690	0.297	0.665	10000	10000
247	241.380	251.780	997.800	500.530	500.610	499.960	500.130	998.800	500.660	500.900	500.280	500.670	0.287	0.697	0.305	0.639	10000	10000
248	237.790	229.860	998.510	500.780	500.830	500.390	500.630	999.160	500.780	500.990	500.150	500.580	0.300	0.698	0.310	0.664	10000	10000
249	257.010	236.580	998.240	500.630	500.720	499.970	500.170	998.940	500.640	500.830	499.980	500.420	0.295	0.688	0.306	0.639	10000	10000
250	236.980	239.460	998.570	500.830	500.900	500.250	500.370	999.180	500.750	501.010	500.520	500.880	0.282	0.660	0.294	0.638	10000	10000
251	249.340	247.480	997.910	500.590	500.670	499.860	499.980	999.070	500.750	500.920	500.480	500.970	0.296	0.697	0.300	0.656	10000	10000
252	240.800	241.900	998.440	500.720	500.830	499.880	500.020	999.070	500.660	500.910	500.340	500.620	0.295	0.679	0.299	0.638	10000	10000
253	258.680	256.310	997.940	500.710	500.760	499.830	499.990	999.130	500.720	500.950	500.460	500.890	0.307	0.698	0.307	0.653	10000	10000
254	245.400	244.620	998.670	500.860	500.910	500.530	500.590	998.900	500.640	500.910	500.340	500.810	0.300	0.682	0.296	0.643	10000	10000
255	237.630	248.180	998.200	500.760	500.820	500.070	500.130	999.010	500.710	500.900	500.460	500.840	0.295	0.683	0.296	0.647	10000	10000
256	241.890	238.230	998.440	500.700	500.780	500.000	500.090	999.000	500.670	500.910	500.110	500.430	0.304	0.696	0.299	0.639	10000	10000
257	242.160	244.580	998.370	500.740	500.770	500.250	500.500	999.150	500.820	501.030	500.370	500.910	0.303	0.707	0.304	0.647	10000	10000
258	238.390	243.490	998.650	500.920	500.930	500.440	500.480	999.030	500.740	500.920	500.350	500.710	0.297	0.700	0.295	0.643	10000	10000
259	255.570	270.120	998.220	500.860	500.820	499.920	500.160	999.070	500.760	501.000	500.450	501.000	0.311	0.684	0.300	0.651	10000	10000
260	249.350	229.290	998.380	500.680	500.790	500.300	500.440	999.050	500.630	500.860	500.420	500.880	0.293	0.696	0.304	0.662	10000	10000
261	242.530	253.990	998.240	500.850	500.880	499.970	500.120	999.190	500.750	500.990	500.420	500.890	0.295	0.707	0.303	0.656	10000	10000

