Product Change Notification

<table>
<tr><td>PCN Date:</td><td colspan="3">Jun 25, 2026</td></tr>
<tr><td>Supplier Name:</td><td colspan="3">Pulse Electronics</td></tr>
<tr><td>Pulse PCN No.</td><td colspan="3">PCN-100000861</td></tr>
<tr><td>Description of Change</td><td colspan="3">CM ZK will stop business with Pulse MPO, and all products built in ZK will be transferred to CM CLF.
- CLF located in MianYang, SiChuan, has cooperated with Pulse more than 10 years. CLF is a professional manufacturer for lan transformer and connector products which maintained good and stable quality performance.
No change of product design, process or material; no impact to product form, fit or function.</td></tr>
<tr><td>Reason for Change</td><td colspan="3">Based on the company's development strategy.</td></tr>
<tr><td rowspan="2">Summary of Changes</td><td>Current</td><td colspan="2">New</td></tr>
<tr><td>Manufacturing location:
Pulse CM ZK</td><td colspan="2">Manufacturing location:
Pulse CM CLF</td></tr>
<tr><td>Traceability guidelines</td><td colspan="3">By date code, traceability record can be provided upon request</td></tr>
<tr><td>Qualification Data</td><td colspan="3">Qualification plan as following:
<table>
<tr><td>Material</td><td>168hr plan</td><td>1000hr plan</td></tr>
<tr><td>HX1393NL</td><td>2026/6/4</td><td>6/4, 1000H Done</td></tr>
<tr><td>HX1223NLT</td><td>2026/7/1</td><td>2026/8/13</td></tr>
<tr><td>HXE2813NLT</td><td>2026/6/16</td><td>2026/7/23</td></tr>
<tr><td>PE-67540NL</td><td>2026/7/12</td><td>2026/8/18</td></tr>
<tr><td>23Z356SMQNLT</td><td>2026/7/4</td><td>2026/8/14</td></tr>
<tr><td>HX1339NL</td><td>2026/7/4</td><td>2026/8/14</td></tr>
<tr><td>HX4110NL</td><td>2026/7/10</td><td>2026/8/16</td></tr>
<tr><td>HX5G1010NL</td><td>2026/7/10</td><td>2026/8/16</td></tr>
<tr><td>HDX8008NL</td><td>2026/7/14</td><td>2026/8/20</td></tr>
<tr><td>HX5224CNL</td><td>2026/7/14</td><td>2026/8/20</td></tr>
</table>
Completed 168hrs qualification test for some parts, please refer to attached qualification report.
HX1393NL Qualification Test HXE2813NL Qualification Test</td></tr>
<tr><td>Customer</td><td>Customer Part Number</td><td>Pulse art Number</td><td>PCN Effectivity Date</td></tr>
</table>

Part number list_PCN-100000	July 01, 2026

Customer: Generic **Phone:** (86)-0816-7077888-2901
Originator: XL Guo **E-mail:** xl.guo@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.

Affected Part Numbers for PCN-100000861		
23Z106SMNL-T	HMU2103ANL	HXE2006HLT
23Z356SMQNLT	HMU2103ANLT	HXE2007HL
BMU6203NL	HMU2104NL	HXE2007HLT
BMU6203NLT	HMU2104NLT	HXE2008HL
BX6150NL	HU4009NL	HXE2008HLT
BX6150NLT	HU4009NLT	HXE2009HL
C2267FNL	HU4102NL	HXE2009HLT
C2268FNL	HU4102NLT	HXE2010HL
H1197FNL	HU4103NL	HXE2010HLT
H1197NL	HU4103NLT	HXE2011HL
H1197NLT	HU4107NL	HXE2011HLT
H1313NL	HU4107NLT	HXE2012HL
H4009NL	HU4108NL	HXE2012HLT
H4009NLT	HU4108NLT	HXE2013HL
H5084NL	HU7109NL	HXE2013HLT
H5084NLT	HU7109NLT	HXE2014HL
H5187NL	HU7223NL	HXE2014HLT
H5187NLT	HX1222NL	HXE2015HL
H5G1002NL	HX1222NLT	HXE2015HLT
H5G1002NLT	HX1223NL	HXE2016HL
H7143NL	HX1223NLT	HXE2016HLT
H7143NLT	HX1291CNLT	HXE2017HL
HC5421NL	HX1332NL	HXE2017HLT
HDX8004NL	HX1339NL	HXE2018HLT
HDX8004NLT	HX1339NLT	HXE2019HLT
HDX8005NL	HX1393NL	HXE2050HL
HDX8005NLT	HX1393NLT	HXE2050HLT
HDX8006NL	HX1424NL	HXE2801HLT
HDX8006NLT	HX4019NL	HXE2802HLT
HDX8008NL	HX4019NLT	HXE2803HLT
HDX8008NLT	HX4110NL	HXE2805HLT
HM1193NLPH	HX4110NLT	HXE2813NLT
HM1234ENL	HX5024CNL	HXE2814HLT
HM1234ENLT	HX5024CNLT	HXU4009NL
HM1242NLPH	HX5024NL	HXU4102NL
HM2117NL	HX5024NLT	HXU4103NL
HM2122NL	HX5155ANL	HXU6200NL
HM2122NLT	HX5155ANLT	HXU6200NLT
HM2133NL	HX5161NL	HXU7223NL
HM2133NLT	HX5161NLT	HXU7223NLT
HM2135NL	HX5224CNL	PE-67540NL
HM2135NLT	HX5224CNLT	PE-67540NLT
HMU1189NL	HX5G1010NL	ST7010QNL
HMU1226NL	HX5G1010NLT	TX8157GNL
HMU1227NL	HX5G2003NL	TX8157GNLT
HMU1229NL	HX5G2003NLT	TX8160.471NLT
HMU1288NLPH	HX6198NL	TX8190NLT
HMU2100NL	HX6198NLT	HX1224CNL
HMU2100NLT	HXE2006HL	HX1224CNLT

Qualification Report _ HX1393NL

Rev A:6/4/2026

Prepared By:
Colin Zhang
Pulse MPO QA Sr. Supervisor

Approved By:
Raymond Tan
Pulse MPO Quality Manager

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HX1393NL Test Summary (Revision: A)

1. PURPOSE

This is an internal Pulse Qualification Plan to qualify part HX1393NL from CM CLF;
Testing data will be reviewed after each environmental testing

2. SCOPE

HX1393NL is produced in CM CLF and tested in MPO.

3. REFERENCES

HX1393NL released TLA document Rev15.

4. TEST SUMMARY AS BELOW:

TEST Description	Sample size	Reference	Test conditions/Remarks.	Result	Remarks
Initial visual and function test	All	PQ 2.107.000	Per Pulse Spec.	Pass	N/A
High Temperature Exposure (Storage)	38	MIL-STD-202 Method 108	1000 Hrs @ 125°C, Unpowered.	Pass	Appendix 1
Temperature Cycling	38	JESD22 Method JA-104	100cycles (-40°C to 125°C), Measurement at 24 4 hours after test conclusion.	Pass	Appendix 2
Temp.& Humidity	38	MIL-STD-202 Method 103	1000 hours 85°C/85%RH. Unpowered.	Pass	Appendix 3
Resistance to Soldering Heat	30	MIL-STD-202 Method 210	Condition K, 3 times Reflow tests with 245°C Peak Temperature condition.	Pass	Appendix 4
Mechanical Shock	30	MIL-STD-202 Method 213	Pulse shape: half sine Nominal pulse length: 6msNumber of shocks: 6 each in both direction of each axis (total 18)	Pass	Appendix 5
Vibrationk		MIL-STD-202 Method 204	Pulse shape: sine wave Range of frequency 2: 10 - 2000Hz Amplitude: 5g Frequency sweep: 0.5 oct/min Duration: total 24h each of 3axis	Pass	

Abbreviation in datasheet.

DCR: Direct Current Resistance
OPSH: Open / Short; for insulation
TRP: Turn Ratio and Polarity
OCL: Open Curent inductance
LL: Leakage Inductance
BL: Balance inductance
RL: Return Loss
IL: Insertion Loss
CT: Crosstalk
DCMR: Different to Common Mode Rejection

Appendix 1

HX1393NL High Temperature Exposure1000hrs Electrical Test Data

Parameter	OPSH	OPSH	OPSH	OPSH	DCR	DCR	DCR	DCR	DCR	DCR
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-16	8-9	1-8	9-16	1-2	2-3	16-15	15-14	6-7	7-8
Unit	M ohms	M ohms	M ohms	M ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms
HighLimit					1800	1800	1000	1000	1800	1800
LowLimit	10	10	10	10						
Average =	309.88	310.23	301.05	300.38	597.14	987.10	351.01	528.64	316.62	270.32
STD DEV =	55.03	55.75	50.33	51.38	13.15	9.03	34.07	63.33	17.82	26.84
Cpu					30.49	30.02	6.35	2.48	27.75	19.00
Cpl	1.82	1.79	1.93	1.88						
Cpk	1.82	1.79	1.93	1.88	30.49	30.02	6.35	2.48	27.75	19.00
DATA	-	-	-	-	-	-	-	-	-	-
1	372.236	230.658	316.112	340.205	653.361	979.316	445.577	608.211	346.459	354.458
2	359.898	321.585	336.585	336.708	590.978	981.743	360.942	526.614	315.453	291.659
3	301.393	250.547	255.083	379.204	634.589	988.208	521.423	895.128	383.688	375.211
4	229.96	393.863	348.135	248.097	597.057	990.466	357.73	541.086	305.59	254.769
5	325.952	266.227	357.203	289.04	597.296	991.296	333.904	517.08	360.565	294.395
6	348.496	312.271	299.824	308.291	591.204	984.666	330.258	515.181	319.947	275.215
7	219.08	337.925	265.032	258.793	587.974	979.831	341.344	519.994	312.185	261.683
8	376.411	243.754	305.242	383.587	596.194	989.941	334.689	504.32	324.523	309.454
9	279.087	223.694	397.024	246.781	596.532	984.353	347.863	522.472	312.695	258.498
10	220.383	223.072	233.384	233.072	594.419	985.464	363.363	537.318	304.71	262.033
11	247.719	255.938	275.633	333.923	593.489	988.676	364.847	546.634	323.707	278.467
12	397.054	368.277	288.787	277.111	595.716	991.653	342.383	518.253	319.524	271.577
13	295.032	279.06	229.404	289.774	601.153	1000.253	354.377	524.596	313.723	263.451
14	253.024	347.602	295.024	368.984	589.23	986.622	341.036	511.254	328.321	283.939
15	316.845	386.578	247.69	237.356	588.733	985.141	337.932	498.968	318.624	263.649
16	345.68	229.181	215.815	240.887	588.435	979.201	335.919	506.885	303.195	253.506
17	258.1	374.967	351.266	263.409	596.779	991.5	356.288	525.181	311.354	260.084
18	230.898	298.165	311.564	293.045	594.992	983.854	337.071	504.397	338.484	290.102
19	377.119	308.887	379.436	336.808	596.114	989.57	323.958	493.87	308.077	260.024
20	238.638	342.774	361.188	269.122	614.702	1015.624	341.856	513.375	323.321	262.201
21	353.458	365.989	281.227	304.435	593.975	981.093	344.88	516.249	298.765	249.381
22	343.839	329.765	340.268	335.019	585.743	973.765	333.094	499.438	300.699	253.693
23	232.469	228.791	377.977	228.762	585.743	978.545	334.848	509.444	297.519	249.566
24	238.468	384.59	271.409	312.153	607.941	1013.233	367.7	538.954	309.296	259.413
25	308.96	280.985	275.408	266.122	591.324	989.19	344.786	519.78	307.357	262.724
26	400.134	332.72	267.001	359.193	604.136	995.815	352.067	521.464	331.074	285.552
27	345.879	263.667	299.349	275.834	595.52	987.454	348.915	521.811	319.136	243.612
28	327.298	308.776	235.34	284.594	583.932	976.185	335.645	501.158	317.519	271.891
29	308.53	250.571	318.176	368.103	587.111	981.108	354.032	526.836	299.593	254.866
30	364.391	397.185	263.532	241.914	584.909	979.745	328.787	497.87	306.144	257.984
31	234.476	321.734	221.092	369.456	592.786	984.579	339.472	506.707	311.288	263.034
32	340.242	277.077	283.616	250.097	593.55	981.696	334.474	510.986	303.302	248.987
33	367.516	301.728	388.152	364.012	596.091	973.08	336.19	509.689	307.593	267.35
34	364.259	254.155	289.726	357.517	595.387	998.081	343.657	519.331	298.294	243.443
35	257.309	360.637	332.689	328.853	599.555	993.898	333.763	499.561	335.145	272.794
36	322.513	350.41	224.485	228.095	613.264	993.452	339.929	510.845	294.926	242.81
37	333.396	393.379	372.472	219.745	591.912	982.389	353.922	540.183	318.459	257.384
38	339.206	391.393	328.56	386.29	589.41	978.932	339.491	507.101	301.427	263.123

YAGEO PULSE

Parameter	DCR	DCR	DCR	DCR	DCR	DCR	BL	BL	OCL	OCL
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	11-10	10-9	1-3	16-14	6-8	11-9	1-3:16-14	6-8:11-9	9-11	14-16
Unit	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	uH	uH
HighLimit	1000	1000	1800	1000	1800	1000	1000	1000		
LowLimit							10	10	400	400
Average =	430.30	209.30	1,114.04	662.67	1,413.96	561.75	451.37	852.21	813.47	823.75
STD DEV =	20.12	19.23	14.38	36.26	14.15	19.33	29.92	21.19	27.73	29.03
Cpu	9.44	13.71	15.90	3.10	9.09	7.56	6.11	2.32		
Cpl							4.92	13.25	4.97	4.87
Cpk	9.44	13.71	15.90	3.10	9.09	7.56	4.92	2.32	4.97	4.87
DATA	-	-	-	-	-	-	-	-	-	-
1	445.532	254.915	1170.846	693.959	1457.506	595.226	476.887	862.28	833.076	816.898
2	434.682	225.934	1103.077	675.698	1435.365	565.703	427.379	869.662	881.196	797.006
3	433.494	217.438	1154.78	862.535	1451.177	569.961	292.245	881.215	833.694	813.54
4	410.974	202.062	1115.633	677.277	1408.086	540.009	438.357	868.077	798.564	819.187
5	422.643	197.795	1123.685	648.241	1425.204	547.009	475.443	878.195	789.547	846.052
6	432.013	200.339	1110.957	662.358	1408.651	555.337	448.599	853.315	834.049	863.265
7	434.42	219.717	1101.019	662.985	1414.447	569.265	438.034	845.182	823.533	786.818
8	419.583	191.085	1116.507	646.153	1444.906	547.794	470.354	897.112	801.463	855.29
9	425.311	204.97	1110.44	661.58	1405.552	553.359	448.86	852.193	803.696	860.352
10	413.377	192.341	1102.635	638.718	1410.817	544.895	463.918	865.922	820.09	780.813
11	482.608	224.626	1115.168	703.198	1423.785	611.326	411.97	812.458	806.968	812.491
12	427.03	195.76	1118.407	660.97	1411.873	554.953	457.437	856.92	832.663	817.086
13	451.248	221.062	1112.164	666.456	1409.531	576.048	445.707	833.483	798.81	875.363
14	412.027	186.81	1116.606	655.143	1413.853	549.981	461.463	863.872	842.082	823.91
15	436.721	211.674	1113.28	649.24	1415.502	564.032	464.04	851.47	828.198	832.91
16	409.622	185.772	1101.521	640.912	1404.342	538.765	460.609	865.577	806.576	848.549
17	445.584	218.244	1108.895	659.234	1414.611	581.964	449.661	832.646	847.735	830.792
18	427.371	210.909	1108.545	647.171	1412.647	564.773	461.374	847.874	845.625	808.118
19	415.426	214.177	1115.015	636.307	1410.106	557.92	478.708	852.185	821.337	866.64
20	414.38	188.246	1121.583	653.47	1417.595	533.309	468.113	884.286	801.812	822.33
21	455.748	230.313	1111.177	663.436	1403.877	604.049	447.74	799.827	827.689	813.009
22	422.361	209.109	1099.836	638.214	1415.943	560.337	461.622	855.605	836.352	748.926
23	512.835	279.471	1100.127	645.528	1405.558	597.256	454.599	808.302	814.39	837.605
24	432.396	227.389	1134.306	679.63	1406.463	585.744	454.676	820.719	814.361	844.795
25	427.443	198.553	1111.473	656.023	1406.748	555.016	455.45	851.732	788.44	799.971
26	425.639	197.443	1120.198	659.935	1414.368	547.911	460.264	866.457	812.29	806.561
27	420.053	205.871	1122.569	670.776	1423.411	556.935	451.793	866.475	789.085	760.392
28	441.214	218.063	1092.339	645.594	1418.133	579.748	446.745	838.385	793.045	805.207
29	414.329	194.984	1100.693	663.253	1392.707	533.705	437.439	859.002	701.545	778.889
30	422.975	194.524	1102.385	639.386	1408.34	539.983	462.999	868.357	839.798	842.434
31	425.102	196.864	1115.226	657.127	1409.259	553.779	458.099	855.481	825.141	863.825
32	407.133	188.247	1106.299	647.677	1396.501	539.543	458.622	856.958	783.262	824.143
33	416.353	197.987	1109.106	643.393	1407.219	556.071	465.713	851.148	789.21	847.675
34	427.597	231.585	1118.46	650.967	1388.923	575.119	467.492	813.804	791.484	803.524
35	441.946	218.35	1106.807	637.601	1425.211	570.985	469.206	854.226	805.254	834.295
36	433.594	206.537	1126.76	647.329	1395.847	563.308	479.431	832.538	818.064	820.309
37	422.427	210.654	1106.956	681.017	1409.819	569.17	425.94	840.649	828.486	837.271
38	408.379	183.461	1108.001	652.779	1406.612	536.27	455.222	870.342	803.356	856.077

YAGEO PULSE

Parameter	LL	LL	TRP	TRP	TRP	TRP	TRP	TRP	TRP	TRP
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-3	6-8	1-3	16-14	6-8	11-9	16-15	15-14	11-10	10-9
Unit	nH	nH	*1	*1	*1	*1	*1	*1	*1	*1
HighLimit	500	500	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
LowLimit	10	10	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Average =	243.07	227.91	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.99
STD DEV =	9.90	6.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cpu	8.65	13.14	16.18	18.87	24.63	13.59	19.59	6.38	24.63	5.52
Cpl	7.85	10.52	16.52	20.58	24.82	14.51	19.85	2.46	24.82	2.36
Cpk	7.85	10.52	16.18	18.87	24.63	13.59	19.59	2.46	24.63	2.36
DATA	-	-	-	-	-	-	-	-	-	-
1	220.596	227.691	1	1.001	1	1.001	1	0.993	1	0.991
2	227.512	216.763	1	1.001	1	1.001	1	0.991	1	0.991
3	207.675	233.79	1.001	1.001	1	1.001	1	0.992	1	0.992
4	239.297	240.187	1	1.001	1	1	1	0.993	1	0.992
5	239.54	235.341	1	1	1.001	1.001	1	0.991	1	0.992
6	241.679	232.336	1	1.001	1	1.001	1	0.993	1	0.991
7	228.909	239.967	1	1.001	1	1	1.001	0.992	1	0.993
8	232.75	228.965	1.001	1.001	1	1.001	1	0.992	1	0.988
9	235.699	230.7	1.001	1.001	1	1	1	0.991	1	0.99
10	250.594	219.313	1	1	1	1.001	1	0.992	1	0.991
11	259.355	240.146	1	1.001	1	1.001	1	0.991	1.001	0.992
12	255.801	225.643	1	1.001	1	1	1	0.989	1	0.994
13	245.209	226.013	1	1.001	1	1.001	1	0.992	1	0.993
14	243.416	239.001	1	1.001	1	1.001	1	0.991	1	0.994
15	243.575	227.416	1	1.001	1	1.001	1.001	0.992	1	0.992
16	251.63	228.883	1.001	1	1.001	1.001	1.001	0.994	1	0.994
17	240.302	227.702	1	1.001	1	1.001	1.001	0.989	1	0.992
18	236.837	228.775	1	1.001	1	1	1	0.992	1	0.995
19	247.02	224.278	1	1.001	1	1.001	1	0.989	1	0.991
20	244.177	213.269	1	1.001	1	1	1	0.992	1	0.993
21	246.653	232.345	1	1.001	1	1	1	0.992	1	0.99
22	261.626	226.744	1	1.001	1	1.001	1	0.993	1	0.992
23	245.747	224.07	1	1	1	1.001	1	0.994	1	0.992
24	247.731	225.428	1	1.001	1	1.001	1	0.99	1	0.989
25	245.772	232.517	1	1.001	1	1	1	0.992	1	0.991
26	245.15	219.337	1	1.001	1	1.001	1	0.99	1	0.994
27	243.787	230.714	1	1	1	1.001	1	0.992	1	0.994
28	242.111	234.418	1	1.001	1	1.001	1	0.99	1	0.994
29	254.033	220.609	1	1.001	1	1	1	0.989	1	0.993
30	246.585	215.816	1	1.001	1	1.001	1	0.991	1	0.993
31	241.523	234.437	1	1.001	1	1	1	0.99	1	0.989
32	245.437	222.652	1	1.001	1	1.001	1	0.991	1	0.992
33	249.066	219.312	1.001	1.001	1.001	1	1	0.991	1.001	0.991
34	244.216	229.038	1.001	1.001	1	1.001	1.001	0.989	1.001	0.988
35	246.861	222.811	1.001	1.001	1	1	1	0.987	1	0.993
36	239.613	230.922	1.001	1.001	1	1	1	0.99	1	0.994
37	252.683	234.332	1	1.001	1	1.001	1	0.99	1	0.993
38	246.638	218.995	1	1.001	1	1.001	1	0.991	1	0.992

