



# PRODUCT/PROCESS CHANGE NOTIFICATION

---

PCN APM-LOG/07/2911  
Notification Date 09/21/2007

---

**Additional Testing facility for Power Logic Products in  
TSSOP-24 and HTSSOP-24 packages**

**LOG - ADV ANALOG/LOGIC**

**Table 1. Change Identification**

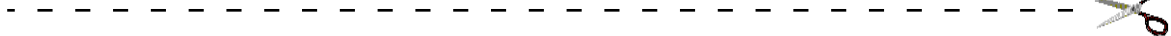
Product Identification (Product Family/Commercial Product)	See attached list
Type of change	Testing location change
Reason for change	Additional Back-End Testing Facility to support growing demand
Description of the change	Additional Testing facility for Power Logic Products in TSSOP-24 and HTSSOP-24 packages in AMKOR. Testing facility continues to be available in ST Muar. Amkor Testing facility is an additional plant to support back-end testing. Refer to Production Flowchart, Fig. 1.
Product Line(s) and/or Part Number(s)	See attached
Description of the Qualification Plan	See attached
Change Product Identification	See "Korea" as Country of Origin
Manufacturing Location(s)	

**Table 2. Change Implementation Schedule**

Forecasted implementation date for change	13-Dec-2007
Forecasted availability date of samples for customer	14-Sep-2007
Forecasted date for <b>STMicroelectronics</b> change Qualification Plan results availability	14-Sep-2007
Estimated date of changed product first shipment	21-Dec-2007

**Table 3. List of Attachments**

Customer Part numbers list	
Qualification Plan results	



Customer Acknowledgement of Receipt		PCN APM-LOG/07/2911					
Please sign and return to STMicroelectronics Sales Office		Notification Date 09/21/2007					
<input type="checkbox"/> Qualification Plan Denied <input type="checkbox"/> Qualification Plan Approved  <input type="checkbox"/> Change Denied <input type="checkbox"/> Change Approved	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">Name:</td></tr> <tr><td style="padding: 2px;">Title:</td></tr> <tr><td style="padding: 2px;">Company:</td></tr> <tr><td style="padding: 2px;">Date:</td></tr> <tr><td style="padding: 2px;">Signature:</td></tr> </table>		Name:	Title:	Company:	Date:	Signature:
Name:							
Title:							
Company:							
Date:							
Signature:							
Remark ..... ..... ..... ..... ..... ..... ..... ..... ..... .....							

## DOCUMENT APPROVAL

Name	Function
Fong, Steven	Division Marketing Manager
Russo, Biagio	Division Product Manager
Lisi, Giuseppe	Division Q.A. Manager