Parameter	Pin Sht	Pin Sht	Pin Sht	Pin Sht	IL CH1	IL CH2	RL CH1	RL CH2
Condition:	RT	RT	RT	RT	4.000 M	4.000 M	4.000 M	4.000 M
Pins	001-007	001-010	004-007	004-010				
Unit	Mohms	Mohms	Mohms	Mohms	dB	dB	dB	dB
HighLimit	15000	15000	15000	15000			-22	-22
LowLimit	10	10	10	10	-0.3	-0.3	-100	-100
Average =	10,000.01	10,000.01	10,000.01	10,000.01	-0.19	-0.19	-33.06	-35.76
STD DEV =	0.07	0.07	0.07	0.07	0.01	0.01	0.81	0.61
Cpk	23,211.86	23,211.86	23,211.86	23,211.86	2.62	2.59	4.55	7.46
DATA								
232	10000	10000	10000	10000	-0.22	-0.20	-33.36	-35.31
233	10000	10000	10000	10000	-0.16	-0.17	-32.27	-35.09
234	10000	10000	10000	10000	-0.21	-0.18	-32.14	-35.74
235	10000	10000	10000	10000	-0.21	-0.17	-33.31	-35.65
236	10000	10000	10000	10000	-0.21	-0.22	-31.81	-35.59
237	10000	10000	10000	10000	-0.19	-0.22	-34.16	-36.70
238	10000	10000	10000	10000	-0.18	-0.17	-32.96	-36.13
239	10000	10000	10000	10000	-0.19	-0.18	-33.08	-35.54
240	10000	10000	10000	10000	-0.21	-0.21	-33.79	-35.56
241	10000	10000	10000	10000	-0.17	-0.22	-33.50	-36.07
242	10000	10000	10000	10000	-0.17	-0.18	-31.76	-35.65
243	10000	10000	10000	10000	-0.18	-0.22	-33.53	-35.62
244	10000	10000	10000	10000	-0.19	-0.19	-32.67	-35.28
245	10000	10000	10000	10000	-0.19	-0.17	-32.18	-36.15
246	10000	10000	10000	10000	-0.18	-0.19	-34.05	-36.43
247	10000	10000	10000	10000	-0.18	-0.19	-33.16	-36.76
248	10000	10000	10000	10000	-0.19	-0.19	-32.41	-35.31
249	10000	10000	10000	10000	-0.17	-0.19	-31.90	-34.86
250	10000	10000	10000	10000	-0.17	-0.18	-32.38	-35.38
251	10000	10000	10000	10000	-0.18	-0.18	-34.63	-35.64
252	10000	10000	10000	10000	-0.19	-0.19	-34.32	-36.52
253	10000	10000	10000	10000	-0.21	-0.19	-34.03	-35.92
254	10000	10000	10000	10000	-0.19	-0.18	-32.76	-35.37
255	10000	10000	10000	10000	-0.18	-0.21	-32.12	-35.37
256	10000	10000	10000	10000	-0.18	-0.18	-33.35	-36.11
257	10000	10000	10000	10000	-0.18	-0.19	-33.02	-36.64
258	10000	10000	10000	10000	-0.19	-0.19	-32.95	-34.53
259	10000	10000	10000	10000	-0.18	-0.20	-34.47	-37.26
260	10000	10000	10000	10000	-0.20	-0.18	-32.43	-34.88
261	10000	10000	10000	10000	-0.20	-0.19	-33.22	-35.64

Appendix 7



Terminal Strength

Sample quantity: 30 pcs			
Sample No. / Test No.: # 232-#261			
External visual examination before test: <input checked="" type="checkbox"/> ok <input type="checkbox"/> not			
Packing status: <input checked="" type="checkbox"/> ok <input type="checkbox"/> not			
Test Equipment:			
Type	Model	Serial No.	Calibration valid Date to
Force test system	ATO-1220S	CDC-TL-012	8/9/2022
OCL Tester	4284A	CDC-TL-016	8/12/2022
Loss Tester	8751A	CDC-TL-019	8/12/2022
Hi-Pot Tester	TOS 5051A	CDC-TL-018	8/9/2022
Laboratory environment condition: Temperature: (20~30) °C Relative humidity: (50~55) %			

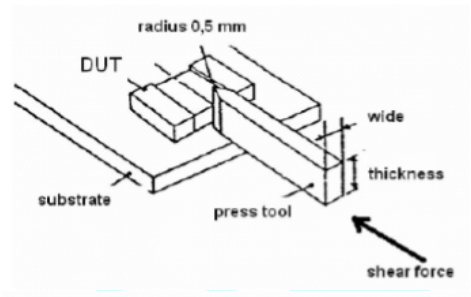
1. Test Summary:

No.	Test Item	Test Standard	Test Conclusion
1	Terminal Strength	AEC-Q200-006-2010	Pass
Note: Pass: meet testing requirement; Failed: don't meet testing requirement;			

2. Test procedure:

2.1. Test preparation

- 2.1.1 Number the test specimens for identification.
- 2.1.2 Implement pre-measurement.
- 2.1.3 All pre-measurement (External visual, DCR, OCL, LL, T/R, IL, RL, CT, DCMR and Hi-pot) shall be recorded for the parts.
- 2.1.4 Solder the specimens on to a FR-4 PCB (1.6mm thick) using a soldering reflow.
- 2.1.5 The interval between samples should be the width of one sample.
- 2.1.6 The test device as the below figure show.