YAGEO PULSE

Parameter	CH1 IL	CH1 IL	CH2 IL	CH2 IL	CH1 RL	CH1 RL	CH1 RL	CH2 RL	CH2 RL	CH2 RL
Condition:	0.1MHZ	100MHZ	0.1MHZ	100MHZ	30MHZ	60MHZ	80MHZ	30MHZ	60MHZ	80MHZ
Pins										
Unit	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
HighLimit					-16	-10	-10	-16	-10	-10
LowLimit	-1.1	-1.1	-1.1	-1.1						
Average =	-0.27	-0.57	-0.28	-0.60	-27.08	-22.57	-20.59	-27.92	-24.11	-22.22
STD DEV =	0.02	0.04	0.02	0.05	1.28	1.33	1.30	1.24	1.32	1.25
Cpu					2.89	3.15	2.71	3.21	3.56	3.25
Cpl	14.82	3.92	10.99	3.54						
Cpk	14.82	3.92	10.99	3.54	2.89	3.15	2.71	3.21	3.56	3.25
DATA	-	-	-	-	-	-	-	-	-	-
1	-0.281	-0.619	-0.252	-0.628	-26.504	-21.948	-19.996	-27.062	-23.164	-21.266
2	-0.32	-0.624	-0.259	-0.579	-25.48	-21.001	-19.132	-27.843	-23.905	-22.033
3	-0.269	-0.588	-0.258	-0.616	-26.423	-21.749	-19.745	-26.799	-22.638	-20.653
4	-0.272	-0.523	-0.269	-0.619	-28.815	-24.295	-22.216	-26.283	-22.127	-20.281
5	-0.258	-0.552	-0.263	-0.604	-27.36	-22.708	-20.615	-27.094	-23.091	-21.109
6	-0.267	-0.551	-0.254	-0.608	-28.041	-23.672	-21.725	-27.116	-23.241	-21.385
7	-0.252	-0.539	-0.256	-0.577	-27.598	-23.255	-21.355	-28.381	-24.663	-22.875
8	-0.253	-0.629	-0.26	-0.592	-25.515	-20.903	-18.98	-27.691	-23.507	-21.576
9	-0.283	-0.528	-0.261	-0.542	-29.341	-24.919	-22.905	-29.374	-25.704	-23.803
10	-0.319	-0.686	-0.254	-0.554	-25.093	-20.907	-19.141	-29.03	-25.096	-23.004
11	-0.262	-0.574	-0.271	-0.524	-26.466	-21.678	-19.548	-30.518	-26.57	-24.273
12	-0.27	-0.56	-0.29	-0.559	-27.632	-23.103	-21.248	-29.258	-25.753	-23.969
13	-0.253	-0.593	-0.287	-0.568	-26.812	-22.301	-20.395	-28.956	-25.544	-23.59
14	-0.268	-0.602	-0.282	-0.536	-25.739	-21.118	-19.227	-29.395	-25.25	-23.015
15	-0.311	-0.51	-0.276	-0.595	-28.856	-24.284	-22.334	-27.002	-23.037	-21.336
16	-0.263	-0.537	-0.308	-0.641	-28.93	-24.829	-22.937	-27.396	-23.8	-22.016
17	-0.287	-0.598	-0.34	-0.716	-25.724	-20.959	-18.876	-26.355	-22.934	-21.199
18	-0.251	-0.588	-0.332	-0.615	-26.436	-21.98	-19.914	-28.959	-25.952	-24.077
19	-0.282	-0.596	-0.325	-0.696	-26.617	-22.142	-20.285	-25.453	-21.631	-19.845
20	-0.278	-0.552	-0.283	-0.566	-27.978	-23.637	-21.705	-28.085	-24.28	-22.324
21	-0.287	-0.562	-0.264	-0.587	-26.978	-22.357	-20.152	-28.176	-24.366	-22.496
22	-0.281	-0.56	-0.27	-0.576	-27.452	-23.052	-21.132	-28.421	-24.776	-22.926
23	-0.264	-0.609	-0.251	-0.644	-26.132	-21.661	-19.887	-27.098	-23.057	-21.211
24	-0.292	-0.555	-0.269	-0.617	-27.732	-23.353	-21.386	-26.734	-22.914	-21.213
25	-0.298	-0.684	-0.266	-0.561	-24.244	-19.573	-17.627	-28.293	-24.399	-22.356
26	-0.28	-0.593	-0.28	-0.619	-26.372	-21.702	-19.66	-26.214	-21.975	-19.993
27	-0.253	-0.63	-0.267	-0.646	-25.077	-20.563	-18.762	-25.724	-22.028	-20.458
28	-0.267	-0.594	-0.316	-0.657	-26.38	-21.918	-19.906	-27.442	-24.028	-22.237
29	-0.265	-0.546	-0.26	-0.55	-27.109	-22.518	-20.476	-29.097	-25.63	-23.774
30	-0.241	-0.5	-0.256	-0.566	-29.07	-24.632	-22.444	-28.975	-25.44	-23.633
31	-0.263	-0.626	-0.279	-0.528	-25.825	-21.187	-19.208	-29.341	-25.431	-23.248
32	-0.252	-0.56	-0.347	-0.717	-27.59	-23.447	-21.552	-25.948	-22.503	-20.966
33	-0.244	-0.575	-0.301	-0.589	-26.665	-22.329	-20.465	-28.071	-24.181	-22.264
34	-0.267	-0.539	-0.273	-0.594	-27.664	-23.249	-21.061	-27.119	-23.253	-21.401
35	-0.261	-0.532	-0.263	-0.536	-27.656	-22.792	-20.624	-29.779	-25.888	-23.843
36	-0.256	-0.542	-0.263	-0.56	-27.666	-23.396	-21.486	-29.476	-26.273	-24.407
37	-0.267	-0.501	-0.271	-0.562	-29.957	-25.414	-23.373	-28.201	-24.084	-22.159
38	-0.277	-0.508	-0.269	-0.594	-28.046	-23.104	-20.891	-28.699	-24.215	-22.332

YAGEO PULSE

Parameter	CH1-2 CT	CH1-2 CT	CH1-2 CT	DCMR1	DCMR1	DCMR1	DCMR2	DCMR2	DCMR2	Hipot
Condition:	30MHZ	60MHZ	100MHZ	30MHZ	60MHZ	100MHZ	30MHZ	60MHZ	100MHZ	
Pins										
Unit	dB	dB	dB	dB	dB	dB	dB	dB	dB	
HighLimit	-35	-30	-30	-42	-37	-30	-42	-37	-30	
LowLimit										
Average =	-57.55	-53.13	-50.90	-53.87	-56.36	-50.31	-55.00	-64.33	-73.22	1500VAC/
STD DEV =	4.99	5.54	4.10	0.26	0.21	0.49	0.31	0.47	2.60	60s/1mA
Cpu	1.51	1.39	1.70	15.13	30.34	13.92	14.03	19.49	5.55	
Cpl										
Cpk	1.51	1.39	1.70	15.13	30.34	13.92	14.03	19.49	5.55	
DATA	-	-	-	-	-	-	-	-	-	
1	-59.893	-56.037	-55.355	-53.808	-56.129	-50.962	-55.094	-63.993	-71.553	Pass
2	-54.925	-50.78	-49.293	-54.089	-56.489	-50.428	-54.889	-63.577	-70.035	Pass
3	-56.932	-52.12	-50.562	-53.627	-56.269	-50.457	-55.11	-64.827	-74.939	Pass
4	-56.831	-52.465	-50.498	-53.781	-56.5	-49.554	-55.485	-64.906	-70.442	Pass
5	-58.378	-54.213	-52.801	-53.844	-56.488	-49.744	-55.142	-64.693	-73.986	Pass
6	-56.683	-52.48	-50.201	-54.134	-56.582	-50.091	-54.702	-64.773	-81.046	Pass
7	-53.417	-48.464	-45.961	-53.542	-56.198	-50.065	-54.923	-63.963	-76.826	Pass
8	-58	-53.056	-51.77	-53.642	-56.209	-50.604	-54.78	-64.645	-73.139	Pass
9	-57.833	-53.699	-51.909	-53.728	-56.305	-49.393	-54.721	-63.719	-73.379	Pass
10	-58.48	-54.107	-51.792	-53.442	-56.166	-50.282	-54.71	-64.343	-72.766	Pass
11	-58.813	-54.113	-51.867	-53.7	-56.359	-50.118	-55.599	-64.371	-72.509	Pass
12	-56.94	-52.329	-50.358	-54.291	-56.601	-50.526	-55.274	-65.137	-77.329	Pass
13	-54.136	-49.427	-46.548	-53.856	-56.241	-50.588	-54.782	-64.84	-77.028	Pass
14	-52.405	-47.717	-45.332	-53.395	-55.983	-51.21	-55.293	-64.288	-71.81	Pass
15	-50.227	-45.578	-42.758	-53.463	-56.467	-50.493	-54.866	-64.669	-74.368	Pass
16	-58.882	-54.799	-52.721	-53.901	-56.325	-50.882	-55.122	-63.632	-70.111	Pass
17	-57.545	-53.191	-51.09	-53.988	-56.463	-49.532	-54.981	-64.21	-70.723	Pass
18	-58.73	-53.975	-51.855	-54.103	-56.318	-50.418	-54.725	-63.411	-71.44	Pass
19	-58.786	-54.896	-53.595	-54.042	-56.237	-50.556	-54.826	-64.085	-76.858	Pass
20	-55.409	-50.818	-48.839	-53.797	-56.26	-50.207	-55.047	-64.206	-72.975	Pass
21	-84.296	-83.15	-68.929	-53.843	-56.52	-49.568	-54.716	-64.577	-71.626	Pass
22	-54	-49.279	-47.318	-53.927	-56.149	-50.387	-55.027	-64.148	-76.033	Pass
23	-57.639	-53.375	-51.961	-54.043	-56.323	-50.758	-54.98	-64.188	-75.482	Pass
24	-56.595	-51.745	-49.138	-53.919	-56.171	-50.349	-55.771	-64.898	-70.831	Pass
25	-56.946	-51.957	-50.469	-54.22	-56.162	-50.476	-54.936	-64.1	-74.156	Pass
26	-57.331	-53.074	-51.649	-53.697	-56.202	-49.753	-54.836	-65.008	-70.643	Pass
27	-57.173	-53.458	-52.956	-53.781	-56.886	-51.293	-54.975	-63.975	-75.301	Pass
28	-58.649	-54.8	-52.995	-53.767	-56.196	-50.967	-54.972	-63.791	-69.291	Pass
29	-52.202	-47.441	-45.267	-53.995	-56.531	-50.408	-55.154	-63.476	-70.095	Pass
30	-58.335	-53.759	-52.387	-53.723	-56.484	-49.963	-54.918	-63.885	-73.236	Pass
31	-57.851	-53.011	-51.181	-54.661	-56.445	-50.077	-55.321	-65.045	-70.41	Pass
32	-63.134	-58.837	-57.175	-53.84	-57.002	-51.327	-54.169	-63.895	-73.26	Pass
33	-56.835	-51.962	-49.965	-54.306	-56.469	-50.011	-54.985	-64.936	-76.311	Pass
34	-54.997	-50.419	-47.887	-54.156	-56.216	-50.127	-54.746	-64.123	-72.131	Pass
35	-56.634	-52.119	-49.922	-53.749	-56.353	-50.205	-54.497	-64.479	-74.489	Pass
36	-57.866	-52.954	-50.797	-53.808	-56.154	-50.502	-54.942	-64.514	-73.551	Pass
37	-58.765	-53.983	-51.865	-53.446	-56.199	-49.484	-55.536	-64.774	-71.907	Pass
38	-54.438	-49.516	-47.145	-53.917	-56.763	-50.155	-55.424	-64.37	-70.159	Pass

Appendix 2

HX1393NL Temperature Cycling100cycles Electrical Test Data

Parameter	OPSH	OPSH	OPSH	OPSH	DCR	DCR	DCR	DCR	DCR	DCR
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-16	8-9	1-8	9-16	1-2	2-3	16-15	15-14	6-7	7-8
Unit	M ohms	M ohms	M ohms	M ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms
HighLimit					1800	1800	1000	1000	1800	1800
LowLimit	10	10	10	10						
Average =	301.86	304.74	306.69	309.88	958.23	984.01	518.80	514.55	1,021.14	1,012.76
STD DEV =	49.09	53.23	54.16	44.58	13.10	12.79	7.64	5.27	15.37	12.87
Cpu					21.43	21.27	21.00	30.73	16.89	20.38
Cpl	1.98	1.85	1.83	2.24						
Cpk	1.98	1.85	1.83	2.24	21.43	21.27	21.00	30.73	16.89	20.38
DATA	-	-	-	-	-	-	-	-	-	-
1	338.323	371.916	375.596	267.57	959.929	990.208	516.663	515.044	1017.704	1006.077
2	328.875	332.767	281.233	334.927	982.081	1005.886	519.637	517.665	1002.076	1004.45
3	278.663	391.917	260.97	338.523	954.959	980.682	537.263	530.868	1004.64	1005.806
4	368.171	307.693	390.637	350.164	958.974	973.109	516.209	509.719	1037.544	1026.969
5	378.157	325.886	360.448	283.683	958.614	974.481	514.508	512.787	1042.618	1026.778
6	306.109	221.796	249.616	306.561	987.993	1007.643	518.628	517.197	1016.255	1010.698
7	251.435	301.003	238.008	301.584	975.006	1006.702	518.392	520.56	998.217	998.462
8	395.03	280.68	399.412	364.401	959.558	983.414	531.327	524.902	1056.879	1042.493
9	339.125	291.397	394.534	343.826	954.597	985.208	514.998	509.401	1026.303	1011.133
10	242.879	335.258	349.604	339.462	946.813	977.074	512.243	509.727	1042.42	1028.983
11	377.294	242.906	269.449	313.396	964.069	983.84	518.302	515.935	1012.457	1002.799
12	335.615	381.146	373.649	343.647	953.849	980.461	511.5	512.093	1015.058	1003.479
13	231.732	228.696	367.793	226.828	969.749	994.111	540.626	520.77	1017.366	1014.002
14	377.409	299.228	332.715	228.861	961.071	988.637	515.352	511.63	1002.421	993.2
15	269.004	249.741	261.545	302.316	957.131	973.949	512.496	507.755	1025.64	1017.222
16	311.229	248.444	300.662	348.714	961.335	997.233	516.079	513.993	1018.641	1009.475
17	329.019	386.358	276.968	391.27	963.611	998.102	514.404	512.445	1028.947	1019.293
18	332.647	276.969	289.094	313.938	941.311	964.661	512.199	509.572	1012.706	1007.32
19	287.737	258.081	253.292	289.723	958.055	982.487	529.027	512.431	1014.083	1006.862
20	310.709	294.104	245.653	247.3	950.882	979.949	517.72	513.288	1038.293	1024.351
21	365.63	279.906	228.055	365.665	947.036	974.173	522.097	519.092	1026.523	1021.457
22	282.603	332.196	261.404	375.084	937.485	954.965	541.843	519.896	1020.338	1013.886
23	255.782	364.27	214.769	269.753	962.227	988.432	514.002	511.672	1032.634	1020.464
24	272.579	323.975	246.06	276.653	962.249	993.029	516.08	513.326	1051.91	1032.565
25	268.124	219.525	292.509	332.947	964.508	985.259	516.939	514.732	1005.307	998.631
26	314.093	321.53	313.36	322.6	934.177	967.053	513.984	510.616	1001.125	994.08
27	214.063	245.557	237.26	330.375	939.039	967.616	513.485	509.964	1012.618	1007.088
28	273.122	298.434	347.328	358.176	944.745	982.419	516.692	509.555	1023.844	1008.282
29	320.71	362.604	359.743	284.961	999.62	1000.632	516.277	514.252	1035.283	1021.336
30	246.598	378.514	346.794	251.681	959.018	991.95	519.74	513.194	1009.691	1008.316
31	279.791	397.279	361.682	333.324	958.49	993.7	521.934	521.403	1031.138	1024.139
32	254.633	361.213	397.931	344.628	954.175	966.185	514.897	513.54	1003.883	1002.943
33	248.652	360.087	320.865	233.634	940.024	964.168	510.291	506.804	1027.651	1022.013
34	392.634	289.322	257.458	226.223	960.033	986.791	519.024	514.429	986.236	976.569
35	271.408	233.674	266.024	289.145	964.247	998.557	525.632	522.151	1030.413	1025.815
36	281.509	290.357	331.082	262.511	961.492	987.633	519.721	521.946	1020.529	1015.924
37	315.745	213.404	301.739	363.86	944.921	967.724	512.709	506.412	1039.804	1031.466
38	223.78	282.176	299.304	317.365	959.783	994.317	511.549	512.318	1013.939	1000.024

YAGEO PULSE

Parameter	DCR	DCR	DCR	DCR	DCR	DCR	BL	BL	OCL	OCL
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	11-10	10-9	1-3	16-14	6-8	11-9	1-3:16-14	6-8:11-9	9-11	14-16
Unit	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	uH	uH
HighLimit	1000	1000	1800	1000	1800	1000	1000	1000		
LowLimit							10	10	400	400
Average =	527.19	529.33	1,379.19	797.78	1,405.99	798.56	581.42	607.44	825.41	821.94
STD DEV =	8.08	8.27	14.36	9.79	13.72	11.34	15.11	14.41	28.55	24.07
Cpu	19.51	18.98	9.77	6.89	9.57	5.92	9.23	9.08		
Cpl							12.60	13.82	4.97	5.84
Cpk	19.51	18.98	9.77	6.89	9.57	5.92	9.23	9.08	4.97	5.84
DATA	-	-	-	-	-	-	-	-	-	-
1	529.629	531.068	1374.587	794.639	1407.146	803.369	579.948	603.777	856.829	818.144
2	526.135	526.709	1404.774	801.894	1403.746	801.306	602.88	602.439	830.925	837.157
3	530.21	544.094	1379.055	821.755	1386.035	793.152	557.299	592.883	755.958	844.916
4	536.516	532.602	1376.871	791.106	1428.37	816.099	585.766	612.271	774.987	798.05
5	541.034	528.298	1367.318	794.062	1431.848	814.246	573.256	617.601	824.095	811.533
6	513.692	515.481	1413.6	804.487	1403.905	776.624	609.113	627.281	807.066	814.592
7	522.931	523.679	1401.445	803.15	1387.429	794.548	598.295	592.88	839.858	825.657
8	527.622	530.446	1383.682	818.279	1411.973	798.818	565.403	613.155	791.082	837.408
9	527.335	530.225	1378.495	790.491	1405.284	801.819	588.004	603.465	855.299	800.081
10	525.05	525.181	1370.312	789.144	1396.062	791.01	581.168	605.052	835.653	800.691
11	527.555	528.873	1383.024	801.645	1406.728	799.403	581.379	607.324	824.931	858.428
12	527.409	530.271	1372.386	786.247	1395.079	801.086	586.14	593.993	802.776	808.144
13	545.127	534.865	1391.472	823.63	1401.523	821.231	567.841	580.292	839.304	849.309
14	518.816	521.116	1373.242	793.411	1386.768	785.5	579.831	601.268	845.485	852.595
15	519.833	525.095	1376.954	788.935	1402.37	790.298	588.019	612.072	778.862	820.53
16	529.692	532.84	1390.001	795.08	1405.383	800.825	594.921	604.559	829.298	832.896
17	517.586	522.033	1380.317	793.926	1415.361	783.873	586.391	631.488	801.764	811.912
18	525.805	526.577	1363.67	788.817	1407.871	798.404	574.853	609.467	858.644	807.578
19	546.191	534.235	1367.893	800.242	1400.278	818.821	567.651	581.457	823.225	787.955
20	522.609	523.582	1376.988	798.05	1419.732	792.448	578.938	627.284	799.431	819.814
21	531.99	542.744	1363.928	801.386	1417.745	817.863	562.542	599.882	814.314	832.405
22	523.49	536.589	1351.012	820.626	1403.878	797.375	530.386	606.503	808.068	834.126
23	522.065	524.256	1373.524	791.646	1414.267	791.432	581.878	622.835	866.471	819.054
24	523.938	527.684	1393.223	796.812	1434.779	793.819	596.411	640.96	838.409	845.706
25	520.334	522.759	1384.477	796.624	1399.969	790.297	587.854	609.671	785.789	836.602
26	516.825	517.624	1365.822	791.806	1382.799	780.424	574.016	602.374	803.121	830.511
27	515.963	521.086	1363.478	791.025	1396.399	785.648	572.452	610.751	852.728	814.903
28	525.164	525.453	1379.634	791.962	1410.677	799.452	587.672	611.225	826.505	852.848
29	525.431	527.77	1415.47	793.869	1424.118	799.054	621.601	625.064	870.787	821.412
30	527.998	531.249	1391.576	796.896	1413.623	798.253	594.68	615.37	868.239	824.022
31	552.393	562.86	1377.802	801.741	1410.163	828.386	576.061	581.776	851.711	835.86
32	529.596	529.269	1370.214	794.202	1394.268	803.596	576.011	590.672	866.597	831.954
33	522.984	527.104	1353.962	786.11	1408.695	792.789	567.853	615.905	819.858	783.333
34	529.243	526.137	1384.927	798.243	1365.121	787.048	586.684	578.073	839.83	816.556
35	522.591	527.118	1392.982	811.323	1418.86	796.703	581.659	622.157	812.218	810.88
36	526.788	542.801	1386.366	799.839	1412.058	810.772	586.527	601.286	820.922	842.058
37	529.075	528.379	1363.142	784.038	1415.677	792.773	579.104	622.904	787.628	723.44
38	526.481	526.271	1371.654	788.321	1401.813	796.544	583.332	605.269	856.992	840.733

Parameter	LL	LL	TRP	TRP	TRP	TRP	TRP	TRP	TRP	TRP
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-3	6-8	1-3	16-14	6-8	11-9	16-15	15-14	11-10	10-9
Unit	nH	nH	*1	*1	*1	*1	*1	*1	*1	*1
HighLimit	500	500	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
LowLimit	10	10	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Average =	221.78	210.19	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.99
STD DEV =	6.67	5.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cpu	13.91	16.44	18.14	13.11	16.18	15.50	24.63	6.46	19.59	5.70
Cpl	10.59	11.35	18.43	13.89	16.52	15.87	24.82	2.57	19.85	2.34
Cpk	10.59	11.35	18.14	13.11	16.18	15.50	24.63	2.57	19.59	2.34
DATA	-	-	-	-	-	-	-	-	-	-
1	216.063	205.006	1	1.001	1	1	1	0.991	1	0.991
2	216.822	206.726	1	1	1	1	1	0.988	1	0.991
3	216.805	223.31	1	1.001	1	1	1	0.991	1	0.99
4	223.948	206.995	1	1.001	1	1	1	0.991	1	0.991
5	229.087	213.088	1	1	1	1	1	0.994	1	0.994
6	222.966	204.413	1	1	1	1	1	0.995	1	0.99
7	217.462	212.071	1	1	1	1.001	1.001	0.991	1	0.993
8	211.362	218.177	1.001	1.001	1.001	1	1	0.991	1	0.993
9	226.316	210.789	1.001	1.001	1	1	1	0.99	1	0.991
10	216.276	209.424	1	1.001	1	1.001	1	0.993	1	0.991
11	222.393	198.239	1	1.001	1	1	1	0.992	1	0.993
12	229.386	207.337	1	1	1	1.001	1	0.993	1.001	0.991
13	220.243	201.992	1	1	1	1	1	0.991	1	0.991
14	211.841	205.823	1	1	1	1.001	1	0.991	1	0.989
15	226.285	212.873	1.001	1	1	1.001	1	0.99	1	0.992
16	225.141	202.984	1.001	1.001	1.001	1	1	0.992	1	0.992
17	227.1	208.113	1	1.001	1.001	1	1	0.991	1	0.989
18	216.544	209.871	1	1.001	1	1	1	0.993	1	0.995
19	219.457	211.101	1	1.001	1	1	1	0.992	1	0.99
20	214.505	207.1	1	1.001	1	1	1	0.991	1	0.989
21	217.875	220.123	1	1.001	1	1	1.001	0.992	1	0.989
22	218.769	217.822	1	1.001	1	1	1	0.991	1	0.992
23	226.202	208.175	1	1	1	1.001	1	0.988	1	0.993
24	229.96	220.662	1	1	1	1.001	1	0.99	1	0.992
25	234.707	204.668	1	1	1	1	1	0.993	1	0.99
26	223.641	207.568	1	1.001	1	1	1	0.992	1	0.993
27	221.742	213.095	1	1.001	1.001	1	1	0.989	1	0.99
28	232.462	206.439	1	1	1.001	1.001	1	0.99	1	0.992
29	215.834	206.586	1	1.001	1.001	1	1	0.99	1	0.993
30	229.265	202.711	1.001	1.001	1.001	1.001	1	0.992	1	0.994
31	219.767	211.887	1	1	1	1	1	0.99	1.001	0.992
32	213.776	210.357	1	1	1	1	1	0.991	1.001	0.989
33	209.076	210.645	1	1.001	1	1	1	0.992	1.001	0.992
34	220.595	211.57	1	1.001	1	1	1	0.993	1.001	0.994
35	237.833	224.94	1	1.001	1	1	1.001	0.993	1	0.994
36	227.725	207.35	1.001	1	1.001	1	1	0.991	1	0.993
37	214.728	216.541	1	1	1	1	1	0.991	1	0.994
38	223.632	210.482	1	1.001	1	1	1	0.993	1	0.991