## TESTING FLOW CHART

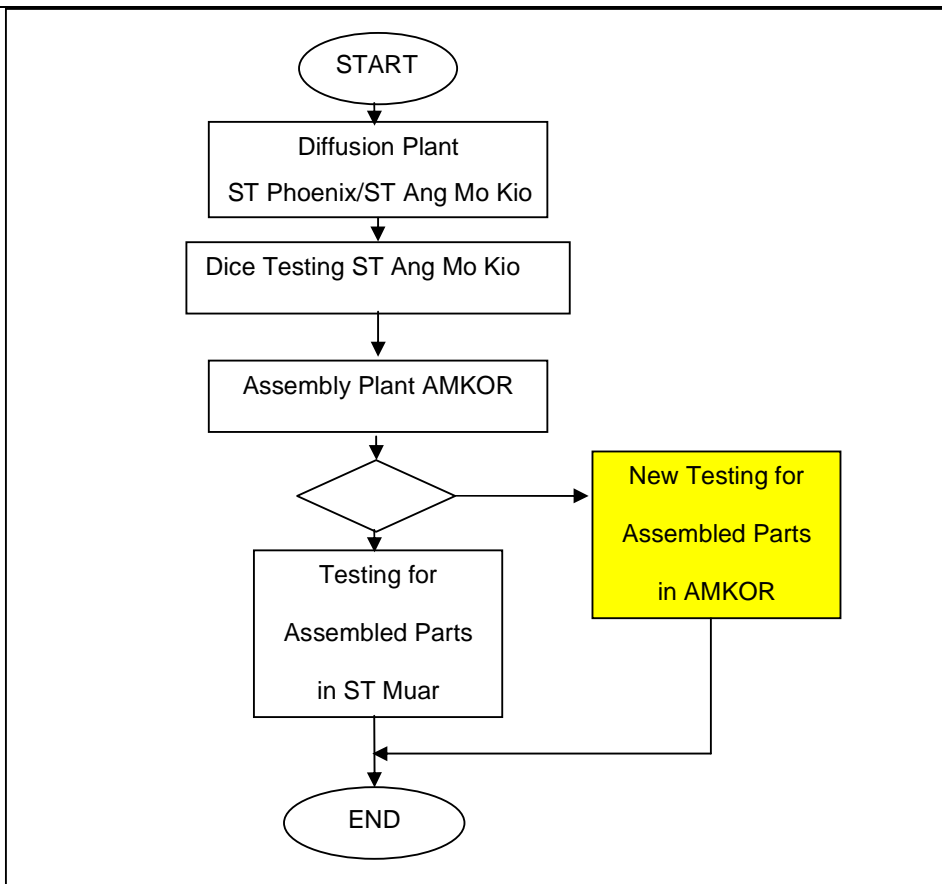


Fig. 1: Production Flowchart



Qualification Report of AMKOR Testing

# **Qualification Report of AMKOR Testing Facility for TSSOP-24 and HTSSOP-24 packages**



## Qualification Report of AMKOR Testing

### **Introduction:**

This report is generated during the qualification of a new Final Testing location at AMKOR for Power Logic products. A Gauge RnR Test was conducted to verify the testing capability at this new location.

### **Commercial Part Numbers affected:**

Commercial Part Number	New Finished Good Code	Package
STP16CP05TTR	STP16CP05TTR@B1	TSSOP 24
STP16CP05XTTR	STP16CP05XTR@B1	TSSOP 24
STP16CPS05TTR	STP16CPS05TTR@B2	TSSOP 24
STP16CPS05XTTR	STP16CPS05XTR@B2	TSSOP 24
STP16DP05TTR	STP16DP05TTR@B2	TSSOP 24
STP16DP05XTTR	STP16DP05XTR@B2	TSSOP 24
STP16C596TTR	STP16C596TTR@B6	TSSOP 24
STP16C596XTTR	STP16C596XTR@B6	HTSSOP 24
STP16CL596TTR	STP16CL596TTR@B6	TSSOP 24
STP16CL596XTTR	STP16CL596XTR@B6	HTSSOP 24

Table 1: List of Commercial Part Numbers

### **Testing Procedure:**

STP16C596XTTR (Device Code UF83) was used as the Test Vehicle to qualify this new testing facility. The results represent the whole Power Logic products shown on Table 1.



Qualification Report of AMKOR Testing

**Gage R&R by ANOVA for UF83\_FT\_rev01**

pcFIRMS ver:7.1.1.3 Copyright (c) 2007 Soto Technologies International, Inc.: www.sototech.com

Report Date: 7/30/2007

Workspace: D:\mevan\Pcfirms2

Data files:

UF83\_AppraiserC\_spd\_std

UF83\_AppraiserA\_spd\_std

UF83\_AppraiserB\_spd\_std

**BandGap**

Units of Measure = V

LIMITS

Lo Limit: 1.155 No. Of Operators: 3  
 Hi Limit: 1.350 No. Of Trials: 3  
 Tolerance: 0.195 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	1.258	1.254	1.260	1.258	1.256	1.260	1.267	1.268	1.252	1.264	1.259740
A	2	1.258	1.254	1.261	1.259	1.255	1.259	1.266	1.268	1.252	1.264	1.259590
A	3	1.258	1.255	1.261	1.258	1.256	1.260	1.267	1.268	1.252	1.264	1.259790
	Ave	1.258	1.254	1.261	1.258	1.256	1.260	1.267	1.268	1.252	1.264	1.260
	R	0.000200	0.000600	0.000600	0.000600	0.000700	0.000500	0.000800	0.000400	0.000100	0.000100	<--- Ave X-bar: 1.260
												<--- Ave R: 0.000460
B	1	1.258	1.254	1.261	1.258	1.255	1.260	1.267	1.267	1.252	1.263	1.259550
B	2	1.257	1.254	1.261	1.258	1.255	1.260	1.266	1.268	1.253	1.264	1.259640
B	3	1.258	1.254	1.261	1.258	1.255	1.259	1.267	1.268	1.252	1.264	1.259550
	Ave	1.257	1.254	1.261	1.258	1.255	1.260	1.267	1.268	1.252	1.263	1.260
	R	0.000300	0.000200	0.000500	0.000100	0.000100	0.000700	0.000400	0.000400	0.000500	0.000600	<--- Ave X-bar: 1.260
												<--- Ave R: 0.000380
C	1	1.257	1.255	1.261	1.258	1.255	1.259	1.267	1.268	1.252	1.263	1.259610
C	2	1.258	1.254	1.261	1.258	1.256	1.260	1.267	1.268	1.252	1.264	1.259620
C	3	1.258	1.254	1.260	1.258	1.255	1.260	1.267	1.268	1.252	1.263	1.259500
	Ave	1.257	1.254	1.261	1.258	1.255	1.260	1.267	1.268	1.252	1.263	1.260
	R	0.000600	0.000800	0.000300	0.000500	0.000500	0.000400	0.000400	0.000100	0.000200	0.000400	<--- Ave X-bar: 1.260
												<--- Ave R: 0.000420
Total Part Ave.		1.258	1.254	1.261	1.258	1.255	1.260	1.267	1.268	1.252	1.263	<---Mean Range: 0.015467

Grand Average Range  
 XDIFF

Equipment Variation (EV): 0.001281  
 Appraiser Variation (AV): 0.000262  
 Repeatability and Reproducibility (R&R): 0.001307  
 Part Variation (PV): 0.025056  
 Total Variation (TV): 0.025090

EV as % of TV: 5.105532%  
 AV as % of TV: 1.043170%  
 R&R as % of TV: **5.211014% PASS**  
 PV as % of TV: 99.864194%





Qualification Report of AMKOR Testing

Icc off

Units of Measure = mA

LIMITS													
Lo Limit:		No. Of Operators:										3	
Hi Limit:	0.400	No. Of Trials:										3	
Tolerance:		No. Of Parts:										10	
Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average	
A	1	0.239	0.269	0.270	0.263	0.254	0.273	0.267	0.272	0.270	0.277	0.265280	
A	2	0.238	0.268	0.273	0.265	0.255	0.273	0.266	0.272	0.271	0.276	0.265900	
A	3	0.240	0.267	0.270	0.264	0.256	0.273	0.267	0.273	0.271	0.276	0.265640	
	Ave	0.239	0.268	0.271	0.264	0.255	0.273	0.267	0.272	0.271	0.276	<-- Ave X-bar: 0.266	
	R	0.001900	0.001300	0.003300	0.002200	0.001700	0.000400	0.000300	0.000300	0.001100	0.000400	<-- Ave R: 0.001290	
B	1	0.240	0.267	0.273	0.263	0.255	0.271	0.266	0.272	0.270	0.274	0.265130	
B	2	0.240	0.267	0.269	0.264	0.256	0.271	0.266	0.272	0.269	0.276	0.264970	
B	3	0.237	0.268	0.273	0.265	0.254	0.273	0.267	0.272	0.268	0.276	0.265340	
	Ave	0.239	0.267	0.272	0.264	0.255	0.272	0.266	0.272	0.269	0.276	<-- Ave X-bar: 0.265	
	R	0.002800	0.001300	0.004400	0.001900	0.001600	0.001500	0.000600	0.000000	0.001200	0.002200	<-- Ave R: 0.001750	
C	1	0.241	0.270	0.274	0.267	0.256	0.274	0.267	0.273	0.272	0.277	0.267000	
C	2	0.240	0.268	0.270	0.264	0.255	0.274	0.267	0.273	0.269	0.276	0.265780	
C	3	0.241	0.268	0.271	0.264	0.256	0.274	0.267	0.272	0.272	0.276	0.266190	
	Ave	0.241	0.269	0.272	0.265	0.256	0.274	0.267	0.273	0.271	0.277	<-- Ave X-bar: 0.266	
	R	0.000800	0.001700	0.003200	0.003500	0.000700	0.000100	0.000300	0.000800	0.003400	0.000500	<-- Ave R: 0.001500	
Total Part Ave.		0.240	0.268	0.272	0.264	0.255	0.273	0.267	0.272	0.270	0.276	<--Mean Range: 0.036489	
Grand Average Range												0.001813	
XDIFF												0.001177	
Equipment Variation (EV):												0.004616	
Appraiser Variation (AV):												0.003063	
Repeatability and Reproducibility (R&R):												0.005540	
Part Variation (PV):												0.059112	
Total Variation (TV):												0.059371	
EV as % of TV:												7.774291%	
AV as % of TV:												5.159102%	
R&R as % of TV:												<b>9.330377%</b> <b>PASS</b>	
PV as % of TV:												99.562769%	