2.2. Test set-up

- 2.2.1 Fix the PCB to the test platform of the vibration machine.
- 2.2.2 Apply a 17.7N (1.8Kg) force to the side of a specimen being tested. This force shall be applied for 60+1 seconds. Also the force shall be applied gradually as not to apply a shock to the component being tested.

2.3. Test validation

- 2.3.1 Cracking or specimen being sheared off from the PCB is considered to be failed.
- 2.3.2 Check the specimens whether there is damage with a magnification of 20X or greater. Visible evidence of any nonconformance with the detailed drawing or applicable specification, absence of any required feature can be considered failure
- 2.3.3 All final measurement (External visual, DCR, OCL, LL, T/R, IL, RL, CT, DCMR and Hi-pot) shall be recorded for the specimens. The measurement results shall comply with all electrical requirements in its specification.

Fig. 1 All Samples Mounted



Fig. 2 Testing Before

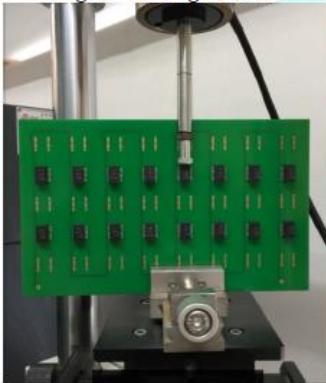
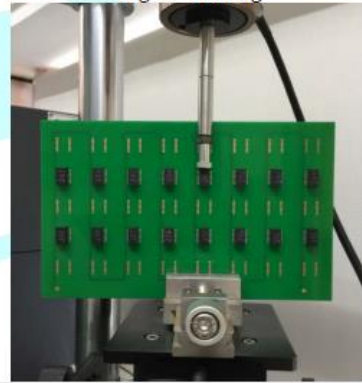


Fig. 3 Testing





普思电子
Pulse Electronics

产品名称: CDC-User 客户名称: Pulse
 产品型号: HMU2102NL 测试日期: 2022/2/28 10:31:32
 样本数量: 30 报告编号: 2209

名称	lMax (kg)	lMax (mm)	wMax (kg)	wMax (mm)		
最大值	1.00	1.09	0.00	0.00	0.00	1.00
最小值	1.00	0.88	0.00	0.00	0.00	1.00
落差	0.00	0.21	0.00	0.00	0.00	1.00
均值	1.00	0.96	0.00	0.00	0.00	1.00

次数	lMax (kg)	lMax (mm)	wMax (kg)	wMax (mm)		
1	1.00	1.10	0.00	0.00	0.00	1.00
2	1.00	1.10	0.00	0.00	0.00	1.00
3	1.00	0.98	0.00	0.00	0.00	1.00
4	1.00	0.95	0.00	0.00	0.00	1.00
5	1.00	0.95	0.00	0.00	0.00	1.00
6	1.00	0.92	0.00	0.00	0.00	1.00
7	1.00	0.92	0.00	0.00	0.00	1.00
8	1.00	0.97	0.00	0.00	0.00	1.00
9	1.00	0.90	0.00	0.00	0.00	1.00
10	1.00	0.92	0.00	0.00	0.00	1.00
11	1.00	0.91	0.00	0.00	0.00	1.00
12	1.00	0.90	0.00	0.00	0.00	1.00
13	1.00	0.99	0.00	0.00	0.00	1.00
14	1.00	0.96	0.00	0.00	0.00	1.00
15	1.00	0.94	0.00	0.00	0.00	1.00
16	1.00	0.99	0.00	0.00	0.00	1.00
17	1.00	0.99	0.00	0.00	0.00	1.00
18	1.00	0.90	0.00	0.00	0.00	1.00
19	1.00	0.96	0.00	0.00	0.00	1.00
20	1.00	0.97	0.00	0.00	0.00	1.00
21	1.00	0.95	0.00	0.00	0.00	1.00
22	1.00	0.94	0.00	0.00	0.00	1.00



4. Test results:

P/N	Initial test data	Final test data
HMU2102NL	OK	OK
Note: Detailed test data refer to attached "test data".		