Parameter	CH1 IL	CH1 IL	CH2 IL	CH2 IL	CH1 RL	CH1 RL	CH1 RL	CH2 RL	CH2 RL	CH2 RL
Condition:	0.1MHZ	100MHZ	0.1MHZ	100MHZ	30MHZ	60MHZ	80MHZ	30MHZ	60MHZ	80MHZ
Pins										
Unit	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
HighLimit					-16	-10	-10	-16	-10	-10
LowLimit	-1.1	-1.1	-1.1	-1.1						
Average =	-0.13	-0.43	-0.11	-0.44	-25.69	-21.44	-19.76	-26.42	-22.78	-21.41
STD DEV =	0.06	0.07	0.01	0.04	1.38	1.38	1.36	1.20	1.47	1.62
Cpu					2.34	2.77	2.39	2.90	2.89	2.35
Cpl	5.19	3.09	32.07	6.12						
Cpk	5.19	3.09	32.07	6.12	2.34	2.77	2.39	2.90	2.89	2.35
DATA	-	-	-	-	-	-	-	-	-	-
1	-0.158	-0.445	-0.107	-0.439	-26.074	-21.701	-19.998	-25.738	-21.766	-20.174
2	-0.171	-0.474	-0.115	-0.429	-25.042	-20.568	-18.738	-27.009	-23.503	-22.198
3	-0.275	-0.608	-0.119	-0.464	-22.272	-18.368	-17.457	-25.752	-22.161	-20.769
4	-0.106	-0.446	-0.12	-0.46	-25.25	-20.969	-19.251	-26.473	-23.156	-21.912
5	-0.118	-0.419	-0.12	-0.398	-25.014	-20.734	-18.87	-28.404	-25.511	-24.497
6	-0.114	-0.399	-0.099	-0.509	-26.703	-22.556	-20.698	-25.156	-21.275	-19.705
7	-0.106	-0.47	-0.116	-0.49	-23.75	-19.266	-17.332	-25.081	-21.279	-19.774
8	-0.145	-0.402	-0.137	-0.457	-26.381	-22.357	-20.681	-25.998	-22.362	-21.122
9	-0.095	-0.41	-0.094	-0.407	-25.208	-20.84	-19.183	-27.071	-23.701	-22.532
10	-0.094	-0.407	-0.101	-0.407	-25.527	-21.025	-19.286	-27.471	-23.897	-22.661
11	-0.095	-0.379	-0.107	-0.415	-26.101	-21.661	-19.917	-27.714	-24.382	-23.239
12	-0.154	-0.44	-0.14	-0.468	-27.011	-22.918	-21.382	-25.766	-21.996	-20.644
13	-0.098	-0.355	-0.106	-0.416	-26.588	-22.273	-20.615	-27.804	-24.541	-23.35
14	-0.122	-0.408	-0.11	-0.385	-26.733	-22.48	-20.758	-27.885	-24.491	-23.138
15	-0.141	-0.439	-0.099	-0.423	-24.959	-20.484	-18.69	-26.61	-22.851	-21.391
16	-0.102	-0.48	-0.104	-0.42	-23.758	-19.173	-17.312	-26.806	-23.089	-21.738
17	-0.128	-0.404	-0.114	-0.397	-26.994	-23.035	-21.429	-28.15	-24.842	-23.439
18	-0.115	-0.352	-0.108	-0.407	-27.259	-23.198	-21.625	-27.644	-24.189	-23.02
19	-0.107	-0.441	-0.109	-0.503	-24.969	-20.555	-18.899	-24.969	-21.011	-19.39
20	-0.246	-0.478	-0.107	-0.424	-28.375	-24.461	-22.734	-26.163	-22.283	-20.798
21	-0.137	-0.459	-0.105	-0.434	-25.295	-20.852	-19.186	-25.962	-22.192	-20.679
22	-0.427	-0.771	-0.132	-0.481	-21.234	-18.259	-17.023	-26.014	-22.261	-20.937
23	-0.101	-0.341	-0.109	-0.485	-28.436	-24.338	-22.682	-25.046	-20.99	-19.408
24	-0.099	-0.403	-0.112	-0.411	-25.7	-21.515	-19.946	-26.962	-23.515	-22.376
25	-0.112	-0.437	-0.115	-0.398	-25.807	-21.603	-19.946	-27.999	-24.757	-23.5
26	-0.102	-0.381	-0.107	-0.373	-26.767	-22.554	-20.945	-28.871	-25.75	-24.607
27	-0.102	-0.392	-0.129	-0.457	-25.966	-21.717	-20.05	-25.211	-21.364	-19.776
28	-0.181	-0.43	-0.109	-0.491	-25.828	-21.499	-19.794	-24.436	-20.323	-18.841
29	-0.096	-0.426	-0.114	-0.492	-24.559	-19.985	-18.129	-24.94	-20.936	-19.455
30	-0.095	-0.378	-0.109	-0.418	-26.075	-21.79	-20.054	-26.521	-22.863	-21.493
31	-0.109	-0.425	-0.115	-0.477	-24.968	-20.459	-18.67	-25.304	-21.479	-19.971
32	-0.106	-0.402	-0.115	-0.474	-25.654	-21.354	-19.568	-25.105	-21.051	-19.491
33	-0.109	-0.389	-0.096	-0.458	-26.601	-22.475	-20.846	-25.233	-21.348	-19.859
34	-0.099	-0.375	-0.1	-0.416	-26.99	-22.918	-21.289	-27.451	-24.003	-22.786
35	-0.109	-0.432	-0.103	-0.45	-25.146	-20.577	-18.759	-25.753	-21.919	-20.456
36	-0.134	-0.421	-0.114	-0.433	-25.526	-21.173	-19.428	-26.461	-22.98	-21.837
37	-0.112	-0.385	-0.101	-0.486	-26.424	-22.217	-20.475	-24.611	-20.504	-18.924
38	-0.099	-0.414	-0.109	-0.41	-25.335	-20.927	-19.183	-28.258	-24.94	-23.792

YAGEO PULSE

Parameter	CH1-2 CT	CH1-2 CT	CH1-2 CT	DCMR1	DCMR1	DCMR1	DCMR2	DCMR2	DCMR2	Hipot
Condition:	30MHZ	60MHZ	100MHZ	30MHZ	60MHZ	100MHZ	30MHZ	60MHZ	100MHZ	
Pins										
Unit	dB	dB	dB	dB	dB	dB	dB	dB	dB	
HighLimit	-35	-30	-30	-42	-37	-30	-42	-37	-30	
LowLimit										
Average =	-57.12	-52.48	-50.43	-54.37	-55.63	-47.67	-55.17	-62.63	-65.44	1500VAC/
STD DEV =	2.83	2.47	2.54	0.89	1.72	1.88	0.39	1.06	3.14	60s/1mA
Cpu	2.60	3.04	2.68	4.62	3.60	3.13	11.26	8.08	3.76	
Cpl										
Cpk	2.60	3.04	2.68	4.62	3.60	3.13	11.26	8.08	3.76	
DATA	-	-	-	-	-	-	-	-	-	
1	-57.606	-52.938	-51.112	-49.066	-45.208	-36.436	-53.678	-56.719	-49.329	Pass
2	-56.057	-51.482	-49.586	-54.351	-55.878	-48.152	-55.043	-63.243	-66.172	Pass
3	-58.224	-53.688	-51.133	-54.258	-55.997	-48.879	-55.213	-62.604	-67.098	Pass
4	-55.203	-50.204	-47.419	-54.602	-55.935	-48.328	-55.264	-62.653	-65.962	Pass
5	-59.323	-54.681	-52.734	-54.486	-56.206	-47.674	-55.454	-62.931	-69.683	Pass
6	-58.381	-54.188	-52.457	-54.289	-55.594	-48.307	-55.031	-62.234	-68.508	Pass
7	-50.145	-45.72	-44.188	-54.45	-56.05	-47.922	-55.004	-63.554	-65.513	Pass
8	-52.047	-47.177	-44.542	-54.603	-56.132	-47.874	-55.132	-62.435	-64.213	Pass
9	-58.149	-53.855	-52.829	-54.352	-55.967	-48.329	-55.259	-63.212	-66.096	Pass
10	-55.074	-50.326	-47.797	-54.77	-56.065	-47.915	-55.238	-62.656	-65.751	Pass
11	-54.825	-50.409	-48.48	-54.757	-56.021	-47.969	-55.038	-62.503	-64.365	Pass
12	-58.065	-53.566	-51.838	-54.857	-55.698	-48	-55.193	-63.247	-66.713	Pass
13	-59.393	-54.483	-52.08	-54.66	-55.821	-47.794	-55.118	-63.303	-66.106	Pass
14	-59.449	-55.009	-52.96	-54.801	-56.259	-47.43	-55.344	-62.693	-67.745	Pass
15	-56.493	-51.623	-49.252	-54.613	-55.94	-47.925	-54.72	-61.831	-65.746	Pass
16	-55.879	-51.675	-50.109	-54.342	-55.689	-48.495	-55.283	-62.414	-63.528	Pass
17	-57.691	-53.316	-50.84	-54.723	-56.006	-47.629	-54.931	-62.827	-63.485	Pass
18	-55.146	-50.469	-48.677	-54.456	-55.873	-47.892	-55.176	-62.919	-63.584	Pass
19	-60.446	-56.025	-55.077	-54.375	-55.978	-48.007	-55.862	-63.113	-64.734	Pass
20	-67.13	-56.94	-50.361	-54.723	-55.66	-47.671	-55.345	-62.917	-66.552	Pass
21	-54.774	-50.425	-48.291	-54.433	-55.99	-47.923	-55.1	-61.899	-64.397	Pass
22	-60.248	-56.105	-54.277	-54.707	-55.68	-47.367	-55.065	-62.453	-66.247	Pass
23	-57.856	-53.21	-50.988	-54.513	-55.909	-48.061	-55.323	-62.616	-65.745	Pass
24	-60.459	-55.756	-53.874	-54.446	-55.739	-48.26	-55.142	-62.564	-70.667	Pass
25	-54.705	-50.266	-47.805	-54.613	-55.872	-47.391	-55.549	-62.523	-65.319	Pass
26	-58.187	-53.877	-52.235	-54.594	-56.162	-48.02	-55.322	-62.881	-64.955	Pass
27	-54.769	-50.24	-48.274	-54.522	-55.532	-48.119	-55.406	-63.472	-66.507	Pass
28	-56.816	-52.529	-51.309	-54.55	-56.312	-48.42	-55.271	-62.634	-68.864	Pass
29	-58.212	-53.549	-51.622	-54.665	-55.931	-47.687	-55.009	-62.281	-64.265	Pass
30	-54.553	-50.032	-48.104	-54.257	-55.676	-48.744	-55.42	-63.146	-67.215	Pass
31	-52.961	-48.48	-46.147	-54.594	-55.538	-48.157	-55.456	-63.171	-66.152	Pass
32	-54.991	-50.73	-48.714	-54.605	-56.176	-47.735	-55.654	-63.702	-62.896	Pass
33	-58.601	-54.499	-52.696	-54.468	-56.118	-47.417	-55.264	-62.632	-63.907	Pass
34	-56.806	-52.166	-50.083	-54.695	-56.02	-47.855	-55.476	-62.861	-67.305	Pass
35	-57.689	-53.325	-52.309	-54.35	-55.809	-48.224	-55.01	-62.733	-65.702	Pass
36	-59.58	-55.246	-53.384	-54.128	-55.979	-47.609	-53.877	-62.299	-64.64	Pass
37	-58.006	-53.732	-52.462	-54.558	-55.651	-47.651	-55.362	-62.981	-65.717	Pass
38	-56.78	-52.389	-50.207	-54.002	-55.881	-48.305	-55.338	-63.162	-65.419	Pass

Appendix 3

HX1393NL Temperature Humidity1000hrs Electrical Test Data

Parameter	OPSH	OPSH	OPSH	OPSH	DCR	DCR	DCR	DCR	DCR	DCR
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-16	8-9	1-8	9-16	1-2	2-3	16-15	15-14	6-7	7-8
Unit	M ohms	M ohms	M ohms	M ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms
HighLimit					1800	1800	1000	1000	1800	1800
LowLimit	10	10	10	10						
Average =	297.76	316.74	306.69	302.55	647.37	1,030.29	374.80	542.96	340.49	292.03
STD DEV =	58.54	58.33	58.68	54.83	163.94	159.11	60.41	56.07	46.75	42.18
Cpu					2.34	1.61	3.45	2.72	10.41	11.92
Cpl	1.64	1.75	1.69	1.78						
Cpk	1.64	1.75	1.69	1.78	2.34	1.61	3.45	2.72	10.41	11.92
DATA	-	-	-	-	-	-	-	-	-	-
1	233.763	390.066	265.963	277.36	606.11	986.619	342.325	514.445	402.777	342.677
2	290.182	254.548	348.855	252.518	600.775	972.843	381.182	544.99	324.317	314.914
3	219.705	335.37	388.572	252.331	614.689	994.287	398.927	584.89	314.031	254.328
4	374.765	265.915	363.263	375.044	592.672	974.296	514.559	584.105	296.665	247.909
5	373.788	382.854	256.251	307.309	634.281	1029.352	428.475	525.244	343.386	285.76
6	265.899	227.005	271.364	229.153	596.797	1050.377	370.808	542.355	321.819	355.209
7	229.555	369.996	397.012	399.805	664.07	1060.622	337.806	564.337	351.472	301.745
8	362.414	339.297	275.371	319.301	633.36	1021.868	348.25	504.26	520.503	392.64
9	349.103	369.966	343.194	360.639	645.842	980.498	349.412	523.533	358.919	318.295
10	220.725	302.16	340.151	397.695	589.042	978.43	366.348	523.549	287.262	242.763
11	373.834	285.446	223.573	394.015	626.911	997.805	377.835	530.508	370.732	305.058
12	367.884	346.496	360.842	264	587.54	984.606	517.117	528.851	305.36	245.206
13	382.773	397.276	299.204	233.721	602.756	1001.181	336.172	504.884	460.576	415.457
14	290.075	379.333	231.238	358.267	595.945	983.509	334.064	518.404	302.271	358.268
15	228.585	399.293	302.612	256.932	621.006	980.818	349.871	526.539	304.207	269.413
16	324.495	372.644	222.395	246.599	598.387	1018.141	355.713	528.604	365.21	326.514
17	291.169	364.173	384.76	308.021	604.185	976.236	387.819	552.665	316.649	251.586
18	220.844	223.67	385.415	298.821	587.678	982.933	335.747	522.142	317.588	282.571
19	335.153	369.669	249.683	215.147	585.67	980.414	374.597	536.527	321.97	275.825
20	257.027	263.012	347.974	249.213	602.569	984.193	396.036	543.989	335.482	275.21
21	241.678	244.971	229.162	355.402	601.007	989.506	369.795	542.908	387.971	251.701
22	243.694	235.094	286.262	354.732	579.43	973.999	320.932	489.945	328.069	266.718
23	326.92	279.638	242.375	319.592	600.11	972.743	332.899	500.51	405.189	349.469
24	363.922	396.909	357.414	282.021	620.765	985.955	341.106	522.008	298.809	289.083
25	238.449	374.499	347.2	241.892	629.507	1002.595	364.809	546.524	332.469	266.37
26	397.033	397.484	262.961	274.763	602.932	978.844	351.378	519.34	344.796	293.2
27	394.185	305.418	283.173	299.066	606.423	1005.387	401.463	574.318	318.894	298.472
28	246.348	315.533	217.024	319.409	619.408	1010.944	356.464	510.732	309.908	261.888
29	215.806	249.352	374.732	244.731	1342.433	1686.885	346.772	506.549	375.349	344.658
30	250.181	262.633	213.531	343.791	591.3	978.149	392.942	577.852	299.788	253.938
31	318.3	309.164	275.111	366.052	588.2	1003.364	364.651	598.366	306.723	254.489
32	299.586	249.604	353.515	358.265	596.187	970.35	337.388	504.427	298.445	242.568
33	307.954	308.379	399.781	241.14	1326.154	1712.511	331.097	508.151	306.044	266.909
34	261.816	377.417	247.84	221.088	589.256	983.454	340.262	522.191	329.356	277.276
35	248.614	255.078	305.187	283.945	605.401	998.423	360.925	662.957	341.881	286.548
36	374.598	319.585	340.545	393.944	721.859	995.417	350.084	510.96	379.366	266.226
37	325.65	300.356	275.738	305.753	593.136	982.517	337.27	511.32	322.77	262.437
38	268.59	216.706	384.975	295.41	596.141	981.004	639.015	818.491	331.631	303.887

YAGEO PULSE

Parameter	DCR	DCR	DCR	DCR	DCR	DCR	BL	BL	OCL	OCL
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	11-10	10-9	1-3	16-14	6-8	11-9	1-3:16-14	6-8:11-9	9-11	14-16
Unit	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	uH	uH
HighLimit	1000	1000	1800	1000	1800	1000	1000	1000		
LowLimit							10	10	400	400
Average =	473.54	250.90	1,125.35	683.55	1,432.67	608.62	441.81	797.38	838.16	849.87
STD DEV =	81.20	87.33	26.71	49.96	34.99	89.78	56.48	45.07	27.01	33.95
Cpu	2.16	2.86	8.42	2.11	3.50	1.45	3.29	1.50		
Cpl							2.55	5.82	5.41	4.42
Cpk	2.16	2.86	8.42	2.11	3.50	1.45	2.55	1.50	5.41	4.42
DATA	-	-	-	-	-	-	-	-	-	-
1	431.331	213.653	1121.997	652.093	1411.141	560.671	469.904	850.47	857.157	898.787
2	715.743	276.739	1113.211	637.451	1450.118	861.795	475.759	772.323	787.907	840.713
3	694.145	268.784	1134.065	698.357	1413.142	834.491	435.708	848.651	865.907	912.123
4	439.908	259.1	1106.785	787.513	1400.551	626.974	319.271	773.577	843.24	850.481
5	439.527	230.777	1106.238	744.474	1409.93	566.995	361.764	842.754	781.253	825.361
6	453.633	243.829	1189.746	695.187	1506.13	588.576	494.559	767.554	819.122	836.246
7	420.371	202.563	1130.871	711.114	1458.021	551.281	419.757	756.74	851.784	884.235
8	607.039	647.276	1122.305	664.519	1507.498	837.558	457.785	749.9	866.02	905.019
9	421.984	205.629	1166.209	669.577	1406.623	567.618	496.633	839.006	811.377	863.234
10	435.975	232.546	1110.32	665.335	1390.707	556.286	444.985	834.422	828.308	861.191
11	442.012	214.308	1125.486	675.361	1505.414	564.501	450.125	750.764	779.898	891.669
12	515.929	284.427	1114.601	854.314	1412.312	675.194	260.287	737.118	875.828	853.944
13	428.977	202.713	1138.092	643.786	1426.861	547.721	494.306	849.14	837.311	775.888
14	442.041	210.219	1115.547	664.88	1524.177	553.712	450.666	760.465	846.816	852.557
15	413.257	186.515	1137.872	668.254	1418.132	543.791	469.617	844.341	832.801	921.282
16	427.923	187.906	1143.539	649.219	1433.644	556.55	494.32	847.09	888.132	823.254
17	599.931	207.348	1121.911	670.251	1427.811	740.027	451.66	797.784	853.355	856.821
18	430.583	289.71	1106.381	656.249	1414.696	635.902	450.132	778.79	836.223	909.522
19	468.469	418.56	1106.038	667.085	1425.585	786.559	438.953	759.026	857.41	798.959
20	409.186	184.769	1114.236	722.725	1439.304	531.581	391.512	757.723	871.038	846.959
21	432.269	199.303	1107.253	668.245	1478.281	542.608	439.008	755.673	875.392	851.195
22	405.517	177.516	1091.892	625.901	1411.657	532.549	465.991	849.108	826.398	801.863
23	519.999	249.695	1102.804	623.299	1422.969	661.988	479.504	760.981	810.365	849.659
24	411.082	194.551	1128.777	661.776	1432.983	545.969	467.001	727.014	851.862	829.531
25	501.038	286.316	1149.661	695.77	1403.287	679.08	453.891	724.207	836.883	820.084
26	441.188	218.123	1121.748	661.683	1393.73	547.919	460.065	845.811	836.137	827.495
27	457.842	241.464	1151.442	731.833	1442.892	553.919	419.609	728.775	828.547	869.125
28	434.418	318.982	1102.146	667.645	1408.068	674.435	434.502	733.753	847.642	829.885
29	454.444	196.719	1166.371	650.278	1444.417	584.23	516.093	860.186	815.79	831.458
30	702.17	458.583	1111.888	702.581	1409.05	598.409	409.307	810.641	837.242	797.973
31	434.426	210.435	1133.811	760.509	1414.271	577.197	373.302	837.074	851.29	801.989
32	419.189	204.561	1104.472	641.758	1402.715	555.49	462.714	847.225	845.511	853.221
33	440.003	217.823	1099.593	644.796	1401.728	559.083	454.797	842.645	816.558	861.122
34	432.944	215.581	1111.051	657.128	1406.162	564.462	453.924	841.701	844.879	817.588
35	461.302	242.885	1112.739	808.543	1411.227	590.673	304.196	820.554	855.637	877.267
36	458.441	228.612	1227.852	666.635	1489.873	576.511	561.218	775.362	861.397	870.269
37	428.869	210.45	1105.694	648.403	1413.778	541.545	457.29	842.233	769.594	836.004
38	521.595	295.136	1108.697	660.185	1472.54	553.646	448.512	779.89	848	860.984