ICC 1

Units of Measure = mA

LIMITS													
Lo Limit:		No. Of Operators:										3	
Hi Limit:	7.000	No. Of Trials:										3	
Tolerance:		No. Of Parts:										10	
Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average	
A	1	5.663	5.641	5.689	5.670	5.649	5.685	5.714	5.722	5.644	5.700	5.677640	
A	2	5.661	5.642	5.691	5.672	5.646	5.683	5.711	5.720	5.645	5.701	5.677290	
A	3	5.661	5.645	5.693	5.669	5.648	5.687	5.712	5.723	5.645	5.702	5.678330	
	Ave	5.661	5.643	5.691	5.670	5.648	5.685	5.712	5.722	5.644	5.701	<-- Ave X-bar: 5.678	
	R	0.001900	0.002400	0.002400	0.003300	0.002700	0.003500	0.002600	0.003200	0.000501	0.002000	<-- Ave R: 0.002650	
B	1	5.660	5.642	5.692	5.669	5.646	5.685	5.714	5.720	5.644	5.698	5.676980	
B	2	5.658	5.642	5.690	5.669	5.648	5.687	5.711	5.722	5.645	5.702	5.677210	
B	3	5.659	5.643	5.691	5.669	5.646	5.684	5.712	5.720	5.644	5.701	5.677020	
	Ave	5.659	5.642	5.691	5.669	5.647	5.685	5.713	5.721	5.644	5.700	<-- Ave X-bar: 5.677	
	R	0.002000	0.001700	0.002500	0.000100	0.001600	0.002800	0.003100	0.001800	0.001200	0.003600	<-- Ave R: 0.002040	
C	1	5.658	5.645	5.691	5.671	5.647	5.684	5.713	5.723	5.644	5.700	5.677870	
C	2	5.660	5.644	5.691	5.668	5.648	5.686	5.714	5.723	5.644	5.702	5.677960	
C	3	5.661	5.642	5.690	5.669	5.647	5.685	5.713	5.722	5.644	5.700	5.677470	
	Ave	5.660	5.644	5.691	5.669	5.647	5.685	5.713	5.723	5.644	5.701	<-- Ave X-bar: 5.678	
	R	0.003200	0.003200	0.001200	0.003100	0.001701	0.001600	0.001700	0.000300	0.000100	0.001301	<-- Ave R: 0.001740	
Total Part Ave.		5.660	5.643	5.691	5.670	5.647	5.685	5.713	5.722	5.644	5.701	<--Mean Range: 0.078644	
Grand Average Range												0.002143	
XDIFF												0.000684	
Equipment Variation (EV):												0.006537	
Appraiser Variation (AV):												0.001409	
Repeatability and Reproducibility (R&R):												0.006688	
Part Variation (PV):												0.127404	
Total Variation (TV):												0.127579	
EV as % of TV:												5.124140%	
AV as % of TV:												1.104640%	
R&R as % of TV:												<b>5.241854%</b> <b>PASS</b>	
PV as % of TV:												99.862520%	