YAGEO PULSE

Parameter	LL	LL	TRP	TRP	TRP	TRP	TRP	TRP	TRP	TRP
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-3	6-8	1-3	16-14	6-8	11-9	16-15	15-14	11-10	10-9
Unit	nH	nH	*1	*1	*1	*1	*1	*1	*1	*1
HighLimit	500	500	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
LowLimit	10	10	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Average =	231.97	222.54	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.99
STD DEV =	9.87	9.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cpu	9.05	9.76	14.94	16.50	19.59	15.08	19.59	5.51	19.59	4.58
Cpl	7.49	7.48	15.34	17.90	19.85	16.28	19.85	2.03	19.85	1.99
Cpk	7.49	7.48	14.94	16.50	19.59	15.08	19.59	2.03	19.59	1.99
DATA	-	-	-	-	-	-	-	-	-	-
1	251.463	217.169	1	1.001	1	1.001	1	0.991	1	0.991
2	245.562	204.196	1	1.001	1	1.001	1	0.988	1	0.992
3	243.208	213.642	1	1.001	1	1.001	1	0.992	1	0.991
4	254.785	225.889	1	1	1	1.001	1	0.993	1	0.992
5	242.786	241.177	1.001	1.001	1	1.001	1	0.987	1	0.99
6	226.214	222.257	1	1.001	1	1.001	1	0.992	1	0.992
7	223.582	222.833	1	1.001	1	1.001	1	0.989	1	0.994
8	225.913	192.05	1	1	1.001	1.001	1.001	0.99	1	0.991
9	225.321	239.902	1	1	1	1.001	1	0.992	1	0.992
10	241.893	227.985	1.001	1.001	1	1	1	0.99	1	0.993
11	229.267	223.508	1.001	1.001	1	1.001	1	0.995	1	1.002
12	214.64	215.209	1.001	1.001	1	1.001	1	0.992	1	0.991
13	236.412	228.333	1.001	1.001	1	1.001	1	0.989	1	0.991
14	227.228	212.838	1	1.001	1	1.001	1	0.993	1	0.992
15	214.129	229.263	1	1.001	1	1.001	1	0.99	1	0.993
16	236.176	215.227	1.001	1.001	1	1.001	1	0.993	1	0.992
17	237.076	228.483	1	1.001	1	1	1	0.988	1	0.989
18	237.211	222.49	1	1	1	1	1	0.991	1.001	0.992
19	231.724	210.585	1	1.001	1	1.001	1	0.993	1	0.992
20	221.47	217.636	1	1.001	1	1	1	0.991	1	0.99
21	224.433	214.853	1	1.001	1	1.001	1.001	0.992	1	0.991
22	232.332	227.792	1	1.001	1	1.001	1.001	0.992	1	0.992
23	229.624	217.537	1	1	1	1.001	1.001	0.991	1	0.994
24	223.837	219.198	1	1.001	1.001	1	1	0.989	1	0.993
25	225.579	229.232	1.001	1.001	1.001	1	1	0.991	1	0.995
26	224.318	232.151	1	1.001	1	1.001	1	0.99	1	0.992
27	228.281	222.658	1	1.001	1	1.001	1	0.991	1	0.992
28	232.168	223.257	1	1.001	1	1	1	0.993	1	0.993
29	221.448	217.141	1	1.001	1	1.001	1	0.991	1	0.994
30	229.469	233.876	1	1.001	1	1.001	1	0.99	1	0.992
31	252.629	225.162	1	1	1	1.001	1	0.988	1	0.992
32	231.667	235.267	1	1.001	1	1.001	1	0.99	1	0.991
33	239.798	232.771	1.001	1.001	1	1	1	0.988	1.001	0.991
34	243.081	228.788	1.001	1.001	1	1.001	1	0.993	1.001	0.993
35	223.442	229.963	1.001	1.001	1.001	1	1.001	0.99	1.001	0.991
36	219.129	215.314	1	1.001	1.001	1.001	1	0.991	1.001	0.992
37	237.571	217.696	1	1	1	1.001	1	0.991	1	0.99
38	229.982	223.163	1	1.001	1	1.001	1	0.989	1	0.991

YAGEO PULSE

Parameter	CH1 IL	CH1 IL	CH2 IL	CH2 IL	CH1 RL	CH1 RL	CH1 RL	CH2 RL	CH2 RL	CH2 RL
Condition:	0.1MHZ	100MHZ	0.1MHZ	100MHZ	30MHZ	60MHZ	80MHZ	30MHZ	60MHZ	80MHZ
Pins										
Unit	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
HighLimit					-16	-10	-10	-16	-10	-10
LowLimit	-1.1	-1.1	-1.1	-1.1						
Average =	-0.28	-0.57	-0.31	-0.64	-27.70	-23.59	-21.37	-27.61	-24.34	-22.21
STD DEV =	0.03	0.04	0.06	0.10	1.21	1.26	1.22	1.70	1.67	1.46
Cpu					3.21	3.59	3.11	2.28	2.86	2.79
Cpl	10.00	4.26	4.38	1.55						
Cpk	10.00	4.26	4.38	1.55	3.21	3.59	3.11	2.28	2.86	2.79
DATA	-	-	-	-	-	-	-	-	-	-
1	-0.261	-0.501	-0.314	-0.634	-29.82	-25.621	-23.288	-27.915	-24.53	-22.61
2	-0.276	-0.565	-0.348	-0.698	-27.146	-22.783	-20.574	-27.071	-24.143	-22.33
3	-0.257	-0.564	-0.523	-0.991	-27.351	-23.122	-20.966	-23.072	-20.755	-19.429
4	-0.286	-0.566	-0.344	-0.696	-27.627	-23.513	-21.397	-26.764	-23.39	-21.361
5	-0.271	-0.552	-0.365	-0.796	-27.524	-23.029	-20.706	-24.831	-21.426	-19.659
6	-0.265	-0.559	-0.277	-0.723	-27.526	-23.393	-21.06	-24.477	-20.377	-18.385
7	-0.264	-0.564	-0.319	-0.647	-28.025	-24.196	-22.099	-28.033	-24.85	-22.648
8	-0.274	-0.537	-0.276	-0.572	-28.655	-24.741	-22.509	-28.112	-24.061	-21.47
9	-0.335	-0.652	-0.508	-0.95	-25.976	-21.955	-19.713	-23.299	-20.86	-19.535
10	-0.311	-0.567	-0.353	-0.636	-28.952	-25.149	-22.945	-27.844	-24.948	-22.802
11	-0.288	-0.549	-0.28	-0.562	-27.327	-23.15	-20.93	-27.655	-23.872	-21.62
12	-0.26	-0.544	-0.309	-0.605	-28.489	-24.407	-22.244	-27.959	-24.65	-22.444
13	-0.275	-0.53	-0.275	-0.538	-28.682	-24.403	-21.955	-30.289	-26.943	-24.123
14	-0.295	-0.542	-0.28	-0.625	-30.137	-26.668	-24.47	-27.161	-23.68	-21.601
15	-0.251	-0.572	-0.305	-0.597	-26.685	-22.512	-20.399	-28.84	-25.364	-23.051
16	-0.264	-0.644	-0.285	-0.608	-25.636	-21.544	-19.615	-26.691	-22.977	-20.9
17	-0.339	-0.624	-0.261	-0.625	-26.843	-22.848	-20.742	-26.908	-23.362	-21.445
18	-0.277	-0.57	-0.302	-0.562	-27.466	-23.413	-21.291	-29.193	-25.525	-23.097
19	-0.25	-0.58	-0.277	-0.568	-26.744	-22.393	-20.137	-29.33	-25.964	-23.315
20	-0.253	-0.552	-0.396	-0.726	-27.248	-23.018	-20.647	-27.382	-25.025	-23.297
21	-0.284	-0.623	-0.307	-0.623	-26.176	-22.147	-19.994	-28.075	-24.878	-22.75
22	-0.282	-0.592	-0.3	-0.534	-26.35	-22.167	-19.96	-30.769	-27.598	-24.899
23	-0.274	-0.56	-0.402	-0.719	-28.018	-24.083	-21.845	-27.043	-24.485	-22.726
24	-0.267	-0.613	-0.258	-0.61	-26.207	-21.94	-19.717	-28.264	-25.063	-23.01
25	-0.281	-0.581	-0.28	-0.563	-26.884	-22.593	-20.38	-29.547	-26.01	-23.575
26	-0.256	-0.528	-0.282	-0.575	-28.475	-23.895	-21.315	-29.253	-26.32	-24.043
27	-0.278	-0.505	-0.274	-0.687	-29.141	-24.796	-22.362	-25.47	-21.708	-19.728
28	-0.257	-0.597	-0.25	-0.548	-26.976	-22.879	-20.892	-29.814	-26.63	-24.269
29	-0.286	-0.61	-0.279	-0.597	-26.798	-22.876	-20.977	-27.847	-24.196	-21.875
30	-0.254	-0.535	-0.322	-0.627	-28.975	-24.802	-22.451	-27.824	-24.707	-22.523
31	-0.262	-0.534	-0.345	-0.685	-28.277	-23.991	-21.641	-27.555	-24.918	-23.146
32	-0.271	-0.52	-0.264	-0.562	-30.444	-26.586	-24.392	-29.064	-25.591	-23.183
33	-0.259	-0.555	-0.264	-0.602	-27.244	-22.808	-20.458	-27.966	-24.609	-22.564
34	-0.263	-0.511	-0.321	-0.68	-29.534	-25.589	-23.354	-27.011	-23.874	-21.885
35	-0.284	-0.591	-0.287	-0.573	-27.095	-23.091	-20.86	-29.2	-26.111	-23.62
36	-0.248	-0.521	-0.336	-0.62	-28.763	-24.375	-21.92	-28.482	-25.294	-23.004
37	-0.264	-0.543	-0.328	-0.705	-27.932	-23.935	-21.722	-26.059	-23.087	-21.238
38	-0.39	-0.693	-0.269	-0.581	-25.512	-21.876	-19.996	-27.249	-23.184	-20.659

YAGEO PULSE

Parameter	CH1-2 CT	CH1-2 CT	CH1-2 CT	DCMR1	DCMR1	DCMR1	DCMR2	DCMR2	DCMR2	Hipot
Condition:	30MHZ	60MHZ	100MHZ	30MHZ	60MHZ	100MHZ	30MHZ	60MHZ	100MHZ	
Pins										
Unit	dB	dB	dB	dB	dB	dB	dB	dB	dB	
HighLimit	-35	-30	-30	-42	-37	-30	-42	-37	-30	
LowLimit										
Average =	-57.30	-52.74	-50.54	-54.00	-56.40	-50.08	-55.24	-64.37	-72.85	1500VAC/
STD DEV =	2.61	2.47	2.23	0.27	0.16	0.38	0.30	0.46	2.37	60s/1mA
Cpu	2.84	3.07	3.06	14.64	39.39	17.50	14.57	19.65	6.03	
Cpl										
Cpk	2.84	3.07	3.06	14.64	39.39	17.50	14.57	19.65	6.03	
DATA	-	-	-	-	-	-	-	-	-	
1	-57.7	-53.081	-50.871	-54.343	-56.423	-49.632	-55.431	-64.056	-72.554	Pass
2	-57.851	-53.699	-51.674	-54.308	-56.857	-50.169	-55.656	-64.378	-70.233	Pass
3	-59.96	-55.369	-53.686	-53.735	-56.322	-50.098	-54.747	-63.667	-75.254	Pass
4	-59.064	-54.811	-53.146	-54.26	-56.584	-49.82	-55.32	-64.383	-71.976	Pass
5	-57.66	-53.425	-51.087	-54.287	-56.528	-50.147	-55.069	-64.845	-70.364	Pass
6	-58.314	-54.174	-52.653	-54.162	-56.499	-49.581	-55.691	-64.189	-74.056	Pass
7	-56.158	-51.59	-49.465	-53.968	-56.106	-50.151	-55.444	-65.118	-69.824	Pass
8	-58.981	-54.689	-52.737	-53.925	-56.68	-50.457	-55.066	-63.883	-71.951	Pass
9	-57.191	-52.662	-50.724	-53.712	-56.633	-49.7	-54.765	-63.236	-76.802	Pass
10	-58.621	-53.938	-52.036	-54.066	-56.268	-49.995	-55.398	-64.351	-71.597	Pass
11	-57.287	-53.309	-51.429	-53.804	-56.586	-49.771	-55.367	-64.354	-73.517	Pass
12	-58.403	-53.815	-51.992	-53.736	-56.26	-50.204	-55.85	-64.42	-73.96	Pass
13	-57.506	-52.957	-51.158	-53.809	-56.212	-49.963	-55.07	-64.258	-72.336	Pass
14	-59.205	-54.889	-52.807	-53.963	-56.546	-49.814	-55.174	-63.608	-77.962	Pass
15	-56.408	-51.989	-49.759	-53.531	-56.519	-49.405	-55.875	-64.898	-72.241	Pass
16	-68.855	-62.574	-56.101	-53.933	-56.349	-50.827	-55.392	-64.513	-74.59	Pass
17	-55.424	-50.825	-48.894	-53.826	-56.432	-49.826	-54.949	-64.306	-78.39	Pass
18	-56.865	-52.403	-50.126	-54.329	-56.363	-50.342	-54.77	-64.013	-74.284	Pass
19	-57.009	-52.576	-50.793	-53.937	-56.224	-50.198	-55.353	-64.684	-71.157	Pass
20	-58.701	-53.94	-52.143	-53.389	-56.103	-50.358	-55.42	-64.368	-71.972	Pass
21	-56.927	-52.325	-50.428	-53.47	-56.293	-50.521	-55.321	-65.513	-71.487	Pass
22	-54.802	-50.149	-47.554	-54.204	-56.379	-50.428	-55.227	-64.386	-74.668	Pass
23	-49.837	-44.962	-42.159	-53.922	-56.304	-50.018	-55.385	-64.79	-77.505	Pass
24	-57.541	-53.213	-51.244	-54.066	-56.262	-50.569	-54.782	-64.252	-75.855	Pass
25	-57.732	-53.235	-51.264	-54.634	-56.489	-50.224	-55.682	-64.829	-70.218	Pass
26	-57.587	-52.74	-50.261	-54.012	-56.251	-49.421	-55.119	-64.47	-73.101	Pass
27	-58.657	-53.79	-52.049	-54.127	-56.419	-49.601	-54.669	-63.296	-71.97	Pass
28	-54.647	-50.064	-48.145	-54.201	-56.222	-50.463	-55.182	-64.664	-69.118	Pass
29	-55.164	-50.501	-48.538	-54.449	-56.327	-50.614	-54.868	-64.39	-68.98	Pass
30	-56.226	-51.448	-49.349	-53.967	-56.437	-49.67	-55.499	-64.868	-70.184	Pass
31	-55.933	-51.075	-48.818	-53.785	-56.322	-49.769	-54.97	-64.478	-71.34	Pass
32	-58.145	-53.93	-51.372	-53.916	-56.619	-50.397	-55.411	-64.792	-71.822	Pass
33	-57.26	-52.452	-49.894	-54.035	-56.2	-50.074	-55.35	-64.756	-70.379	Pass
34	-54.166	-49.764	-47.409	-54.32	-56.585	-50.212	-55.078	-63.924	-74.208	Pass
35	-57.413	-52.75	-50.33	-54.05	-56.275	-51.049	-55.554	-64.23	-73.325	Pass
36	-57.17	-52.815	-50.383	-54.212	-56.319	-49.546	-55.117	-64.621	-73.907	Pass
37	-56.03	-51.747	-49.547	-53.834	-56.429	-49.965	-55.088	-64.403	-74.25	Pass
38	-54.84	-50.429	-48.4	-53.588	-56.453	-50.028	-55.115	-63.821	-71.096	Pass

Appendix 4

HX1393NL Electrical Test Data After Resistance To Soldering Heat

Parameter	OPSH	OPSH	OPSH	OPSH	DCR	DCR	DCR	DCR	DCR	DCR
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-16	8-9	1-8	9-16	1-2	2-3	16-15	15-14	6-7	7-8
Unit	M ohms	M ohms	M ohms	M ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms
HighLimit					1800	1800	1000	1000	1800	1800
LowLimit	10	10	10	10						
Average =	321.30	304.00	310.57	294.16	992.45	991.74	550.03	527.17	1,031.35	1,024.63
STD DEV =	46.75	57.99	52.30	53.92	61.28	15.53	48.98	24.18	26.12	31.10
Cpu					4.39	17.34	3.06	6.52	9.81	8.31
Cpl	2.22	1.69	1.92	1.76						
Cpk	2.22	1.69	1.92	1.76	4.39	17.34	3.06	6.52	9.81	8.31
DATA	-	-	-	-	-	-	-	-	-	-
1	300.85	296.825	390.098	362.967	963.538	1012.02	519.902	513	1026.225	1019.006
2	328.067	233.375	300.59	227.656	999.027	996.579	547.038	539.36	1018.855	1000.885
3	296.309	394.279	320.212	258.019	943.135	971.38	520.17	520.519	1008.298	995.018
4	360.969	378.666	346.731	222.351	1035.863	999.44	523.67	510.603	1120.409	1110.109
5	268.248	388.472	226.41	379.966	979.346	993.144	534.893	522.431	1002.729	1006.499
6	343.078	219.723	238.475	256.253	1123.401	1007.163	539.377	513.466	1041.366	1039.166
7	357.288	257.458	373.646	310.474	1116.491	1018.158	526.178	524.232	1023.032	1021.492
8	307.926	224.575	333.051	249.108	969.456	995.724	568.282	532.187	1033.763	1026.108
9	218.453	268.522	283.37	240.355	952.268	981.068	572.003	519.027	1080.095	1065.646
10	308.728	381.601	306.203	353.652	956.183	984.243	591.342	544.491	1001.938	992.647
11	388.434	385.24	223.617	299.144	958.516	973.203	550.067	518.523	1086.313	1138.544
12	362.05	224.699	363.734	238.541	1090.413	1006.082	516.853	512.071	1018.885	1004.748
13	275.252	257.791	358.433	272.382	953.123	978.61	523.878	544.839	1021.493	1019.841
14	284.391	256.969	223.437	301.601	942.066	978.405	519.902	514.592	1010.597	1007.95
15	291.909	324.472	278.214	353.448	955.385	977.41	587.812	518.618	1050.234	1041.86
16	380.065	319.957	304.937	233.56	943.841	975.607	759.013	522.586	1035.361	1028.475
17	357.085	353.223	281.003	234.756	934.045	964.319	546.36	529.67	1021.863	1014.098
18	328.289	368.334	321.975	295.696	965.835	994.046	523.393	516.924	1051.883	1040.401
19	278.348	271.464	312.386	247.262	946.142	1016.291	541.064	538.927	1035.422	1024.931
20	399.457	286.449	341.944	239.465	1118.043	991.341	523.737	517.593	1031.368	1017.046
21	353.858	334.897	381.652	353.994	962.096	988.416	534.525	512.204	1025.021	1020.162
22	318.78	366.845	300.574	283.673	985.642	1022.19	525.483	513.992	1032.612	1021.307
23	333.847	319.105	275.604	327.895	1124.025	993.59	541.58	521.757	1016.815	1009.902
24	368.397	341.632	267.365	387.045	951.352	974.676	529.313	528.363	992.999	990.187
25	216.946	380.69	398.3	386.225	957.863	983.192	658.706	633.044	1019.014	1010.836
26	343.49	277.749	312.95	315.274	1070.975	980.749	520.34	515.462	1022.375	1010.293
27	329.875	290.699	234.673	264.181	955.594	980.687	531.627	518.111	1023.314	1010.071
28	381.088	236.805	377.345	231.303	997.076	1020.921	578.562	578.283	1005.52	1002.355
29	246.566	229.792	379.326	324.51	955.886	1000.75	516.151	508.787	1048.164	1029.274
30	310.893	249.616	260.699	373.93	966.915	992.649	529.665	511.425	1034.4	1020.078

YAGEO PULSE

Parameter	DCR	DCR	DCR	DCR	DCR	DCR	BL	BL	OCL	OCL
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	11-10	10-9	1-3	16-14	6-8	11-9	1-3:16-14	6-8:11-9	9-11	14-16
Unit	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	uH	uH
HighLimit	1000	1000	1800	1000	1800	1000	1000	1000		
LowLimit							10	10	400	400
Average =	544.50	552.53	1,410.97	816.65	1,408.72	806.53	594.32	602.19	843.76	846.79
STD DEV =	18.95	19.68	55.41	37.99	18.34	12.07	73.18	22.99	38.07	26.71
Cpu	8.01	7.58	2.34	1.61	7.11	5.34	1.85	5.77		
Cpl							2.66	8.59	3.89	5.58
Cpk	8.01	7.58	2.34	1.61	7.11	5.34	1.85	5.77	3.89	5.58
DATA	-	-	-	-	-	-	-	-	-	-
1	525.936	527.907	1390.627	799.395	1404.934	798.742	591.232	606.192	805.303	833.988
2	555.521	563.111	1402.82	828.643	1399.765	797.532	574.177	602.233	834.412	789.935
3	552.612	543.864	1354.049	797.008	1394.902	806	557.04	588.902	859.247	853.497
4	520.292	537.737	1430.507	799.046	1402.338	801.437	631.461	600.901	864.908	824.068
5	584.255	585.943	1398.008	814.829	1406.215	797.196	583.179	609.019	835.993	787.973
6	590.936	597.64	1509.24	806.277	1438.697	825.802	702.964	612.895	812.331	854.054
7	541.858	542.286	1521.973	804.335	1408.392	804.478	717.638	603.914	830.691	835.236
8	533.27	556.832	1391.735	837.692	1396.443	815.741	554.043	580.701	795.764	859.482
9	570.556	590.15	1385.736	814.592	1429.051	801.963	571.144	627.088	837.557	855.615
10	534.418	541.759	1388.794	854.249	1396.123	801.983	534.545	594.14	831.162	850.851
11	529.1	535.047	1382.643	822.816	1478.592	802.061	559.826	676.531	914.776	832.558
12	535.897	546.256	1520.818	793.486	1404.167	799.146	727.332	605.022	862.644	865.315
13	593.672	598.078	1374.263	815.593	1395.657	806.018	558.67	589.639	904.534	868.253
14	530.031	541.044	1364.629	794.071	1402.475	803.136	570.558	599.34	843.306	774.925
15	552.639	541.568	1389.407	862.676	1398.439	797.401	526.731	601.038	796.275	838.484
16	544.149	547.318	1366.743	999.583	1407.254	801.636	367.16	605.618	879.601	863.488
17	540.165	537.288	1356.285	811.765	1406.185	809.106	544.52	597.079	802.176	852.984
18	534.763	539.391	1395.748	800.799	1443.116	809.333	594.949	633.783	892.869	853.297
19	536.146	550.22	1407.617	797.82	1394.901	805.983	609.797	588.918	767.065	844.409
20	523.864	531.45	1511.629	798.72	1397.173	791.842	712.909	605.331	794.518	884.91
21	543.426	553.385	1386.637	804.523	1396.102	806.837	582.114	589.266	811.89	836.164
22	532.166	563.249	1393.409	800.213	1409.657	822.484	593.197	587.172	866.713	865.002
23	529.965	536.403	1540.105	823.76	1412.879	804.753	716.345	608.126	899.151	870.926
24	556.085	555.819	1365.035	805.593	1380.089	835.759	559.442	544.33	851.274	849.737
25	542.474	544.762	1379.83	817.048	1401.712	811.37	562.782	590.341	814.65	852.697
26	521.966	528.993	1499.27	792.858	1412.534	794.879	706.412	617.655	831.181	820.032
27	538.374	574.974	1379.975	801.449	1404.057	844.25	578.526	559.807	905.542	846.856
28	554.056	553.046	1379.717	810.241	1400.683	807.869	569.476	592.815	848.318	877.996
29	532.072	536.238	1381.676	789.074	1423.032	784.237	592.602	638.795	824.756	895.449
30	554.381	574.288	1380.052	801.282	1416.183	806.951	578.771	609.232	894.206	865.491

Parameter	LL	LL	TRP	TRP	TRP	TRP	TRP	TRP	TRP	TRP
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-3	6-8	1-3	16-14	6-8	11-9	16-15	15-14	11-10	10-9
Unit	nH	nH	*1	*1	*1	*1	*1	*1	*1	*1
HighLimit	500	500	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
LowLimit	10	10	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Average =	210.90	207.38	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.99
STD DEV =	7.67	8.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cpu	12.57	12.02	14.87	17.14	26.64	13.01	16.50	6.68	14.33	7.03
Cpl	8.73	8.11	15.28	18.63	26.82	13.72	16.83	2.59	14.77	2.92
Cpk	8.73	8.11	14.87	17.14	26.64	13.01	16.50	2.59	14.33	2.92
DATA	-	-	-	-	-	-	-	-	-	-
1	217.281	217.432	1	1.001	1	1	1	0.991	1	0.99
2	224.962	197.587	1	1.001	1	1	1	0.99	1	0.992
3	211.863	222.806	1.001	1.001	1	1.001	1	0.992	1	0.99
4	217.356	211.738	1	1	1	1	1	0.991	1	0.99
5	220.757	199.916	1	1	1	1	1	0.994	1	0.992
6	207.653	212.491	1	1.001	1	1.001	1.001	0.991	1.001	0.993
7	205.074	207.648	1	1.001	1	1.001	1	0.993	1	0.991
8	214.489	213.233	1	1.001	1	1	1	0.992	1	0.992
9	213.806	195.923	1.001	1.001	1	1.001	1	0.992	1	0.993
10	217.285	205.104	1.001	1.001	1	1	1.001	0.989	1	0.99
11	204.685	190.598	1.001	1.001	1	1.001	1.001	0.991	1.001	0.99
12	203.227	204.764	1.001	1.001	1.001	1	1.001	0.993	1.001	0.991
13	217.172	203.235	1.001	1.001	1	1.001	1.001	0.99	1.001	0.992
14	206.383	207.565	1.001	1.001	1	1	1	0.989	1.001	0.993
15	213.327	205.873	1	1.001	1	1	1	0.993	1	0.994
16	204.456	210.218	1	1.001	1	1.001	1	0.991	1	0.992
17	213.654	231.205	1	1	1	1.001	1	0.989	1	0.993
18	210.423	203.888	1	1.001	1	1.001	1	0.99	1	0.991
19	207.352	214.923	1	1.001	1	1	1	0.989	1	0.991
20	199.04	203.808	1	1.001	1	1	1	0.992	1	0.99
21	221.332	200.65	1	1.001	1	1.001	1	0.989	1	0.993
22	208.634	198.685	1	1.001	1	1	1	0.991	1	0.993
23	191.205	206.513	1	1.001	1	1	1	0.99	1	0.993
24	219.389	203.067	1	1	1	1.001	1	0.994	1	0.993
25	221.941	209.917	1	1.001	1	1.001	1.001	0.992	1	0.989
26	198.967	201.459	1.001	1.001	1	1	1	0.991	1.001	0.992
27	214.846	211.535	1	1	1.001	1.001	1	0.991	1.001	0.993
28	208.121	205.001	1	1.001	1	1.001	1	0.991	1.001	0.993
29	204.154	217.329	1	1.001	1	1.001	1	0.991	1.001	0.993
30	208.297	207.194	1	1.001	1	1.001	1	0.993	1	0.99

Parameter	CH1 IL	CH1 IL	CH2 IL	CH2 IL	CH1 RL	CH1 RL	CH1 RL	CH2 RL	CH2 RL	CH2 RL
Condition:	0.1MHZ	100MHZ	0.1MHZ	100MHZ	30MHZ	60MHZ	80MHZ	30MHZ	60MHZ	80MHZ
Pins										
Unit	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
HighLimit					-16	-10	-10	-16	-10	-10
LowLimit	-1.1	-1.1	-1.1	-1.1						
Average =	-0.12	-0.41	-0.12	-0.45	-26.32	-22.12	-20.47	-26.25	-22.58	-21.24
STD DEV =	0.04	0.05	0.02	0.07	0.99	1.09	1.13	1.22	1.48	1.61
Cpu					3.48	3.72	3.08	2.80	2.83	2.32
Cpl	7.72	4.52	19.56	3.21						
Cpk	7.72	4.52	19.56	3.21	3.48	3.72	3.08	2.80	2.83	2.32
DATA	-	-	-	-	-	-	-	-	-	-
1	-0.101	-0.416	-0.11	-0.422	-25.046	-20.597	-18.9	-26.689	-23.024	-21.68
2	-0.107	-0.382	-0.105	-0.435	-26.634	-22.625	-21.067	-26.245	-22.597	-21.255
3	-0.111	-0.388	-0.11	-0.43	-26.568	-22.382	-20.731	-26.806	-23.576	-22.388
4	-0.103	-0.371	-0.104	-0.402	-27.619	-23.918	-22.585	-27.248	-23.825	-22.63
5	-0.107	-0.376	-0.118	-0.464	-27.154	-23.151	-21.509	-25.704	-21.789	-20.287
6	-0.107	-0.376	-0.112	-0.433	-26.599	-22.142	-20.458	-27.109	-23.615	-22.444
7	-0.105	-0.35	-0.128	-0.423	-27.411	-23.352	-21.575	-26.649	-23.158	-21.874
8	-0.153	-0.399	-0.107	-0.428	-27.197	-23.125	-21.386	-26.194	-22.539	-21.168
9	-0.117	-0.4	-0.118	-0.409	-25.95	-21.622	-19.953	-27.346	-24.002	-23.014
10	-0.107	-0.369	-0.111	-0.431	-27.246	-23.141	-21.313	-26.897	-23.325	-21.963
11	-0.115	-0.409	-0.113	-0.443	-26.367	-22.384	-20.833	-26.041	-22.132	-20.778
12	-0.109	-0.387	-0.096	-0.422	-26.976	-22.999	-21.527	-26.671	-23.079	-21.74
13	-0.096	-0.429	-0.124	-0.44	-25.313	-20.745	-18.868	-26.417	-22.785	-21.45
14	-0.115	-0.366	-0.118	-0.426	-27.313	-23	-21.365	-26.592	-23.012	-21.644
15	-0.12	-0.425	-0.116	-0.434	-25.522	-21.226	-19.519	-26.105	-22.352	-20.905
16	-0.119	-0.376	-0.124	-0.432	-26.863	-22.643	-20.892	-27.299	-23.977	-22.781
17	-0.103	-0.382	-0.099	-0.481	-26.587	-22.435	-20.769	-25.514	-21.666	-20.242
18	-0.107	-0.413	-0.116	-0.399	-26.3	-22.017	-20.323	-27.836	-24.434	-23.097
19	-0.143	-0.462	-0.196	-0.648	-25.642	-21.526	-19.989	-23.747	-19.592	-18.1
20	-0.154	-0.405	-0.105	-0.408	-26.932	-22.812	-21.189	-26.909	-23.244	-21.827
21	-0.096	-0.379	-0.106	-0.437	-26.421	-22.095	-20.315	-26.093	-22.359	-20.903
22	-0.127	-0.38	-0.102	-0.438	-27.678	-23.399	-21.853	-25.756	-21.853	-20.365
23	-0.102	-0.393	-0.113	-0.415	-26.171	-21.969	-20.25	-26.892	-23.282	-22.068
24	-0.334	-0.618	-0.118	-0.619	-23.901	-20.286	-18.828	-22.244	-17.864	-16.221
25	-0.115	-0.406	-0.109	-0.486	-26.198	-22.041	-20.507	-25.523	-21.531	-20.082
26	-0.106	-0.424	-0.118	-0.441	-25.151	-20.673	-18.84	-27.04	-23.547	-22.238
27	-0.092	-0.525	-0.111	-0.665	-23.476	-18.728	-16.915	-23.362	-19.001	-17.295
28	-0.108	-0.4	-0.112	-0.432	-25.83	-21.666	-20.114	-26.532	-22.975	-21.799
29	-0.119	-0.403	-0.121	-0.389	-26.48	-22.302	-20.712	-27.891	-24.585	-23.565
30	-0.106	-0.368	-0.124	-0.465	-26.984	-22.639	-20.939	-26.265	-22.726	-21.364

Parameter	CH1-2 CT	CH1-2 CT	CH1-2 CT	DCMR1	DCMR1	DCMR1	DCMR2	DCMR2	DCMR2	Hipot
Condition:	30MHZ	60MHZ	100MHZ	30MHZ	60MHZ	100MHZ	30MHZ	60MHZ	100MHZ	
Pins										
Unit	dB	dB	dB	dB	dB	dB	dB	dB	dB	
HighLimit	-35	-30	-30	-42	-37	-30	-42	-37	-30	
LowLimit										
Average =	-58.27	-54.05	-52.14	-54.34	-55.89	-47.98	-55.08	-62.52	-66.32	1500VAC/
STD DEV =	3.86	4.51	3.88	0.12	0.17	0.34	0.23	0.35	1.65	60s/1mA
Cpu	2.01	1.78	1.90	34.61	37.32	17.52	18.79	24.54	7.33	
Cpl										
Cpk	2.01	1.78	1.90	34.61	37.32	17.52	18.79	24.54	7.33	
DATA	-	-	-	-	-	-	-	-	-	
1	-55.755	-51.574	-50.484	-54.286	-55.674	-48.552	-55.373	-62.711	-66.709	Pass
2	-58.938	-54.72	-52.924	-54.365	-56.235	-48.411	-54.886	-62.25	-65.53	Pass
3	-57.017	-52.238	-50.325	-54.171	-55.645	-47.732	-54.589	-62.564	-66.196	Pass
4	-58.995	-54.813	-53.259	-54.233	-55.765	-47.615	-55.127	-62.417	-64.9	Pass
5	-59.484	-55.283	-53.668	-54.47	-55.969	-47.797	-54.694	-62.052	-66.505	Pass
6	-59.402	-55.097	-52.96	-54.435	-55.692	-47.795	-54.953	-61.743	-67.56	Pass
7	-54.976	-50.52	-48.895	-54.385	-55.814	-47.964	-55.229	-62.905	-66.762	Pass
8	-60.449	-56.222	-55.203	-54.34	-55.901	-48.854	-54.938	-62.638	-68.328	Pass
9	-52.802	-48.211	-46.082	-54.301	-55.761	-47.759	-54.918	-62.59	-63.991	Pass
10	-56.118	-51.738	-49.152	-54.165	-55.756	-47.648	-55.358	-63.086	-65.747	Pass
11	-56.155	-51.55	-49.991	-54.267	-55.847	-47.76	-54.878	-61.836	-67.71	Pass
12	-53.578	-49.102	-46.505	-54.378	-55.77	-47.671	-55.306	-62.688	-67.446	Pass
13	-57.761	-53.408	-52.3	-54.37	-55.736	-48.01	-54.988	-62.322	-65.788	Pass
14	-58.05	-53.534	-52.019	-54.342	-56.117	-47.845	-54.962	-62.545	-63.816	Pass
15	-54.741	-49.927	-47.555	-54.203	-56.084	-47.987	-55.172	-62.287	-66.892	Pass
16	-57.115	-52.432	-50.649	-54.398	-56.149	-48.356	-55.31	-62.727	-66.681	Pass
17	-56.689	-52.056	-49.525	-54.454	-56.166	-47.853	-55.331	-62.885	-65.494	Pass
18	-58.81	-54.011	-52.76	-54.353	-55.977	-47.987	-55.012	-62.194	-64.36	Pass
19	-55.619	-51.367	-49.44	-54.063	-55.695	-48.349	-54.775	-62.291	-64.666	Pass
20	-61.274	-56.729	-54.349	-54.493	-56.023	-47.672	-55.37	-61.886	-67.004	Pass
21	-57.681	-53.621	-52.191	-54.298	-55.91	-47.534	-55.096	-62.674	-65.372	Pass
22	-74.783	-74.041	-65.431	-54.385	-55.695	-48.786	-55.237	-62.658	-72.676	Pass
23	-59.122	-54.829	-53.338	-54.143	-55.825	-48.046	-55.046	-62.724	-67.232	Pass
24	-57.63	-53.497	-52.153	-54.548	-55.876	-47.816	-55.388	-62.583	-64.873	Pass
25	-54.761	-49.97	-47.313	-54.405	-56.166	-47.746	-55.194	-62.916	-67.339	Pass
26	-61.987	-57.863	-56.505	-54.19	-55.862	-47.781	-54.696	-62.159	-67.186	Pass
27	-62.227	-59.252	-59.869	-54.43	-56.096	-48.172	-54.882	-62.822	-65.234	Pass
28	-56.489	-52.249	-50.354	-54.429	-55.972	-48.014	-54.93	-62.952	-65.588	Pass
29	-60.881	-56.716	-55.339	-54.541	-55.812	-47.64	-55.226	-62.627	-66.884	Pass
30	-58.893	-55.009	-53.542	-54.431	-55.762	-48.348	-55.47	-62.948	-65.1	Pass

Appendix 5

HX1393NL Electrical Test Data After Vibration& Mechanical Shock

Parameter	OPSH	OPSH	OPSH	OPSH	DCR	DCR	DCR	DCR	DCR	DCR
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-16	8-9	1-8	9-16	1-2	2-3	16-15	15-14	6-7	7-8
Unit	M ohms	M ohms	M ohms	M ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms
HighLimit					1800	1800	1000	1000	1800	1800
LowLimit	10	10	10	10						
Average =	308.84	312.85	299.47	321.68	981.18	982.86	527.14	518.42	1,015.59	1,007.48
STD DEV =	53.69	57.80	57.84	49.74	79.96	15.15	24.64	11.42	19.99	14.82
Cpu					3.41	17.98	6.40	14.05	13.08	17.83
Cpl	1.86	1.75	1.67	2.09						
Cpk	1.86	1.75	1.67	2.09	3.41	17.98	6.40	14.05	13.08	17.83
DATA	-	-	-	-	-	-	-	-	-	-
1	325.532	358.845	358.852	277.764	1083.84	1002.199	525.175	518.734	1021.072	1011.066
2	218.216	245.775	330.319	307.663	989.413	1011.467	640.912	540.506	1019.471	1017.556
3	384.57	356.665	223.341	317.783	952.367	984.021	571.567	564.262	987.553	984.517
4	299.157	337.32	259.37	213.218	1181.307	995.206	518.968	511.347	1054.631	1015.153
5	227.948	313.829	338.393	374.626	975.619	968.481	514.038	510.806	1059.181	1028.307
6	289.824	362.32	251.454	309.405	957.006	1013.993	533.35	530.021	1020.401	1011.043
7	394.566	253.987	272.812	243.668	1326.459	971.174	512.026	506.342	1024.62	1019.136
8	280.589	362.348	258.019	375.699	1004.134	1010.919	523.311	514.561	1043.545	1026.741
9	290.088	248.023	260.904	329.869	959.801	982.743	537.835	530.975	1030.268	1029.09
10	374.819	219.437	225.913	318.731	947.992	972.847	554.003	528.603	1028.844	1022.773
11	254.1	233.414	305.833	362.571	959.412	974.523	514.952	512.055	1015.478	1010.288
12	257.697	375.229	361.252	371.958	952.92	977.219	520.828	515.657	996.12	997.373
13	305.266	216.34	238.497	324.653	951.031	970.78	516.792	512.231	1011.49	1006.574
14	241.8	392.846	292.067	333.205	957.561	985.921	515.69	513.548	1006.943	996.341
15	328.819	314.821	373.35	341.307	930.783	956.833	511.409	515.251	997.064	995.595
16	341.77	221.648	327.607	334.345	960.945	988.527	514.297	513.5	1022.775	1014.138
17	284.166	373.223	383.67	338.432	939.217	966.099	512.547	508.658	1011.192	1004.588
18	254.876	369.983	216.452	250.201	963.42	985.831	524.648	515.918	1012.849	1006.339
19	294.246	340.66	329.676	254.052	952.384	979.624	518.149	514.069	1019.097	1017.669
20	331.484	279.868	214	271.236	939.59	962.181	528.417	523.315	996.436	988.1
21	324.348	357.391	253.282	370.696	937.977	962.517	513.428	510.14	990.771	988.31
22	302.809	291.467	353.673	307.688	964.161	992.125	518.187	514.403	1039.679	1021.852
23	380.273	294.429	329.43	378.883	943.098	972.492	523.162	515.715	1036.206	1027.496
24	302.292	328.591	216.934	346.817	976.069	1007.289	513.609	507.909	1034.515	1025.271
25	320.276	280.865	314.345	228.178	950.811	973.329	526.049	522.153	999.076	993.589
26	392.283	393.742	376.63	387.292	958.757	976.541	521.079	511.227	974.13	972.522
27	400.528	377.532	318.635	400.079	942.692	971.216	527.341	520.346	992.784	989.8
28	239.46	247.488	374.192	320.134	962.496	993.192	530.534	523.504	1001.079	998.86
29	385.233	256.765	396.355	380.405	956.874	986.149	512.481	509.927	1024.756	1011.313
30	238.268	380.669	228.954	279.918	957.157	990.263	519.424	517.024	995.543	992.852

YAGEO PULSE

Parameter	DCR	DCR	DCR	DCR	DCR	DCR	BL	BL	OCL	OCL
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	11-10	10-9	1-3	16-14	6-8	11-9	1-3:16-14	6-8:11-9	9-11	14-16
Unit	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	uH	uH
HighLimit	1000	1000	1800	1000	1800	1000	1000	1000		
LowLimit							10	10	400	400
Average =	535.20	540.52	1,396.86	802.98	1,402.07	802.77	593.88	599.31	847.34	851.53
STD DEV =	23.39	22.66	73.80	22.98	21.29	15.45	79.60	22.32	30.87	29.58
Cpu	6.62	6.76	1.82	2.86	6.23	4.26	1.70	5.99		
Cpl							2.45	8.80	4.83	5.09
Cpk	6.62	6.76	1.82	2.86	6.23	4.26	1.70	5.99	4.83	5.09
DATA	-	-	-	-	-	-	-	-	-	-
1	576.303	585.362	1467.936	803.218	1405.76	799.06	664.718	606.7	886.869	789.815
2	600.101	584.392	1390.74	912.393	1417.665	854.185	478.347	563.48	828.512	824.351
3	554.682	554.048	1373.007	814.308	1366.438	813.916	558.699	552.522	851.225	816.515
4	527.369	545.402	1574.09	793.338	1438.906	810.719	780.752	628.188	852.745	860.492
5	614.844	620.875	1380.271	791.066	1462.938	803.724	589.204	659.214	845.521	879.553
6	541.545	542.561	1416.181	826.937	1410.417	823.202	589.244	587.215	853.608	855.914
7	520.227	528	1722.891	784.554	1402.286	794.542	938.338	607.744	860.925	833.103
8	531.602	546.501	1434.111	797.302	1422.199	804.632	636.809	617.566	858.578	854.34
9	558.472	574.636	1367.452	803.823	1426.888	843.37	563.629	583.519	861.473	836.284
10	541.815	552.504	1365.222	818.691	1409.536	801.214	546.53	608.321	861.629	850.214
11	519.806	523.133	1378.058	794.716	1400.502	790.472	583.342	610.03	841.561	857.356
12	528.605	524.217	1377.312	795.555	1377.716	800.582	581.756	577.134	857.162	844.359
13	530.172	535.36	1363.072	795.042	1408.558	803.605	568.03	604.953	871.872	838.596
14	517.441	523.233	1380.966	794.463	1384.677	785.945	586.503	598.733	884.208	876.979
15	523.149	526.117	1354.13	788.003	1385.779	789.597	566.127	596.182	829.789	814.72
16	517.277	524.442	1380.384	791.647	1408.566	784.805	588.737	623.761	786.372	895.728
17	524.774	530.149	1358.309	786.65	1401.304	799.368	571.659	601.936	804.361	816.874
18	521.583	529.217	1374.449	803.511	1394.906	798.487	570.937	596.42	903.911	869.73
19	521.468	525.607	1377.901	797.788	1410.753	792.366	580.112	618.387	911.062	827.724
20	525.457	540.45	1357.108	816.094	1393.634	797.602	541.015	596.032	821.923	898.737
21	519.306	526.345	1359.134	790.336	1377.294	793.521	568.798	583.773	765.178	803.694
22	529.998	526.079	1388.228	796.913	1417.817	801.101	591.314	616.716	849.752	860.148
23	525.342	541.409	1359.195	796.886	1418.746	808.464	562.309	610.281	826.468	892.307
24	519.568	523.477	1375.491	787.259	1412.435	789.666	588.232	622.769	842.983	860.996
25	519.748	523.609	1382.322	812.136	1382.753	788.616	570.185	594.138	820.537	860.918
26	527.663	531.135	1358.284	789.396	1360.475	801.002	568.887	559.473	856.374	827.284
27	536.583	540.726	1356.716	813.711	1383.998	820.143	543.005	563.856	824.898	896.841
28	533.666	529.438	1386.488	811.481	1394.124	805.256	575.007	588.868	828.169	894.966
29	525.768	530.64	1367.851	787.771	1408.392	796.076	580.08	612.315	852.118	883.059
30	521.595	526.661	1378.398	794.403	1376.784	787.837	583.995	588.947	880.499	824.242

Parameter	LL	LL	TRP	TRP	TRP	TRP	TRP	TRP	TRP	TRP
Condition:	normal	normal	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-3	6-8	1-3	16-14	6-8	11-9	16-15	15-14	11-10	10-9
Unit	nH	nH	*1	*1	*1	*1	*1	*1	*1	*1
HighLimit	500	500	1.02	1.02	1.02	1.02	1.02	1.02	1.02	1.02
LowLimit	10	10	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Average =	213.64	208.47	1.00	1.00	1.00	1.00	1.00	0.99	1.00	0.99
STD DEV =	7.06	5.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cpu	13.53	18.40	19.48	15.16	26.64	13.40	17.74	6.79	19.48	6.15
Cpl	9.62	12.53	19.74	16.37	26.82	14.27	18.04	2.63	19.74	2.37
Cpk	9.62	12.53	19.48	15.16	26.64	13.40	17.74	2.63	19.48	2.37
DATA	-	-	-	-	-	-	-	-	-	-
1	213.925	212.348	1	1.001	1	1.001	1	0.992	1	0.991
2	206.931	208.925	1	1.001	1	1	1	0.99	1	0.989
3	212.169	206.643	1	1.001	1	1.001	1	0.991	1	0.993
4	197.917	200.034	1	1.001	1	1	1	0.992	1	0.991
5	207.482	201.001	1	1.001	1	1.001	1	0.993	1	0.991
6	224.49	215.099	1	1.001	1	1	1	0.994	1	0.995
7	195.871	208.967	1	1	1	1.001	1	0.989	1	0.992
8	213.869	201.92	1	1.001	1	1	1.001	0.988	1	0.992
9	217.901	211.471	1	1.001	1	1.001	1	0.993	1	0.992
10	213.41	210.366	1.001	1.001	1	1.001	1	0.992	1	0.993
11	211.158	204.978	1	1	1	1.001	1	0.992	1	0.991
12	216.857	206.751	1	1.001	1	1	1	0.989	1	0.991
13	207.843	208.931	1	1	1	1	1	0.99	1	0.989
14	211.644	207.271	1	1.001	1	1.001	1	0.99	1.001	0.99
15	221.845	208.577	1	1	1	1.001	1	0.993	1	0.993
16	227.333	202.067	1	1.001	1	1.001	1	0.991	1	0.99
17	211.879	204.218	1	1	1.001	1.001	1	0.991	1	0.99
18	207.918	207.995	1	1.001	1	1.001	1	0.99	1	0.99
19	211.345	210.953	1	1.001	1	1	1	0.99	1	0.991
20	207.596	217.547	1	1.001	1	1.001	1	0.99	1.001	0.99
21	213.843	198.819	1	1	1	1.001	1	0.991	1.001	0.992
22	210.149	216.016	1	1.001	1	1.001	1	0.991	1.001	0.991
23	218.223	216.929	1	1.001	1	1.001	1	0.991	1	0.995
24	216.408	211.73	1	1.001	1	1.001	1.001	0.992	1	0.99
25	211.115	206.126	1.001	1.001	1.001	1	1.001	0.991	1	0.989
26	213.005	210.79	1	1	1	1	1.001	0.992	1	0.992
27	220.807	206.758	1	1.001	1	1.001	1.001	0.99	1	0.99
28	222.045	217.315	1	1.001	1	1	1	0.991	1	0.99
29	224.122	213.685	1.001	1.001	1	1	1	0.994	1	0.989
30	220.24	199.81	1.001	1.001	1	1.001	1	0.992	1	0.992