Qualification Report of AMKOR Testing

ICC 2

Units of Measure = mA

LIMITS

Lo Limit: 13.100 No. Of Operators: 3  
 Hi Limit: 13.100 No. Of Trials: 3  
 Tolerance: No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	10.785	10.745	10.821	10.790	10.746	10.802	10.868	10.862	10.742	10.829	10.801040
A	2	10.773	10.751	10.825	10.793	10.751	10.808	10.867	10.866	10.748	10.829	10.803080
A	3	10.787	10.752	10.826	10.792	10.750	10.822	10.868	10.867	10.746	10.833	10.806170
	Ave	10.782	10.749	10.824	10.792	10.749	10.811	10.868	10.865	10.745	10.830	<-- Ave X-bar: 10.803
	R	0.013901	0.006400	0.004200	0.002599	0.004900	0.020300	0.000299	0.004800	0.006200	0.003899	<-- Ave R: 0.006750
B	1	10.772	10.749	10.823	10.788	10.747	10.806	10.867	10.868	10.744	10.828	10.799201
B	2	10.770	10.749	10.825	10.790	10.748	10.821	10.866	10.865	10.744	10.848	10.804640
B	3	10.770	10.748	10.823	10.791	10.748	10.804	10.866	10.867	10.744	10.829	10.798991
	Ave	10.771	10.749	10.824	10.790	10.748	10.810	10.866	10.874	10.744	10.835	<-- Ave X-bar: 10.801
	R	0.001600	0.001701	0.001300	0.002600	0.000999	0.017399	0.000901	0.017400	0.000301	0.020000	<-- Ave R: 0.006420
C	1	10.774	10.757	10.828	10.798	10.756	10.812	10.873	10.890	10.750	10.835	10.807291
C	2	10.775	10.752	10.827	10.796	10.753	10.811	10.872	10.869	10.749	10.852	10.807690
C	3	10.776	10.753	10.829	10.797	10.753	10.811	10.871	10.890	10.748	10.835	10.806251
	Ave	10.775	10.754	10.828	10.797	10.754	10.811	10.872	10.890	10.749	10.841	<-- Ave X-bar: 10.807
	R	0.002599	0.004499	0.002201	0.002000	0.003500	0.000999	0.001600	0.000901	0.002601	0.016800	<-- Ave R: 0.003770
Total Part Ave.		10.776	10.751	10.825	10.793	10.750	10.811	10.868	10.863	10.746	10.835	<--Mean Range: 0.136711
Grand Average Range												0.005647
XDIFF												0.006130

Equipment Variation (EV): 0.017222  
 Appraiser Variation (AV): 0.016250  
 Repeatability and Reproducibility (R&R): 0.023678  
 Part Variation (PV): 0.221472  
 Total Variation (TV): 0.222734

EV as % of TV: 7.732194%  
 AV as % of TV: 7.295497%  
 R&R as % of TV: **10.630668% PASS**  
 PV as % of TV: 99.433339%

IOL pin 5

Units of Measure = mA

LIMITS

Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.725	20.678	20.709	20.302	20.290	20.931	20.363	20.582	20.389	20.458	20.542761
A	2	20.728	20.675	20.723	20.311	20.279	20.929	20.355	20.587	20.383	20.464	20.543481
A	3	20.728	20.687	20.724	20.302	20.293	20.930	20.351	20.585	20.386	20.461	20.544561
	Ave	20.727	20.680	20.719	20.305	20.287	20.930	20.356	20.585	20.386	20.461	<-- Ave X-bar: 20.544
	R	0.003099	0.012498	0.015002	0.009898	0.013700	0.002202	0.012800	0.004999	0.006201	0.006501	<-- Ave R: 0.008690
B	1	20.711	20.672	20.725	20.299	20.274	20.930	20.363	20.569	20.378	20.462	20.538251
B	2	20.713	20.672	20.707	20.300	20.280	20.943	20.350	20.585	20.388	20.472	20.540981
B	3	20.714	20.673	20.723	20.305	20.272	20.931	20.361	20.582	20.373	20.463	20.539721
	Ave	20.713	20.672	20.718	20.301	20.275	20.934	20.358	20.579	20.380	20.466	<-- Ave X-bar: 20.540
	R	0.003101	0.000900	0.017898	0.005599	0.008099	0.013201	0.012500	0.016300	0.014801	0.009200	<-- Ave R: 0.010160
C	1	20.712	20.692	20.725	20.304	20.282	20.931	20.368	20.586	20.375	20.463	20.543791
C	2	20.714	20.675	20.720	20.302	20.295	20.934	20.369	20.584	20.372	20.474	20.543811
C	3	20.730	20.677	20.709	20.306	20.282	20.933	20.354	20.588	20.374	20.463	20.541521
	Ave	20.719	20.682	20.718	20.304	20.286	20.933	20.363	20.586	20.374	20.467	<-- Ave X-bar: 20.543
	R	0.018399	0.017500	0.015300	0.003697	0.013100	0.002898	0.014801	0.003699	0.002902	0.010999	<-- Ave R: 0.010329
Total Part Ave.		20.720	20.678	20.718	20.303	20.283	20.932	20.359	20.583	20.380	20.464	<--Mean Range: 0.649523
Grand Average Range												0.009726
XDIFF												0.003950