YAGEO PULSE

Parameter	CH1 IL	CH1 IL	CH2 IL	CH2 IL	CH1 RL	CH1 RL	CH1 RL	CH2 RL	CH2 RL	CH2 RL
Condition:	0.1MHZ	100MHZ	0.1MHZ	100MHZ	30MHZ	60MHZ	80MHZ	30MHZ	60MHZ	80MHZ
Pins										
Unit	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
HighLimit					-16	-10	-10	-16	-10	-10
LowLimit	-1.1	-1.1	-1.1	-1.1						
Average =	-0.15	-0.46	-0.12	-0.45	-25.45	-21.25	-19.57	-25.98	-22.21	-20.83
STD DEV =	0.08	0.11	0.02	0.03	1.36	1.40	1.39	0.82	1.00	1.11
Cpu					2.31	2.69	2.30	4.05	4.07	3.25
Cpl	4.10	1.86	20.85	7.67						
Cpk	4.10	1.86	20.85	7.67	2.31	2.69	2.30	4.05	4.07	3.25
DATA	-	-	-	-	-	-	-	-	-	-
1	-0.108	-0.364	-0.102	-0.434	-27.297	-23.196	-21.428	-25.61	-21.764	-20.3
2	-0.106	-0.388	-0.106	-0.464	-26.785	-22.681	-20.946	-26.484	-22.657	-21.054
3	-0.109	-0.404	-0.164	-0.508	-25.687	-21.46	-19.838	-25.282	-21.347	-19.873
4	-0.108	-0.406	-0.123	-0.483	-25.592	-21.143	-19.402	-25.338	-21.319	-19.762
5	-0.106	-0.449	-0.124	-0.436	-24.072	-19.383	-17.543	-25.898	-21.992	-20.565
6	-0.108	-0.381	-0.119	-0.422	-26.348	-22.172	-20.463	-26.459	-22.887	-21.7
7	-0.106	-0.412	-0.114	-0.456	-25.483	-21.178	-19.321	-25.728	-21.883	-20.537
8	-0.105	-0.344	-0.123	-0.465	-28.419	-24.544	-22.891	-26.31	-22.586	-21.097
9	-0.118	-0.381	-0.102	-0.413	-26.838	-22.573	-20.811	-27.531	-24.043	-22.955
10	-0.111	-0.462	-0.105	-0.439	-24.929	-20.389	-18.67	-25.989	-22.252	-20.866
11	-0.145	-0.486	-0.124	-0.43	-24.949	-20.467	-18.65	-26.601	-22.826	-21.621
12	-0.127	-0.515	-0.127	-0.525	-23.63	-19.172	-17.413	-24.289	-20.177	-18.578
13	-0.12	-0.401	-0.119	-0.424	-26.479	-22.347	-20.735	-26.978	-23.679	-22.604
14	-0.161	-0.525	-0.103	-0.445	-24.335	-20.252	-18.691	-25.968	-22.243	-20.909
15	-0.095	-0.398	-0.094	-0.438	-26.133	-22.01	-20.345	-26.309	-22.692	-21.293
16	-0.143	-0.543	-0.126	-0.427	-23.296	-18.806	-17.008	-27.016	-23.457	-22.253
17	-0.154	-0.49	-0.133	-0.441	-24.761	-20.536	-18.982	-26.22	-22.5	-21.035
18	-0.153	-0.467	-0.116	-0.413	-25.885	-21.839	-20.24	-26.608	-23.006	-21.823
19	-0.128	-0.421	-0.129	-0.469	-25.582	-21.252	-19.563	-25.261	-21.294	-19.706
20	-0.116	-0.375	-0.114	-0.442	-27.342	-23.165	-21.469	-26.611	-22.918	-21.569
21	-0.144	-0.45	-0.107	-0.452	-25.278	-20.956	-19.16	-26.456	-22.676	-21.232
22	-0.18	-0.469	-0.127	-0.459	-25.781	-21.708	-20.044	-25.503	-21.693	-20.36
23	-0.119	-0.386	-0.128	-0.421	-26.243	-21.888	-20.046	-27.457	-24.129	-22.922
24	-0.129	-0.409	-0.161	-0.491	-26.93	-23.117	-21.43	-24.936	-20.955	-19.441
25	-0.297	-0.629	-0.129	-0.425	-24.031	-19.879	-18.264	-26.75	-23.093	-21.849
26	-0.143	-0.444	-0.116	-0.462	-25.538	-21.204	-19.384	-24.942	-21.119	-19.676
27	-0.162	-0.441	-0.14	-0.461	-25.92	-21.831	-20.346	-25.121	-21.232	-19.882
28	-0.152	-0.545	-0.12	-0.447	-23.653	-19.16	-17.529	-25.523	-21.488	-20.012
29	-0.514	-0.975	-0.128	-0.434	-22.086	-19.593	-18.839	-26.023	-22.096	-20.598
30	-0.139	-0.488	-0.1	-0.507	-24.144	-19.484	-17.637	-24.249	-20.174	-18.687

Parameter	CH1-2 CT	CH1-2 CT	CH1-2 CT	DCMR1	DCMR1	DCMR1	DCMR2	DCMR2	DCMR2	Hipot
Condition:	30MHZ	60MHZ	100MHZ	30MHZ	60MHZ	100MHZ	30MHZ	60MHZ	100MHZ	
Pins										
Unit	dB	dB	dB	dB	dB	dB	dB	dB	dB	
HighLimit	-35	-30	-30	-42	-37	-30	-42	-37	-30	
LowLimit										
Average =	-57.94	-53.46	-51.75	-54.74	-55.89	-48.02	-55.34	-62.78	-65.90	1500VAC/
STD DEV =	2.42	2.50	2.96	0.28	0.19	0.30	0.31	0.53	1.32	60s/1mA
Cpu	3.15	3.13	2.45	15.38	33.42	20.09	14.12	16.17	9.06	
Cpl										
Cpk	3.15	3.13	2.45	15.38	33.42	20.09	14.12	16.17	9.06	
DATA	-	-	-	-	-	-	-	-	-	
1	-63.838	-60.02	-60.762	-54.507	-55.984	-47.755	-54.879	-62.124	-64.143	Pass
2	-61.014	-56.689	-55.225	-54.442	-55.888	-48.356	-55.079	-63.081	-64.757	Pass
3	-62.128	-55.928	-51.638	-54.415	-56.462	-47.927	-55.109	-62.943	-65.444	Pass
4	-59.437	-55.013	-53.727	-54.318	-55.982	-48.048	-55.005	-62.41	-66.398	Pass
5	-60.401	-56.126	-55.374	-54.63	-56.003	-48.361	-55.499	-62.627	-65.489	Pass
6	-54.36	-49.809	-47.584	-54.622	-55.761	-48.255	-55.092	-63.148	-65.68	Pass
7	-57.338	-52.803	-51.06	-54.816	-55.598	-48.335	-55.821	-63.485	-64.197	Pass
8	-57.32	-52.55	-50.233	-54.722	-55.742	-47.846	-55.943	-64.123	-66.032	Pass
9	-58.552	-54.138	-51.975	-54.432	-55.839	-48.074	-54.849	-61.556	-66.376	Pass
10	-55.778	-51.537	-49.78	-54.838	-56.028	-47.803	-54.693	-62.617	-67.305	Pass
11	-58.138	-53.619	-51.878	-54.965	-56.022	-47.455	-55.126	-62.397	-64.712	Pass
12	-58.066	-54.128	-53.283	-54.301	-55.941	-48.377	-54.95	-62.327	-67.812	Pass
13	-56.807	-52.267	-49.933	-55.413	-56.208	-48.006	-55.569	-62.228	-66.562	Pass
14	-56.653	-52.312	-50.169	-54.56	-55.95	-48.114	-55.333	-62.798	-66.188	Pass
15	-59.987	-55.621	-53.716	-54.787	-56.079	-47.71	-55.378	-63.29	-64.357	Pass
16	-57.787	-53.764	-52.552	-55.124	-55.89	-48.688	-55.572	-63.512	-64.185	Pass
17	-57.814	-52.858	-51.066	-55.008	-56.054	-47.685	-55.702	-62.462	-65.848	Pass
18	-54.57	-49.685	-47.198	-55.111	-55.873	-48.048	-55.255	-62.657	-65.851	Pass
19	-58.62	-54.416	-53.01	-54.566	-55.831	-47.538	-55.459	-62.542	-70.43	Pass
20	-58.736	-54.056	-52.472	-54.474	-55.734	-48.117	-55.531	-62.505	-66.501	Pass
21	-59.504	-55.007	-53.876	-54.776	-55.767	-47.899	-55.458	-62.836	-66.068	Pass
22	-56.793	-52.071	-50.047	-55.227	-55.733	-47.647	-55.464	-62.032	-66.35	Pass
23	-58.374	-53.691	-51.481	-54.637	-55.429	-48.54	-55.407	-63.584	-64.719	Pass
24	-56.684	-52.159	-50.741	-54.393	-55.771	-47.716	-55.652	-62.938	-63.912	Pass
25	-54.742	-49.845	-47.011	-54.845	-55.762	-47.949	-55.657	-63.528	-66.541	Pass
26	-57.926	-54.198	-53.344	-54.886	-55.97	-47.997	-55.165	-62.664	-65.615	Pass
27	-57.454	-52.935	-51.158	-54.858	-55.732	-48.294	-55.003	-62.295	-67.003	Pass
28	-54.422	-50.165	-48.821	-54.858	-55.749	-47.826	-55.439	-62.994	-66.85	Pass
29	-61.918	-57.87	-56.757	-54.574	-55.994	-47.96	-55.182	-62.74	-64.787	Pass
30	-53.061	-48.424	-46.728	-55.019	-55.932	-48.407	-55.869	-62.897	-66.874	Pass

Qualification Test Report_ HXE2813NL

Rev A:6/17/2026

Prepared By:
Colin Zhang
Pulse MPO QA Sr. Supervisor

Approved By:
Raymond Tan
Pulse MPO Quality Manager

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HXE2813NL Test Summary (Revision: A)

1. PURPOSE

This is an internal Pulse Qualification Plan to qualify part HXE2813NL from CLF;
Testing data will be reviewed after each environmental testing

2. SCOPE

HXE2813NL is produced in CLF and tested in MPO.

3. REFERENCES

HXE2813NL released TLA document Rev12.

4. TEST SUMMARY AS BELOW:

TEST Description	Sample size	Reference	Test conditions/Remarks.	Result	Remarks
Initial visual and function test	All	PQ 2.107.000	Per Pulse Spec.	Pass	N/A
High Temperature Exposure (Storage)	38	MIL-STD-202 Method 108	1000 Hrs @ 125°C, Unpowered.	Pass	Appendix 1
Temperature Cycling	38	JESD22 Method JA-104	100cycles (-40°C to 125°C), Measurement at 24 4 hours after test conclusion.	Pass	Appendix 2
Temp.& Humidity	38	MIL-STD-202 Method 103	1000 hours 85°C/85%RH. Unpowered.	Pass	Appendix 3
Resistance to Soldering Heat	30	MIL-STD-202 Method 210	Condition K, 3 times Reflow tests with 245°C Peak Temperature condition.	Pass	Appendix 4
Mechanical Shock	30	MIL-STD-202 Method 213	Pulse shape: half sine Nominal pulse length: 6msNumber of shocks: 6 each in both direction of each axis (total 18)	Pass	Appendix 5
Vibrationk		MIL-STD-202 Method 204	Pulse shape: sine wave Range of frequency 2: 10 - 2000Hz Amplitude: 5g Frequency sweep: 0.5 oct/min Duration: total 24h each of 3axis	Pass	

Abbreviation in datasheet.

DCR: Direct Current Resistance
OPSH: Open / Short; for insulation
TRP: Turn Ratio and Polarity
OCL: Open Curent inductance
LL: Leakage Inductance
BL: Balance inductance
RL: Return Loss
IL: Insertion Loss

Appendix 1

HXE2813NL High Temperature Exposure168hrs Electrical Test Data

Parameter	DCR	DCR	DCR	DCR	DCR	DCR	BL	OPSH
Condition:	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-2	2-3	6-5	5-4	1-3	6-4	6-4:1-3	1,2,3-4,5,6
Unit	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	M ohms
HighLimit	400	400	500	500	800	1000	2000	
LowLimit							1	10
Average =	148.41	160.26	312.76	313.58	385.80	734.16	348.36	209.85
STD DEV =	4.70	5.66	6.10	4.71	9.65	7.89	10.31	33.44
Cpu	17.84	14.13	10.24	13.20	14.31	11.23	53.42	
Cpl							11.24	1.99
Cpk	17.84	14.13	10.24	13.20	14.31	11.23	11.24	1.99
DATA	-	-	-	-	-	-	-	-
1	154.887	166.739	302.191	316.862	401.2	726.989	325.788	213.397
2	147.202	160.864	318.505	319.587	386.067	741.741	355.673	246.416
3	143.815	159.077	321.654	317.175	377.172	737.826	360.654	251.998
4	150.418	160.601	307.212	309.157	389.638	730.661	341.023	217.166
5	150.063	162.267	315.384	307.474	388.314	733.027	344.714	259.644
6	143.688	155.112	306.701	304.418	378.341	724.339	345.998	236.61
7	144.611	157.066	318.151	315.263	377.729	742.363	364.634	272.212
8	143.178	159.452	312.278	313.98	378.694	732.551	353.857	174.18
9	146.613	158.492	312.343	310.883	381.947	728.324	346.377	192.075
10	146.184	155.426	310.873	313.418	379.129	731.88	352.751	160.36
11	148.157	157.755	304.712	309.417	384.617	720.393	335.776	236.979
12	147.929	160.295	310.957	312.895	386.895	734.214	347.319	256.605
13	147.641	154.632	312.693	312.982	377.23	736.523	359.293	196.479
14	147.832	160.221	305.023	306.125	385.258	723.711	338.453	231.203
15	149.425	157.054	315.088	315.794	381.24	738.08	356.84	158.425
16	147.811	157.899	312.414	323.834	381.259	742.802	361.543	213.388
17	150.886	156.161	309.173	312.059	384.236	729.501	345.265	222.05
18	145.342	158.214	312.545	317.28	375.862	728.914	353.052	156.54
19	143.516	159.071	321.007	319.018	381.472	746.103	364.63	233.858
20	151.516	175.632	318.751	317.627	404.095	743.666	339.572	231.239
21	148.337	157.764	310.262	313.04	382.31	732.596	350.287	170.047
22	154.822	168.225	312.035	307.482	400.647	726.358	325.711	208.885
23	149.683	155.309	317.337	324.393	381.444	742.055	360.611	159.729
24	145.19	165.012	306.56	316.507	388.327	730.276	341.95	232.784
25	142.526	152.02	316.365	312.612	373.521	738.182	364.661	245.036
26	146.932	150.757	301.054	303.796	376.948	717.117	340.169	164.686
27	143.926	161.333	317.528	312.802	383.459	734.062	350.603	216.472
28	161.601	169.874	321.138	315.77	407.435	737.922	330.487	173.722
29	148.025	160.261	304.683	308.648	382.471	723.047	340.576	257.001
30	161.7	168.013	321.37	316.235	406.698	744.839	338.141	187.047
31	151.329	176.167	317.999	318.288	406.095	745.263	339.168	169.478
32	146.092	155.264	306.088	309.1	379.313	729.089	349.776	213.927
33	146.553	158.233	316.84	313.879	379.74	742.231	362.491	207.297
34	146.366	155.102	310.462	318.396	380.399	737.779	357.38	171.284
35	144.97	161.672	317.851	313.104	385.696	738.525	352.829	199.531
36	146.484	158.588	306.621	311.16	381.465	726.905	345.441	172.103
37	159.895	166.749	326.47	315.575	405.766	751.356	345.589	220.235
38	144.567	157.474	306.676	309.898	378.227	726.83	348.603	244.377

YAGEO PULSE

Parameter	OCL	TRP	TRP	TRP	TRP	TRP	TRP	LL
Condition:	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-3	1-3	6-4	1-2	2-3	6-5	5-4	1-3
Unit	uH	*1	*1	*1	*1	*1	*1	nH
HighLimit		1.02	1.02	1.02	1.02	1.02	1.02	1000
LowLimit	350	0.98	0.98	0.98	0.98	0.98	0.98	
Average =	455.38	1.00	1.00	1.00	1.00	1.00	1.00	230.13
STD DEV =	19.94	0.00	0.00	0.00	0.00	0.00	0.00	39.16
Cpu		18.43	15.46	18.43	45.87	24.82	21.84	6.55
Cpl	1.76	18.14	12.18	18.14	37.43	24.63	21.61	
Cpk	1.76	18.14	12.18	18.14	37.43	24.63	21.61	6.55
DATA	-	-	-	-	-	-	-	-
1	453.487	1	0.998	1	0.998	1	1	205.003
2	464.236	1	0.998	1	0.998	1	1	216.146
3	452.037	0.999	0.997	1	0.998	1	1	290.438
4	443.89	1	0.998	1	0.998	1	1	233.74
5	466.717	1	0.998	1	0.998	1	1	220.944
6	429.138	1	0.997	0.999	0.998	1	1	230.58
7	472.877	1	0.998	1	0.998	1	1	260.645
8	452.093	1	0.998	1	0.998	0.999	1	177.477
9	453.444	1	0.998	1	0.998	1	0.999	250.632
10	459.932	0.999	0.998	1	0.998	1	1	190.178
11	448.95	0.999	0.998	1	0.998	1	1	179.959
12	477.905	0.999	0.998	1	0.998	1	1	264.081
13	441.191	1	0.997	0.999	0.998	1	1	233.547
14	438.489	1	0.997	0.999	0.998	1	1	269.828
15	463.559	1	0.998	0.999	0.998	1	1	178.22
16	487.99	1	0.998	0.999	0.998	1	1	205.121
17	425.248	1	0.997	1	0.998	1	1	247.44
18	480.205	1	0.998	1	0.998	1	1	214.599
19	428.589	1	0.997	1	0.998	0.999	1	200.369
20	489.013	1	0.998	1	0.998	1	1	202.353
21	420.91	0.999	0.997	1	0.998	1	1	248.011
22	469.896	1	0.998	1	0.998	1	1	200.068
23	422.167	1	0.997	1	0.998	1	1	272.654
24	410.746	1	0.997	1	0.998	1	1	169.222
25	469.635	1	0.998	1	0.998	1	1	170.896
26	460.316	1	0.998	1	0.998	1	1	278.599
27	458.59	0.999	0.997	1	0.998	1	1	264.828
28	449.048	1	0.997	0.999	0.998	1	1	357.917
29	452.7	1	0.997	1	0.998	1	1	255.138
30	465.164	1	0.998	1	0.998	1	1	214.525
31	489.616	1	0.998	1	0.997	1	1	202.476
32	458.862	1	0.998	1	0.998	1	0.999	186.192
33	471.573	1	0.998	1	0.998	1	0.999	258.956
34	420.666	1	0.997	1	0.998	1	0.999	244.709
35	458.742	1	0.997	1	0.998	1	1	265.624
36	452.644	1	0.998	1	0.998	0.999	1	256.362
37	465.195	1	0.998	1	0.998	1	1	213.568
38	478.853	1	0.998	1	0.998	1	1	214.072

Parameter	IL	IL	IL	RL	RL	RL	Hipot
Condition:	1MHZ	4MHZ	10MHZ	1MHZ	4MHZ	10MHZ	
Pins							5000VDC/ 60s/2mA
Unit	dB	dB	dB	dB	dB	dB	
HighLimit				-15.0	-20.0	-15.0	
LowLimit	-1.0	-1	-1				
Average =	-0.15	-0.15	-0.24	-31.33	-26.69	-19.98	
STD DEV =	0.01	0.01	0.02	0.46	0.79	0.90	
Cpu				11.72	2.82	1.84	
Cpl	30.47	13.65	15.56				
Cpk	30.47	13.65	15.56	11.72	2.82	1.84	
DATA	-	-	-	-	-	-	
1	-0.141	-0.14	-0.228	-31.156	-26.788	-20.136	Pass
2	-0.143	-0.143	-0.227	-31.861	-27.435	-20.895	Pass
3	-0.155	-0.154	-0.24	-31.939	-27.417	-20.724	Pass
4	-0.148	-0.149	-0.241	-31.714	-26.929	-20.263	Pass
5	-0.143	-0.144	-0.229	-31.758	-26.734	-19.95	Pass
6	-0.156	-0.149	-0.235	-31.412	-26.936	-20.346	Pass
7	-0.156	-0.161	-0.261	-31.2	-25.901	-19.1	Pass
8	-0.145	-0.143	-0.231	-31.961	-27.639	-20.941	Pass
9	-0.164	-0.159	-0.242	-31.504	-27.539	-20.884	Pass
10	-0.167	-0.164	-0.257	-31.36	-26.448	-19.703	Pass
11	-0.169	-0.164	-0.242	-31.764	-27.489	-20.899	Pass
12	-0.169	-0.162	-0.24	-31.551	-27.7	-21.288	Pass
13	-0.143	-0.14	-0.215	-31.742	-27.554	-20.903	Pass
14	-0.174	-0.165	-0.238	-31.557	-27.527	-21.082	Pass
15	-0.167	-0.167	-0.267	-31.228	-25.963	-19.066	Pass
16	-0.15	-0.142	-0.237	-30.671	-26.302	-19.628	Pass
17	-0.143	-0.14	-0.21	-32.232	-28.132	-21.633	Pass
18	-0.167	-0.171	-0.283	-30.64	-25.117	-18.225	Pass
19	-0.153	-0.149	-0.248	-30.312	-26.017	-19.351	Pass
20	-0.146	-0.15	-0.257	-31.55	-25.917	-19.09	Pass
21	-0.17	-0.166	-0.252	-31.808	-27.204	-20.608	Pass
22	-0.157	-0.155	-0.249	-31.545	-26.846	-20.141	Pass
23	-0.145	-0.15	-0.276	-30.649	-24.935	-17.94	Pass
24	-0.148	-0.149	-0.237	-31.721	-27.114	-20.538	Pass
25	-0.143	-0.147	-0.239	-31.04	-26.355	-19.52	Pass
26	-0.149	-0.152	-0.242	-31.245	-26.599	-19.783	Pass
27	-0.143	-0.145	-0.233	-31.358	-26.84	-20.145	Pass
28	-0.157	-0.157	-0.25	-30.805	-26.632	-19.961	Pass
29	-0.159	-0.161	-0.252	-30.742	-26.453	-19.69	Pass
30	-0.156	-0.159	-0.251	-31.402	-26.743	-19.948	Pass
31	-0.149	-0.144	-0.233	-31.083	-26.869	-20.248	Pass
32	-0.158	-0.157	-0.253	-30.539	-25.745	-18.957	Pass
33	-0.157	-0.159	-0.258	-31.544	-26.452	-19.599	Pass
34	-0.159	-0.159	-0.262	-30.957	-25.774	-18.941	Pass
35	-0.147	-0.154	-0.284	-30.579	-24.634	-17.678	Pass
36	-0.143	-0.145	-0.227	-31.773	-27.388	-20.741	Pass
37	-0.156	-0.148	-0.236	-30.924	-26.614	-20.008	Pass
38	-0.152	-0.153	-0.244	-31.537	-27.36	-20.73	Pass