Equipment Variation (EV): 0.029666  
 Appraiser Variation (AV): 0.009187  
 Repeatability and Reproducibility (R&R): 0.031036  
 Part Variation (PV): 1.052227  
 Total Variation (TV): 1.052685

EV as % of TV: 2.818087%  
 AV as % of TV: 0.872754%  
 R&R as % of TV: **2.950138% PASS**  
 PV as % of TV: 99.956474%



Qualification Report of AMKOR Testing

IOL pin 6

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average										
A	1	20.141	20.306	20.439	20.697	20.350	20.990	20.914	20.119	20.272	20.608	20.483601										
A	2	20.137	20.303	20.452	20.704	20.335	20.983	20.897	20.116	20.267	20.613	20.480661										
A	3	20.134	20.315	20.450	20.691	20.345	20.988	20.902	20.123	20.268	20.611	20.482791										
	Ave	20.137	20.308	20.447	20.697	20.343	20.987	20.905	20.119	20.269	20.611	<-- Ave X-bar: 20.482										
	R	0.007298	0.011999	0.012700	0.012001	0.015501	0.006199	0.017000	0.007197	0.004200	0.004400	<-- Ave R: 0.009950										
B	1	20.124	20.302	20.452	20.691	20.335	20.989	20.913	20.106	20.260	20.607	20.477931										
B	2	20.127	20.301	20.441	20.694	20.339	20.998	20.901	20.119	20.267	20.620	20.480631										
B	3	20.120	20.304	20.452	20.695	20.327	20.986	20.916	20.115	20.252	20.609	20.477602										
	Ave	20.124	20.303	20.448	20.693	20.334	20.991	20.910	20.113	20.260	20.612	<-- Ave X-bar: 20.479										
	R	0.006700	0.003200	0.011200	0.004100	0.011900	0.011699	0.015100	0.012998	0.015099	0.012800	<-- Ave R: 0.010480										
C	1	20.121	20.319	20.453	20.694	20.334	20.987	20.919	20.119	20.257	20.613	20.481601										
C	2	20.119	20.301	20.451	20.695	20.354	20.990	20.917	20.121	20.255	20.628	20.483041										
C	3	20.137	20.307	20.439	20.698	20.340	20.990	20.903	20.121	20.258	20.610	20.480191										
	Ave	20.126	20.309	20.448	20.696	20.343	20.989	20.913	20.120	20.256	20.617	<-- Ave X-bar: 20.482										
	R	0.018200	0.018099	0.012400	0.002099	0.019301	0.002999	0.016600	0.002000	0.002399	0.018001	<-- Ave R: 0.011410										
Total Part Ave.												20.129	20.307	20.448	20.695	20.340	20.989	20.909	20.118	20.262	20.613	<--Mean Range: 0.871477
Grand Average Range																						0.010613
XDIFF																						0.008630

Equipment Variation (EV): 0.032370  
 Appraiser Variation (AV): 0.007819  
 Repeatability and Reproducibility (R&R): 0.033300  
 Part Variation (PV): 1.411793  
 Total Variation (TV): 1.412186

EV as % of TV: 2.292161%  
 AV as % of TV: 0.552665%  
 R&R as % of TV: **2.358081% PASS**  
 PV as % of TV: 99.972193%