Appendix 2

HXE2813NL Temperature Cycling100cycles Electrical Test Data

Parameter	DCR	DCR	DCR	DCR	DCR	DCR	BL	OPSH
Condition:	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-2	2-3	6-5	5-4	1-3	6-4	6-4:1-3	1,2,3-4,5,6
Unit	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	M ohms
HighLimit	400	400	500	500	800	1000	2000	
LowLimit							1	10
Average =	148.00	160.24	311.14	312.34	385.75	732.21	346.46	217.40
STD DEV =	5.25	6.21	5.57	4.89	9.71	7.13	11.66	33.40
Cpu	16.01	12.87	11.30	12.78	14.22	12.51	47.27	
Cpl							9.88	2.07
Cpk	16.01	12.87	11.30	12.78	14.22	12.51	9.88	2.07
DATA	-	-	-	-	-	-	-	-
1	148.999	155.535	311.505	323.981	381.437	741.938	360.501	234.568
2	145.655	160.373	306.626	308.26	386.15	723.504	337.354	180.63
3	152.746	178.11	316.334	315.581	405.894	743.073	337.179	192.984
4	142.958	158.579	321.417	318.531	381.234	744.92	363.686	206.659
5	144.74	157.081	320.156	309.968	381.261	737.371	356.11	258.176
6	142.342	154.764	307.01	305.482	377.485	725.045	347.561	269.445
7	151.075	164.52	312.41	314.711	392.025	732.404	340.379	227.241
8	143.711	154.183	323.597	319.329	378.02	741.282	363.261	275.278
9	161.307	170.641	320.336	316.739	408.747	739.91	331.163	155.212
10	149.347	154.843	307.088	309.208	384.752	725.84	341.088	202.063
11	146.015	153.2	314.048	312.87	378.016	738.649	360.633	166.514
12	147.079	150.077	302.648	305.737	374.725	720.668	345.943	230.191
13	147.769	161.917	315.649	310.854	387.212	733.6	346.388	276.308
14	142.465	157.652	311.647	314.765	377.678	735.987	358.309	242.021
15	146.243	156.311	308.333	312.556	382.128	728.787	346.659	202.628
16	147.833	158.041	304.1	308.823	384.858	721.957	337.1	174.861
17	146.383	165.033	305.781	314.325	386.789	732.421	345.632	246.609
18	146.593	155.122	316.027	317.926	381.386	743.866	362.479	193.144
19	154.111	166.055	302.436	319.222	400.71	728.707	327.996	231.158
20	147.126	159.649	311.781	313.979	384.87	733.178	348.308	194.05
21	149.052	161.309	309.501	311.939	388.919	726.597	337.678	249.063
22	148.555	157.254	312.251	314.37	383.939	737.727	353.789	177.688
23	144.709	159.38	313.826	313.513	383.197	734.659	351.462	216.905
24	143.62	159.809	314.019	316.318	378.981	735.838	356.857	177.276
25	142.984	159.491	316.76	315.117	378.041	735.753	357.712	225.92
26	158.954	171.892	313.483	307.935	401.199	729.295	328.096	196.575
27	147.988	165.807	311.273	312.804	389.058	732.949	343.892	237.414
28	161.9	168.996	309.519	314.432	407.742	735.954	328.212	182.083
29	152.396	165.048	316.571	313.512	392.57	739.295	346.726	221.46
30	140.068	148.048	307.246	314.855	364.842	733.911	369.069	182.331
31	145.797	150.533	307.444	304.081	375.057	723.77	348.714	246.184
32	156.637	166.476	301.541	308.015	396.473	722.998	326.525	207.631
33	153.311	165.992	307.521	303.007	398.768	721.971	323.203	270.649
34	146.372	156.69	318.547	317.883	381.642	740.828	359.187	213.139
35	141.961	162.75	304.743	304.976	381.343	722.607	341.264	234.365
36	143.298	157.114	305.44	303.262	378.38	720.907	342.527	268.518
37	141.928	161.346	306.258	312.113	376.782	729.052	352.271	165.598
38	149.916	159.387	308.278	307.776	386.204	726.615	340.412	228.573

YAGEO PULSE

Parameter	OCL	TRP	TRP	TRP	TRP	TRP	TRP	LL
Condition:	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-3	1-3	6-4	1-2	2-3	6-5	5-4	1-3
Unit	uH	*1	*1	*1	*1	*1	*1	nH
HighLimit		1.02	1.02	1.02	1.02	1.02	1.02	1000
LowLimit	350	0.98	0.98	0.98	0.98	0.98	0.98	
Average =	459.75	1.00	1.00	1.00	1.00	1.00	1.00	221.71
STD DEV =	18.22	0.00	0.00	0.00	0.00	0.00	0.00	40.59
Cpu		18.43	15.05	16.52	32.92	15.87	15.87	6.39
Cpl	2.01	18.14	11.77	16.18	26.79	15.50	15.50	
Cpk	2.01	18.14	11.77	16.18	26.79	15.50	15.50	6.39
DATA	-	-	-	-	-	-	-	-
1	488.923	1	0.998	1	0.997	1	1	201.984
2	438.207	1	0.997	1	0.998	0.999	1	270.251
3	489.227	1	0.998	1	0.998	1	1	201.328
4	458.658	1	0.997	1	0.998	1	1	197.685
5	454.195	0.999	0.998	1	0.998	1	1	248.478
6	457.56	1	0.997	1	0.998	1	1	222.191
7	443.713	1	0.998	1	0.998	0.999	1	229.369
8	471.427	1	0.998	1	0.998	1	1	170.528
9	449.286	1	0.997	1	0.998	1	1	358.655
10	425.191	1	0.997	0.999	0.998	1	1	244.742
11	441.047	1	0.997	1	0.998	1	1	231.176
12	460.291	1	0.997	1	0.998	0.999	1	279.058
13	466.343	1	0.998	1	0.998	1	1	216.699
14	453.141	0.999	0.998	1	0.998	1	1	175.471
15	459.983	1	0.998	1	0.998	1	1	186.326
16	449.696	1	0.998	1	0.998	1	1	176.079
17	450.412	1	0.997	1	0.998	1	1	165.874
18	422.715	1	0.997	1	0.998	1	1	271.875
19	453.809	0.999	0.997	1	0.998	1	1	198.004
20	478.562	0.999	0.998	1	0.998	0.999	1	261.394
21	448.525	0.999	0.997	0.999	0.998	1	0.999	175.896
22	462.178	1	0.998	1	0.998	1	0.999	176.527
23	462.808	1	0.998	1	0.998	1	0.999	210.649
24	453.389	1	0.998	1	0.998	1	0.999	174.818
25	462.458	1	0.997	1	0.998	1	0.999	286.066
26	470.212	1	0.998	1	0.998	0.999	0.999	197.481
27	445.204	1	0.997	1	0.998	0.999	0.999	212.737
28	497.459	1	0.998	1	0.998	0.999	0.999	193.443
29	437.421	1	0.997	0.999	0.998	0.999	0.999	226.045
30	467.684	1	0.998	0.999	0.998	1	1	191.018
31	495.308	1	0.998	0.999	0.997	1	1	245.123
32	478.068	1	0.998	0.999	0.998	1	1	217.563
33	489.932	1	0.998	0.999	0.998	1	1	237.94
34	441.21	0.999	0.997	1	0.998	1	1	255.222
35	455.459	1	0.997	1	0.998	1	1	216.445
36	487.051	1	0.998	1	0.998	0.999	1	223.872
37	458.176	1	0.997	0.999	0.998	1	1	282.994
38	445.715	1	0.998	1	0.998	1	1	193.872

Parameter	IL	IL	IL	RL	RL	RL	Hipot
Condition:	1MHZ	4MHZ	10MHZ	1MHZ	4MHZ	10MHZ	
Pins							5000VDC/ 60s/2mA
Unit	dB	dB	dB	dB	dB	dB	
HighLimit				-15.0	-20.0	-15.0	
LowLimit	-1.0	-1	-1				
Average =	-0.16	-0.16	-0.25	-31.11	-26.37	-19.68	
STD DEV =	0.01	0.01	0.02	0.43	0.77	0.86	
Cpu				12.49	2.75	1.81	
Cpl	36.38	13.50	14.63				
Cpk	36.38	13.50	14.63	12.49	2.75	1.81	
DATA	-	-	-	-	-	-	
1	-0.153	-0.163	-0.275	-30.571	-24.769	-17.811	Pass
2	-0.152	-0.151	-0.24	-31.021	-26.44	-19.827	Pass
3	-0.167	-0.168	-0.275	-30.344	-25.122	-18.405	Pass
4	-0.169	-0.166	-0.246	-31.572	-27.064	-20.33	Pass
5	-0.168	-0.167	-0.257	-31.277	-26.28	-19.563	Pass
6	-0.165	-0.165	-0.271	-30.721	-25.179	-18.346	Pass
7	-0.166	-0.16	-0.241	-30.442	-26.338	-19.744	Pass
8	-0.156	-0.157	-0.25	-31.395	-26.217	-19.538	Pass
9	-0.169	-0.172	-0.269	-31.014	-25.832	-19.059	Pass
10	-0.166	-0.16	-0.233	-32.236	-27.896	-21.248	Pass
11	-0.158	-0.156	-0.243	-30.744	-25.701	-19.033	Pass
12	-0.168	-0.172	-0.275	-30.52	-25.466	-18.712	Pass
13	-0.15	-0.144	-0.235	-30.767	-26.244	-19.613	Pass
14	-0.148	-0.153	-0.255	-31.016	-26.026	-19.198	Pass
15	-0.166	-0.162	-0.24	-31.028	-26.769	-20.095	Pass
16	-0.176	-0.172	-0.253	-31.178	-26.707	-20.022	Pass
17	-0.163	-0.161	-0.249	-31.387	-26.691	-19.992	Pass
18	-0.166	-0.164	-0.254	-31.118	-25.788	-19.047	Pass
19	-0.173	-0.17	-0.236	-31.578	-27.564	-21.036	Pass
20	-0.159	-0.149	-0.23	-30.632	-26.816	-20.293	Pass
21	-0.162	-0.167	-0.254	-31.017	-26.049	-19.328	Pass
22	-0.157	-0.16	-0.243	-30.69	-25.892	-19.212	Pass
23	-0.162	-0.158	-0.239	-31.65	-27.306	-20.665	Pass
24	-0.161	-0.163	-0.25	-31.162	-26.255	-19.482	Pass
25	-0.143	-0.145	-0.224	-31.36	-27.064	-20.383	Pass
26	-0.171	-0.17	-0.266	-31.334	-26.015	-19.265	Pass
27	-0.149	-0.141	-0.218	-31.647	-27.525	-20.918	Pass
28	-0.173	-0.17	-0.264	-31.281	-26.127	-19.394	Pass
29	-0.162	-0.16	-0.235	-31.823	-27.658	-21.152	Pass
30	-0.158	-0.164	-0.279	-30.983	-25.194	-18.259	Pass
31	-0.163	-0.161	-0.257	-31.139	-25.991	-19.241	Pass
32	-0.155	-0.147	-0.212	-31.32	-27.546	-21.12	Pass
33	-0.147	-0.145	-0.223	-31.824	-27.073	-20.447	Pass
34	-0.16	-0.165	-0.265	-30.486	-25.822	-19.151	Pass
35	-0.161	-0.167	-0.273	-30.601	-25.288	-18.393	Pass
36	-0.156	-0.153	-0.233	-31.216	-26.616	-19.889	Pass
37	-0.163	-0.155	-0.235	-30.736	-26.62	-20.12	Pass
38	-0.157	-0.161	-0.239	-31.211	-26.953	-20.384	Pass

Appendix 3

HXE2813NL Temperature Humidity168hrs Electrical Test Data

Parameter	DCR	DCR	DCR	DCR	DCR	DCR	BL	OPSH
Condition:	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-2	2-3	6-5	5-4	1-3	6-4	6-4:1-3	1,2,3-4,5,6
Unit	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	M ohms
HighLimit	400	400	500	500	800	1000	2000	
LowLimit							1	10
Average =	149.18	162.21	311.98	313.42	386.53	732.47	345.93	211.69
STD DEV =	5.18	6.98	5.66	7.23	10.48	8.57	10.61	28.87
Cpu	16.13	11.36	11.07	8.61	13.16	10.41	51.98	
Cpl							10.84	2.33
Cpk	16.13	11.36	11.07	8.61	13.16	10.41	10.84	2.33
DATA	-	-	-	-	-	-	-	-
1	153.034	165.21	306.772	311.214	397.372	724.614	327.243	184.394
2	153.442	162.865	306.436	306.65	395.273	725.289	330.016	228.365
3	155.659	162.17	310.511	315.969	395.052	734.645	339.593	181.445
4	153.004	165.158	303.515	311.046	392.192	721.217	329.025	216.733
5	148.094	159.042	310.451	307.57	384.84	731.074	346.233	235.628
6	155.755	168.864	315.63	311.564	401.022	738.978	337.956	193.155
7	148.731	167.914	311.769	313.891	393.64	733.902	340.262	219.786
8	140.824	159.011	310.674	331.394	379.781	754.096	374.316	218.233
9	144.528	156.233	311.809	307.229	380.129	726.762	346.633	192.797
10	143.879	158.099	304.034	308.06	378.322	718.624	340.302	201.983
11	141.896	154.822	307.87	310.398	375.092	725.713	350.621	215.031
12	143.768	161.077	309.143	312.975	381.351	734.282	352.931	191.95
13	154.896	168.76	316.783	315.041	398.741	740.953	342.211	168.353
14	155.775	163.727	309.593	305.48	397.006	725.632	328.625	196.608
15	154.482	171.412	313.369	304.262	398.569	726.006	327.437	214.307
16	141.338	153.147	303.507	303.599	372.836	718.139	345.304	216.504
17	152.032	158.953	313.651	324.889	390.21	737.488	347.277	239.763
18	147.305	167.114	321.885	319.495	392.767	746.749	353.982	193.936
19	146.64	166.301	321.263	319.066	392.474	746.696	354.223	222.576
20	156.417	168.591	314.061	308.103	399.103	734.797	335.694	231.772
21	146.143	158.029	306.205	305.191	381.075	722.439	341.364	248.309
22	145.79	156.813	308.295	312.229	378.986	729.696	350.71	203.791
23	147.692	163.897	312.517	312.315	385.507	729.473	343.966	204.074
24	142.677	150.736	304.333	307.066	370.415	726.166	355.75	198.945
25	140.673	163.551	310.612	312.776	381.153	736.173	355.02	203.434
26	145.224	164.048	305.171	308.476	380.208	724.463	344.255	218.929
27	141.808	158.236	311.182	304.693	376.539	724.293	347.754	208.06
28	145.923	147.371	310.613	308.059	370.944	730.793	359.849	246.818
29	148.16	147.656	316.634	315.304	372.359	733.18	360.821	215.801
30	155.478	171.877	324.52	319.899	402.7	744.748	342.048	178.647
31	157.894	171.291	316.955	317.447	404.338	736.843	332.505	342.94
32	148.486	152.478	310.815	311.118	374.975	730.162	355.187	174.844
33	154.017	172.997	316.475	331.725	404.442	751.902	347.46	176.28
34	148.915	156.845	319.688	325.034	380.097	735.863	355.767	202.19
35	156.878	168.205	326.989	325.743	398.277	736.261	337.985	217.431
36	149.147	157.554	307.382	308.016	378.491	725.125	346.634	214.658
37	154.56	175.539	312.592	319.066	376.519	735.554	359.035	212.856
38	147.749	168.375	311.683	317.73	375.445	734.89	359.445	212.789

YAGEO PULSE

Parameter	OCL	TRP	TRP	TRP	TRP	TRP	TRP	LL
Condition:	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-3	1-3	6-4	1-2	2-3	6-5	5-4	1-3
Unit	uH	*1	*1	*1	*1	*1	*1	nH
HighLimit		1.02	1.02	1.02	1.02	1.02	1.02	1000
LowLimit	350	0.98	0.98	0.98	0.98	0.98	0.98	
Average =	463.62	1.00	1.00	1.00	1.00	1.00	1.00	215.13
STD DEV =	21.27	0.00	0.00	0.00	0.00	0.00	0.00	35.15
Cpu		24.82	17.43	19.85	45.87	29.93	18.43	7.44
Cpl	1.78	24.63	13.93	19.59	37.43	29.78	18.14	
Cpk	1.78	24.63	13.93	19.59	37.43	29.78	18.14	7.44
DATA	-	-	-	-	-	-	-	-
1	471.432	1	0.998	1	0.998	1	1	331.594
2	461.243	1	0.997	1	0.998	1	1	245.403
3	469.861	1	0.998	1	0.998	1	1	199.228
4	468.121	1	0.998	1	0.998	1	1	206.649
5	436.221	1	0.997	1	0.998	1	1	264.128
6	475.246	1	0.998	0.999	0.998	0.999	1	167.969
7	461.603	1	0.998	1	0.998	1	1	188.594
8	467.425	0.999	0.998	1	0.998	1	1	212.861
9	498.311	1	0.998	1	0.997	1	1	210.552
10	437.8	1	0.997	1	0.998	1	1	244.86
11	426.835	1	0.997	1	0.998	1	1	243.15
12	488.082	1	0.998	1	0.998	1	1	272.699
13	485.259	1	0.998	0.999	0.998	1	1	203.454
14	481.198	0.999	0.998	1	0.998	1	0.999	202.182
15	456.979	1	0.998	1	0.998	1	1	181.518
16	483.741	1	0.998	1	0.998	1	1	174.989
17	462.61	1	0.998	1	0.998	1	1	193.203
18	462.479	1	0.998	1	0.998	1	1	216.956
19	463.749	1	0.998	0.999	0.998	1	1	216.573
20	463.38	1	0.998	0.999	0.998	1	1	238.044
21	411.219	1	0.997	1	0.998	1	1	191.723
22	427.129	1	0.997	1	0.998	1	1	172.043
23	471.866	1	0.998	1	0.998	1	1	215.609
24	444.614	1	0.997	1	0.998	0.999	1	282.455
25	465.202	1	0.998	1	0.998	1	1	227.19
26	476.391	1	0.998	1	0.998	1	1	228.582
27	463.082	1	0.998	0.999	0.998	1	1	263.665
28	428.938	1	0.997	1	0.998	1	1	204.684
29	428.925	0.999	0.997	1	0.998	1	1	206.656
30	477.251	1	0.998	1	0.998	1	1	183.56
31	481.15	1	0.998	1	0.998	1	1	183.717
32	485.558	1	0.998	1	0.998	1	0.999	206.277
33	509.951	1	0.998	1	0.998	1	0.999	215.847
34	460.022	1	0.998	1	0.998	1	0.999	198.282
35	464.756	1	0.998	1	0.998	1	0.999	249.607
36	490.779	1	0.998	1	0.998	1	0.999	177.618
37	454.525	1	0.998	1	0.998	1	1	176.696
38	454.51	1	0.998	1	0.998	1	1	176.045

Parameter	IL	IL	IL	RL	RL	RL	Hipot
Condition:	1MHZ	4MHZ	10MHZ	1MHZ	4MHZ	10MHZ	
Pins							5000VDC/ 60s/2mA
Unit	dB	dB	dB	dB	dB	dB	
HighLimit				-15.0	-20.0	-15.0	
LowLimit	-1.0	-1	-1				
Average =	-0.16	-0.16	-0.25	-31.33	-26.47	-19.76	
STD DEV =	0.01	0.01	0.02	0.44	0.75	0.84	
Cpu				12.34	2.88	1.90	
Cpl	36.60	13.05	15.07				
Cpk	36.60	13.05	15.07	12.34	2.88	1.90	
DATA	-	-	-	-	-	-	
1	-0.158	-0.153	-0.235	-31.222	-26.489	-19.919	Pass
2	-0.148	-0.144	-0.228	-32.067	-27.191	-20.485	Pass
3	-0.15	-0.144	-0.243	-31.02	-26.559	-19.72	Pass
4	-0.164	-0.158	-0.244	-31.566	-27.172	-20.494	Pass
5	-0.169	-0.172	-0.271	-31.321	-25.995	-19.157	Pass
6	-0.162	-0.163	-0.245	-31.7	-26.562	-19.795	Pass
7	-0.171	-0.167	-0.256	-31.441	-26.165	-19.353	Pass
8	-0.156	-0.155	-0.245	-30.747	-25.733	-19.011	Pass
9	-0.165	-0.161	-0.246	-31.354	-26.557	-19.88	Pass
10	-0.164	-0.164	-0.262	-31.622	-26.475	-19.69	Pass
11	-0.167	-0.165	-0.267	-30.712	-25.2	-18.39	Pass
12	-0.164	-0.153	-0.234	-31.191	-27.069	-20.457	Pass
13	-0.165	-0.178	-0.302	-30.327	-24.341	-17.404	Pass
14	-0.171	-0.17	-0.273	-31.119	-25.91	-19.13	Pass
15	-0.146	-0.143	-0.228	-31.748	-27.053	-20.384	Pass
16	-0.149	-0.153	-0.231	-31.515	-26.848	-20.202	Pass
17	-0.172	-0.168	-0.272	-30.662	-25.52	-18.745	Pass
18	-0.156	-0.146	-0.215	-32.223	-27.824	-21.214	Pass
19	-0.159	-0.153	-0.245	-31.337	-26.563	-19.955	Pass
20	-0.16	-0.158	-0.24	-31.641	-26.779	-20.086	Pass
21	-0.152	-0.152	-0.243	-30.765	-25.933	-19.118	Pass
22	-0.166	-0.164	-0.262	-30.724	-25.913	-19.264	Pass
23	-0.172	-0.175	-0.275	-31.063	-25.308	-18.493	Pass
24	-0.156	-0.158	-0.248	-31.704	-26.97	-20.209	Pass
25	-0.151	-0.154	-0.241	-31.767	-26.897	-20.248	Pass
26	-0.162	-0.157	-0.245	-31.837	-27.392	-20.779	Pass
27	-0.168	-0.163	-0.243	-32.172	-27.509	-20.966	Pass
28	-0.169	-0.169	-0.251	-31.615	-27.187	-20.494	Pass
29	-0.158	-0.157	-0.25	-31.407	-26.554	-19.858	Pass
30	-0.16	-0.168	-0.269	-31.349	-26.206	-19.317	Pass
31	-0.161	-0.153	-0.236	-30.944	-27.034	-20.494	Pass
32	-0.159	-0.157	-0.228	-31.519	-27.545	-21.115	Pass
33	-0.153	-0.149	-0.236	-31.591	-27.307	-20.684	Pass
34	-0.158	-0.156	-0.258	-30.84	-25.591	-18.775	Pass
35	-0.149	-0.146	-0.239	-31.521	-26.694	-20.005	Pass
36	-0.152	-0.157	-0.263	-30.69	-25.295	-18.39	Pass
37	-0.152	-0.155	-0.249	-31.194	-26.304	-19.623	Pass
38	-0.145	-0.148	-0.248	-31.464	-26.379	-19.608	Pass