IOL pin 7

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average										
A	1	20.413	20.390	20.462	20.220	20.051	20.510	20.570	20.368	20.379	20.206	20.356861										
A	2	20.415	20.389	20.474	20.230	20.034	20.510	20.559	20.366	20.376	20.209	20.356291										
A	3	20.418	20.401	20.474	20.216	20.050	20.511	20.560	20.368	20.379	20.208	20.358411										
	Ave	20.415	20.394	20.470	20.222	20.045	20.510	20.563	20.367	20.378	20.208	<-- Ave X-bar: 20.357										
	R	0.004502	0.012001	0.012500	0.013500	0.016598	0.001600	0.010900	0.001300	0.003302	0.003602	<-- Ave R: 0.007981										
B	1	20.403	20.388	20.475	20.215	20.035	20.511	20.576	20.351	20.367	20.215	20.353481										
B	2	20.404	20.391	20.462	20.214	20.036	20.523	20.563	20.363	20.376	20.223	20.355481										
B	3	20.406	20.393	20.474	20.221	20.033	20.512	20.569	20.362	20.364	20.212	20.354441										
	Ave	20.404	20.391	20.470	20.217	20.035	20.515	20.569	20.359	20.369	20.216	<-- Ave X-bar: 20.354										
	R	0.002699	0.005400	0.012901	0.006299	0.003401	0.012299	0.012500	0.012001	0.012401	0.011301	<-- Ave R: 0.009120										
C	1	20.403	20.409	20.475	20.214	20.035	20.512	20.572	20.367	20.368	20.214	20.356891										
C	2	20.404	20.391	20.470	20.220	20.033	20.515	20.575	20.366	20.367	20.224	20.358511										
C	3	20.420	20.395	20.460	20.218	20.043	20.508	20.564	20.368	20.362	20.214	20.355281										
	Ave	20.409	20.399	20.469	20.217	20.044	20.512	20.570	20.367	20.366	20.217	<-- Ave X-bar: 20.357										
	R	0.016700	0.017600	0.015199	0.005700	0.017200	0.006201	0.010099	0.001501	0.005100	0.010401	<-- Ave R: 0.010870										
Total Part Ave.												20.409	20.394	20.470	20.219	20.041	20.512	20.567	20.364	20.371	20.214	<--Mean Range: 0.526367
Grand Average Range																						0.009224
XDIFF																						0.002720

Equipment Variation (EV): 0.028132  
 Appraiser Variation (AV): 0.005249  
 Repeatability and Reproducibility (R&R): 0.028618  
 Part Variation (PV): 0.852714  
 Total Variation (TV): 0.853195

EV as % of TV: 3.297285%  
 AV as % of TV: 0.615234%  
 R&R as % of TV: **3.354192% PASS**  
 PV as % of TV: 99.943731%



Qualification Report of AMKOR Testing

IOL pin 8

Units of Measure = mA

LIMITS													
Lo Limit:	18.800	No. Of Operators:									3		
Hi Limit:	22.236	No. Of Trials:									3		
Tolerance:	3.436	No. Of Parts:									10		
Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average	
A	1	20.316	20.205	20.985	20.514	20.430	20.307	20.813	20.410	20.108	20.169	20.425841	
A	2	20.315	20.205	20.999	20.524	20.421	20.306	20.803	20.413	20.110	20.165	20.425981	
A	3	20.319	20.219	20.997	20.506	20.433	20.306	20.812	20.412	20.112	20.170	20.426621	
	Ave	20.317	20.210	20.994	20.515	20.428	20.306	20.809	20.412	20.110	20.168	<--- Ave X-bar: 20.427	
	R	0.004601	0.014201	0.013500	0.018101	0.012599	0.001600	0.010202	0.002701	0.004400	0.004699	<--- Ave R: 0.008660	
B	1	20.304	20.200	20.994	20.509	20.421	20.305	20.816	20.398	20.102	20.168	20.421711	
B	2	20.300	20.203	20.986	20.511	20.420	20.316	20.805	20.410	20.111	20.179	20.424171	
B	3	20.303	20.207	20.998	20.510	20.411	20.304	20.813	20.408	20.095	20.168	20.421591	
	Ave	20.302	20.204	20.993	20.510	20.417	20.308	20.811	20.405	20.103	20.172	<--- Ave X-bar: 20.422	
	R	0.003198	0.007000	0.012202	0.002502	0.009799	0.012498	0.011299	0.011802	0.016401	0.010500	<--- Ave R: 0.009720	
C	1	20.299	20.218	20.996	20.512	20.416	20.303	20.819	20.414	20.099	20.168	20.424401	
C	2	20.306	20.207	20.997	20.508	20.423	20.307	20.820	20.416	20.097	20.179	20.427041	
C	3	20.316	20.207	20.985	20.510	20.422	20.303	20.805	20.411	20.105	20.168	20.423211	
	Ave	20.307	20.211	20.993	20.510	20.424	20.304	20.815	20.414	20.100	20.172	<--- Ave X-bar: 20.425	
	R	0.017300	0.011100	0.012299	0.003697	0.017101	0.004001	0.015099	0.004400	0.008000	0.011399	<--- Ave R: 0.010440	
Total Part Ave.		20.309	20.208	20.993	20.511	20.423	20.306	20.812	20.410	20.104	20.170	<---Mean Range: 0.888556	
Grand Average Range												0.009607	
XDIFF												0.004320	
Equipment Variation (EV):												0.029300	
Appraiser Variation (AV):												0.010365	
Repeatability and Reproducibility (R&R):												0.031080	
Part Variation (PV):												1.439460	
Total Variation (TV):												1.439796	
EV as % of TV:												2.035031%	
AV as % of TV:												0.719890%	
R&R as % of TV:												<b>2.158609%</b> <b>PASS</b>	
PV as % of TV:												99.976699%	