Appendix 4

HXE2813NL Electrical Test Data After Resistance To Soldering Heat

Parameter	DCR	DCR	DCR	DCR	DCR	DCR	BL	OPSH
Condition:	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-2	2-3	6-5	5-4	1-3	6-4	6-4:1-3	1,2,3-4,5,6
Unit	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	M ohms
HighLimit	400	400	500	500	800	1000	2000	
LowLimit							1	10
Average =	152.19	162.70	313.13	315.18	387.22	735.18	347.95	207.42
STD DEV =	6.94	6.22	5.92	5.38	9.66	8.76	7.83	34.91
Cpu	11.91	12.71	10.51	11.46	14.24	10.08	70.33	
Cpl							14.77	1.88
Cpk	11.91	12.71	10.51	11.46	14.24	10.08	14.77	1.88
DATA	-	-	-	-	-	-	-	-
1	154.873	161.067	318.619	314.197	389.257	734.723	345.466	251.722
2	146.307	166.71	307.206	305.658	376.133	722.799	346.666	352.851
3	153.565	163.079	314.814	317.893	378.503	739.551	361.048	195.484
4	170.382	179.946	309.854	307.934	385.186	724.557	339.371	237.294
5	149.8	160.619	304.427	310.402	379.741	724.456	344.715	213.331
6	158.446	162.145	313.462	319.447	389.078	730.85	341.772	260.01
7	148.253	165.192	310.951	314.96	386.387	733.814	347.427	171.291
8	149.232	154.558	314.52	310.363	381.539	735.263	353.724	179.619
9	158.368	165.384	312.273	322.019	390.438	740.864	350.427	187.48
10	152.37	160.892	310.652	312.597	389.44	733.644	344.204	190.641
11	160.286	170.192	327.968	321.84	400.944	759.16	358.216	258.506
12	167.186	161.858	325.84	320.538	399.631	734.851	335.219	191.409
13	154.003	161.416	313.085	310.468	383.892	731.559	347.667	184.612
14	144.297	168.205	313.931	314.422	388.407	736.228	347.821	265.027
15	169.068	175.259	317.667	320.056	410.11	738.645	328.535	216.254
16	142.098	151.183	304.847	304.345	370.889	716.682	345.793	165.857
17	146.733	154.105	301.998	302.996	369.342	715.205	345.863	187.788
18	150.263	169.515	311.973	315.616	399.35	735.108	335.758	187.16
19	152.98	168.994	312.209	314.541	394.688	739.154	344.466	174.489
20	149.552	162.875	313.766	316.788	383.34	736.157	352.817	244.717
21	143.572	157.926	316.608	326.527	377.913	744.029	366.115	199.932
22	160.182	165.799	308.111	317.963	398.74	736.863	338.123	192.279
23	159.023	163.661	310.403	322.398	393.4	739.379	345.979	190.661
24	153.231	158.957	313.182	317.824	388.032	733.482	345.45	206.048
25	149.88	160.466	310.417	319.517	385.998	732.788	346.791	194.564
26	149.022	158.848	309.752	315.007	384.47	728.426	343.957	214.527
27	150.11	158.329	309.555	318.831	381.871	734.632	352.761	196.323
28	149.788	158.201	318.061	316.407	379.521	742.435	362.914	179.791
29	156.784	168.616	322.362	324.632	400.454	751.759	351.306	195.845
30	147.194	159.321	311.292	311.312	381.083	731.683	350.6	198.079
31	151.329	176.167	317.999	318.288	406.095	745.263	339.168	199.478
32	146.092	155.264	306.088	309.1	379.313	729.089	349.776	213.927
33	146.553	158.233	316.84	313.879	379.74	742.231	362.491	207.297
34	146.366	155.102	310.462	318.396	380.399	737.779	357.38	171.284
35	144.97	161.672	317.851	313.104	385.696	738.525	352.829	199.531
36	146.484	158.588	306.621	311.16	381.465	726.905	345.441	172.103
37	159.895	166.749	326.47	315.575	405.766	751.356	345.589	220.235
38	144.567	157.474	306.676	309.898	378.227	726.83	348.603	214.377

YAGEO PULSE

Parameter	OCL	TRP	TRP	TRP	TRP	TRP	TRP	LL
Condition:	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-3	1-3	6-4	1-2	2-3	6-5	5-4	1-3
Unit	uH	*1	*1	*1	*1	*1	*1	nH
HighLimit		1.02	1.02	1.02	1.02	1.02	1.02	1000
LowLimit	350	0.98	0.98	0.98	0.98	0.98	0.98	
Average =	460.96	1.00	1.00	1.00	1.00	1.00	1.00	224.07
STD DEV =	21.88	0.00	0.00	0.00	0.00	0.00	0.00	36.12
Cpu		17.36	13.00	15.87	45.87	24.82	19.85	7.16
Cpl	1.69	17.04	10.42	15.50	37.43	24.63	19.59	
Cpk	1.69	17.04	10.42	15.50	37.43	24.63	19.59	7.16
DATA	-	-	-	-	-	-	-	-
1	465.198	1	0.998	1	0.998	1	1	223.578
2	462.493	1	0.998	1	0.998	1	1	177.076
3	441.282	1	0.997	1	0.998	1	1	167.607
4	453.584	1	0.998	1	0.998	1	0.999	177.573
5	444.022	0.999	0.998	1	0.998	1	1	172.709
6	461.113	1	0.998	0.999	0.998	1	1	249.508
7	422.575	1	0.997	1	0.998	1	1	230.699
8	485.409	0.999	0.998	1	0.998	0.999	1	157.689
9	461.251	1	0.998	1	0.998	1	1	286.974
10	404.88	1	0.997	1	0.998	1	1	241.132
11	491.824	1	0.998	1	0.998	1	1	249.47
12	464.764	1	0.998	1	0.998	1	1	186.081
13	465.317	0.999	0.998	1	0.998	1	0.999	210.015
14	482.832	0.999	0.998	1	0.998	1	1	302.546
15	472.904	0.999	0.998	1	0.998	0.999	1	194.397
16	472.038	1	0.999	0.999	0.998	1	1	232.999
17	472.163	1	0.999	0.999	0.998	1	1	234.042
18	443.548	1	0.999	0.999	0.998	1	1	219.985
19	452.649	1	0.997	1	0.998	1	1	208.147
20	453.41	1	0.997	1	0.998	1	1	214.928
21	457.28	1	0.997	1	0.998	1	1	223.509
22	461.321	1	0.998	1	0.998	1	1	216.288
23	429.566	1	0.997	1	0.998	1	1	203.279
24	434.122	1	0.997	1	0.998	1	1	257.056
25	497.421	1	0.998	1	0.998	1	1	228.612
26	498.506	1	0.998	1	0.998	1	1	228.899
27	464.797	1	0.998	0.999	0.998	1	1	256.216
28	494.558	1	0.998	1	0.998	1	1	322.169
29	480.152	0.999	0.998	1	0.998	1	1	190.016
30	429.477	1	0.997	1	0.998	1	1	209.409
31	489.616	1	0.998	0.999	0.997	1	1	202.476
32	458.862	1	0.998	0.999	0.998	1	0.999	186.192
33	471.573	1	0.998	0.999	0.998	1	0.999	258.956
34	420.666	1	0.997	0.999	0.998	1	0.999	244.709
35	458.742	0.999	0.997	1	0.998	1	1	265.624
36	452.644	1	0.998	1	0.998	0.999	1	256.362
37	465.195	1	0.998	1	0.998	1	1	213.568
38	478.853	1	0.998	1	0.998	1	1	214.072

Parameter	IL	IL	IL	RL	RL	RL	Hipot
Condition:	1MHZ	4MHZ	10MHZ	1MHZ	4MHZ	10MHZ	
Pins							
Unit	dB	dB	dB	dB	dB	dB	
HighLimit				-15.0	-20.0	-15.0	
LowLimit	-1.0	-1	-1				
Average =	-0.16	-0.16	-0.25	-31.13	-26.41	-19.77	5000VDC/
STD DEV =	0.01	0.01	0.02	0.51	0.90	0.90	60s/2mA
Cpu				10.53	2.38	1.77	
Cpl	32.65	13.20	12.67				
Cpk	32.65	13.20	12.67	10.53	2.38	1.77	
DATA	-	-	-	-	-	-	
1	-0.159	-0.155	-0.229	-31.702	-27.479	-20.969	Pass
2	-0.163	-0.157	-0.241	-30.912	-26.271	-19.758	Pass
3	-0.161	-0.167	-0.282	-30.721	-25.323	-18.478	Pass
4	-0.164	-0.166	-0.269	-31.143	-25.668	-18.851	Pass
5	-0.162	-0.16	-0.25	-31.43	-27.066	-20.364	Pass
6	-0.173	-0.168	-0.269	-30.593	-25.84	-19.187	Pass
7	-0.167	-0.166	-0.272	-30.546	-25.518	-18.747	Pass
8	-0.168	-0.166	-0.248	-31.117	-26.985	-20.431	Pass
9	-0.167	-0.163	-0.236	-31.803	-27.763	-21.173	Pass
10	-0.153	-0.146	-0.233	-31.57	-26.774	-20.072	Pass
11	-0.169	-0.167	-0.259	-30.916	-26.398	-19.609	Pass
12	-0.164	-0.167	-0.274	-30.841	-25.678	-18.86	Pass
13	-0.151	-0.166	-0.31	-29.984	-23.925	-18.996	Pass
14	-0.156	-0.154	-0.24	-31.549	-26.73	-20.108	Pass
15	-0.147	-0.147	-0.231	-31.526	-27.319	-20.701	Pass
16	-0.169	-0.168	-0.255	-31.701	-26.941	-20.286	Pass
17	-0.152	-0.157	-0.27	-30.049	-25.085	-18.387	Pass
18	-0.171	-0.168	-0.27	-30.575	-25.985	-19.267	Pass
19	-0.172	-0.167	-0.276	-30.276	-25.432	-18.7	Pass
20	-0.164	-0.159	-0.258	-30.939	-26.27	-19.694	Pass
21	-0.153	-0.143	-0.225	-31.098	-27.762	-21.359	Pass
22	-0.143	-0.143	-0.229	-31.67	-27.239	-20.506	Pass
23	-0.154	-0.153	-0.255	-30.97	-26.019	-19.197	Pass
24	-0.159	-0.154	-0.233	-31.687	-27.666	-21.131	Pass
25	-0.169	-0.166	-0.258	-31.441	-26.615	-19.911	Pass
26	-0.18	-0.18	-0.283	-30.975	-25.822	-19.027	Pass
27	-0.165	-0.166	-0.271	-30.935	-25.776	-18.913	Pass
28	-0.161	-0.163	-0.247	-31.692	-26.993	-20.367	Pass
29	-0.164	-0.16	-0.255	-31.344	-26.769	-20.168	Pass
30	-0.155	-0.156	-0.232	-32.146	-27.661	-20.989	Pass
31	-0.149	-0.144	-0.233	-31.083	-26.869	-20.248	Pass
32	-0.158	-0.157	-0.253	-30.539	-25.745	-18.957	Pass
33	-0.157	-0.159	-0.258	-31.544	-26.452	-19.599	Pass
34	-0.159	-0.159	-0.262	-30.957	-25.774	-18.941	Pass
35	-0.147	-0.154	-0.284	-30.579	-24.634	-17.678	Pass
36	-0.143	-0.145	-0.227	-31.773	-27.388	-20.741	Pass
37	-0.156	-0.148	-0.236	-30.924	-26.614	-20.008	Pass
38	-0.152	-0.153	-0.244	-31.537	-27.36	-20.73	Pass

Appendix 5

HXE2813NL Electrical Test Data After Vibration& Mechanical Shock

Parameter	DCR	DCR	DCR	DCR	DCR	DCR	BL	OPSH
Condition:	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-2	2-3	6-5	5-4	1-3	6-4	6-4:1-3	1,2,3-4,5,6
Unit	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	m ohms	M ohms
HighLimit	400	400	500	500	800	1000	2000	
LowLimit							1	10
Average =	148.33	160.55	312.66	314.10	383.14	730.99	347.84	200.17
STD DEV =	5.47	6.49	5.89	6.35	10.74	9.00	9.68	35.91
Cpu	15.35	12.30	10.60	9.76	12.94	9.97	56.87	
Cpl							11.94	1.77
Cpk	15.35	12.30	10.60	9.76	12.94	9.97	11.94	1.77
DATA	-	-	-	-	-	-	-	-
1	164.444	168.615	323.328	336.641	408.312	759.714	351.401	174.119
2	148.721	157.306	317.555	317.11	377.248	731.014	353.766	193.95
3	142.129	154.129	325.207	322.514	375.206	729.064	353.858	186.081
4	150.344	170.869	313.774	312.518	394.024	730.144	336.12	236.784
5	150.83	165.415	311.421	309.62	385.762	727.662	341.9	167.885
6	149.519	161.092	319.197	313.932	384.588	736.445	351.857	179.969
7	158.029	164.618	316.037	319.051	375.007	723.852	348.845	167.751
8	142.55	160.4	315.181	315.958	380.289	727.411	347.122	245.288
9	145.657	160.511	306.243	304.19	380.241	721.685	341.444	252.851
10	148.539	158.267	310.846	314.236	380.417	729.095	348.678	172.948
11	152.548	159.419	308.242	312.144	385.56	726.327	340.767	227.474
12	145.43	169.692	308.101	306.925	388.005	723.972	335.968	211.823
13	146.988	145.965	305.052	305.016	360.334	716.127	355.793	179.842
14	143.008	155.118	306.119	309.123	373.213	724.252	351.038	171.073
15	144.549	166.386	305.85	302.055	385.268	718.835	333.566	244.82
16	150.947	165.281	304.149	309.532	386.826	716.048	329.222	183.385
17	140.113	158.564	309.091	312.682	375.18	728.483	353.303	233.724
18	144.755	153.7	309.772	314.241	373.879	731.984	358.104	182.688
19	148.272	154.366	309.749	312.995	380.001	729.999	349.998	191.108
20	145.301	159.014	308.452	306.075	383.203	720.887	337.684	167.41
21	143.974	154.103	304.135	310.009	371.862	719.769	347.907	251.361
22	145.201	158.903	311.515	308.823	381.3	729.314	348.013	173.903
23	149.051	157.604	315.273	323.136	377.991	732.493	354.502	190.687
24	150.244	169.081	314.823	318.006	384.704	727.423	342.718	265.452
25	141.37	151.385	310.859	323.789	366.887	741.224	374.337	160.747
26	151.597	158.106	321.812	318.58	384.432	734.926	350.493	205.048
27	147.649	160.819	312.152	320.661	383.683	733.746	350.063	185.579
28	156.611	168.647	315.876	316.638	399.246	735.237	335.991	260.85
29	160.076	172.362	319.103	314.115	409.063	734.738	325.675	161.967
30	141.914	151.918	313.253	316.247	371.075	737.684	366.609	178.935
31	151.329	176.167	317.999	318.288	406.095	745.263	339.168	175.194
32	146.092	155.264	306.088	309.1	379.313	729.089	349.776	153.34
33	146.553	158.233	316.84	313.879	379.74	742.231	362.491	156.928
34	146.366	155.102	310.462	318.396	380.399	737.779	357.38	273.425
35	144.97	161.672	317.851	313.104	385.696	738.525	352.829	184.467
36	146.484	158.588	306.621	311.16	381.465	726.905	345.441	273.26
37	159.895	166.749	326.47	315.575	405.766	751.356	345.589	171.278
38	144.567	157.474	306.676	309.898	378.227	726.83	348.603	213.142

YAGEO PULSE

Parameter	OCL	TRP	TRP	TRP	TRP	TRP	TRP	LL
Condition:	normal	normal	normal	normal	normal	normal	normal	normal
Pins	1-3	1-3	6-4	1-2	2-3	6-5	5-4	1-3
Unit	uH	*1	*1	*1	*1	*1	*1	nH
HighLimit		1.02	1.02	1.02	1.02	1.02	1.02	1000
LowLimit	350	0.98	0.98	0.98	0.98	0.98	0.98	
Average =	456.18	1.00	1.00	1.00	1.00	1.00	1.00	227.84
STD DEV =	18.79	0.00	0.00	0.00	0.00	0.00	0.00	33.50
Cpu		17.36	15.14	21.84	45.87	29.93	19.85	7.68
Cpl	1.88	17.04	11.87	21.61	37.43	29.78	19.59	
Cpk	1.88	17.04	11.87	21.61	37.43	29.78	19.59	7.68
DATA	-	-	-	-	-	-	-	-
1	441.728	1	0.997	1	0.998	1	1	184.597
2	464.339	1	0.998	1	0.998	1	1	305.293
3	452.07	1	0.997	0.999	0.998	1	1	218.133
4	451.408	1	0.998	1	0.998	1	1	219.637
5	452.211	1	0.997	1	0.998	1	0.999	217.544
6	464.059	0.999	0.998	1	0.998	1	1	306.316
7	423.823	1	0.997	1	0.998	1	1	276.579
8	463.883	0.999	0.998	1	0.998	1	1	192.141
9	468.88	0.999	0.998	1	0.998	0.999	1	224.388
10	465.501	1	0.998	1	0.998	1	1	279.473
11	461.161	0.999	0.997	1	0.998	1	1	218.422
12	478.176	1	0.998	1	0.998	1	1	227.732
13	456.291	1	0.998	1	0.998	1	1	246.714
14	488.704	1	0.998	1	0.998	1	0.999	159.268
15	427.615	1	0.997	1	0.998	1	1	250.554
16	437.498	1	0.997	0.999	0.998	1	1	262.579
17	431.002	1	0.997	1	0.998	1	1	225.303
18	470.21	1	0.998	1	0.998	1	1	240.781
19	462.604	1	0.997	1	0.998	1	1	202.533
20	446.937	1	0.997	1	0.998	1	1	207.224
21	464.274	1	0.998	1	0.998	1	1	209.092
22	464.947	1	0.998	1	0.998	1	1	247.628
23	394.915	1	0.997	0.999	0.998	1	1	197.789
24	451.491	0.999	0.997	1	0.998	1	1	235.955
25	437.116	1	0.997	1	0.998	1	1	238.502
26	464.833	1	0.998	1	0.998	1	1	187.819
27	455.127	1	0.997	1	0.998	1	1	228.115
28	461.628	1	0.998	1	0.998	1	1	195.904
29	473.998	1	0.998	1	0.998	1	1	237.632
30	462.238	1	0.998	1	0.998	1	1	172.184
31	489.616	1	0.998	1	0.997	1	1	202.476
32	458.862	1	0.998	1	0.998	1	0.999	186.192
33	471.573	1	0.998	0.999	0.998	1	0.999	258.956
34	420.666	1	0.997	1	0.998	1	0.999	244.709
35	458.742	1	0.997	1	0.998	1	1	265.624
36	452.644	0.999	0.998	1	0.998	0.999	1	256.362
37	465.195	0.999	0.998	1	0.998	1	1	213.568
38	478.853	1	0.998	1	0.998	1	1	214.072

Parameter	IL	IL	IL	RL	RL	RL	Hipot
Condition:	1MHZ	4MHZ	10MHZ	1MHZ	4MHZ	10MHZ	
Pins							5000VDC/ 60s/2mA
Unit	dB	dB	dB	dB	dB	dB	
HighLimit				-15.0	-20.0	-15.0	
LowLimit	-1.0	-1	-1				
Average =	-0.16	-0.16	-0.25	-31.14	-26.43	-19.84	
STD DEV =	0.01	0.01	0.02	0.48	0.91	0.93	
Cpu				11.29	2.37	1.73	
Cpl	36.19	15.05	13.60				
Cpk	36.19	15.05	13.60	11.29	2.37	1.73	
DATA	-	-	-	-	-	-	
1	-0.153	-0.15	-0.227	-31.528	-27.688	-21.016	Pass
2	-0.166	-0.158	-0.243	-31.535	-26.829	-20.11	Pass
3	-0.155	-0.151	-0.234	-31.724	-27.05	-20.46	Pass
4	-0.157	-0.162	-0.269	-30.759	-25.702	-19.869	Pass
5	-0.167	-0.167	-0.266	-31.093	-25.814	-19.079	Pass
6	-0.167	-0.163	-0.259	-30.706	-26.003	-19.331	Pass
7	-0.169	-0.167	-0.281	-30.143	-25.101	-19.392	Pass
8	-0.169	-0.168	-0.277	-30.305	-25.494	-18.708	Pass
9	-0.174	-0.171	-0.267	-31.222	-26.336	-19.675	Pass
10	-0.171	-0.168	-0.26	-31.536	-26.653	-20.055	Pass
11	-0.155	-0.153	-0.233	-31.699	-27.494	-20.777	Pass
12	-0.159	-0.171	-0.311	-30.067	-23.974	-17.024	Pass
13	-0.165	-0.158	-0.254	-30.918	-26.394	-19.719	Pass
14	-0.172	-0.164	-0.251	-31.653	-26.949	-20.281	Pass
15	-0.152	-0.158	-0.257	-31.075	-25.732	-19.883	Pass
16	-0.156	-0.144	-0.223	-31.111	-27.765	-21.343	Pass
17	-0.155	-0.156	-0.238	-31.684	-27.317	-20.505	Pass
18	-0.148	-0.146	-0.25	-30.548	-25.867	-19.31	Pass
19	-0.15	-0.149	-0.259	-30.586	-25.515	-19.854	Pass
20	-0.156	-0.146	-0.228	-31.029	-27.051	-20.51	Pass
21	-0.168	-0.156	-0.238	-31.861	-27.826	-21.175	Pass
22	-0.169	-0.165	-0.254	-31.485	-26.683	-20.04	Pass
23	-0.162	-0.157	-0.245	-31.036	-26.234	-19.808	Pass
24	-0.159	-0.154	-0.235	-31.512	-27.67	-21.09	Pass
25	-0.156	-0.159	-0.254	-30.977	-25.866	-19.153	Pass
26	-0.17	-0.165	-0.26	-31.475	-26.698	-19.904	Pass
27	-0.169	-0.161	-0.234	-31.694	-27.505	-20.992	Pass
28	-0.159	-0.166	-0.272	-30.776	-25.363	-18.469	Pass
29	-0.161	-0.16	-0.261	-31.139	-25.765	-18.915	Pass
30	-0.159	-0.157	-0.247	-31.579	-27.026	-20.396	Pass
31	-0.149	-0.144	-0.233	-31.083	-26.869	-20.248	Pass
32	-0.158	-0.157	-0.253	-30.539	-25.745	-18.957	Pass
33	-0.157	-0.159	-0.258	-31.544	-26.452	-19.599	Pass
34	-0.159	-0.159	-0.262	-30.957	-25.774	-18.941	Pass
35	-0.147	-0.154	-0.284	-30.579	-24.634	-17.678	Pass
36	-0.143	-0.145	-0.227	-31.773	-27.388	-20.741	Pass
37	-0.156	-0.148	-0.236	-30.924	-26.614	-20.008	Pass
38	-0.152	-0.153	-0.244	-31.537	-27.36	-20.73	Pass