IOL pin 9

Units of Measure = mA

LIMITS													
Lo Limit:	18.800	No. Of Operators:									3		
Hi Limit:	22.236	No. Of Trials:									3		
Tolerance:	3.436	No. Of Parts:									10		
Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average	
A	1	20.465	19.871	20.516	20.448	20.636	20.577	20.581	20.361	20.190	20.780	20.442601	
A	2	20.470	19.871	20.532	20.459	20.634	20.578	20.573	20.360	20.192	20.774	20.444481	
A	3	20.467	19.885	20.533	20.450	20.637	20.580	20.571	20.359	20.192	20.783	20.445841	
	Ave	20.468	19.876	20.527	20.452	20.636	20.578	20.575	20.360	20.192	20.779	<--- Ave X-bar: 20.444	
	R	0.004699	0.013901	0.016799	0.011001	0.002699	0.002800	0.009399	0.001900	0.002299	0.009401	<--- Ave R: 0.007490	
B	1	20.456	19.873	20.534	20.449	20.626	20.580	20.584	20.351	20.181	20.775	20.441110	
B	2	20.454	19.869	20.519	20.448	20.628	20.593	20.570	20.366	20.191	20.790	20.442841	
B	3	20.460	19.872	20.532	20.447	20.624	20.583	20.582	20.363	20.178	20.774	20.441641	
	Ave	20.457	19.871	20.529	20.448	20.626	20.585	20.579	20.360	20.184	20.780	<--- Ave X-bar: 20.442	
	R	0.006801	0.003999	0.015100	0.002200	0.004100	0.012700	0.014598	0.015501	0.013299	0.016300	<--- Ave R: 0.010460	
C	1	20.455	19.888	20.533	20.446	20.629	20.584	20.589	20.364	20.183	20.780	20.445051	
C	2	20.455	19.870	20.532	20.446	20.642	20.580	20.584	20.362	20.180	20.788	20.443771	
C	3	20.468	19.871	20.522	20.449	20.626	20.580	20.573	20.364	20.178	20.778	20.440881	
	Ave	20.459	19.876	20.529	20.447	20.632	20.581	20.582	20.363	20.180	20.782	<--- Ave X-bar: 20.443	
	R	0.012903	0.018401	0.011301	0.002900	0.015201	0.004299	0.015199	0.002101	0.004699	0.009600	<--- Ave R: 0.009660	
Total Part Ave.		20.461	19.874	20.528	20.449	20.631	20.582	20.579	20.361	20.185	20.780	<---Mean Range: 0.906078	
Grand Average Range												0.009203	
XDIFF												0.002450	
Equipment Variation (EV):												0.028070	
Appraiser Variation (AV):												0.004183	
Repeatability and Reproducibility (R&R):												0.028380	
Part Variation (PV):												1.467846	
Total Variation (TV):												1.468120	
EV as % of TV:												1.911967%	
AV as % of TV:												0.284895%	
R&R as % of TV:												<b>1.933076%</b> <b>PASS</b>	
PV as % of TV:												99.981314%	





Qualification Report of AMKOR Testing

IOL pin 10

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average										
A	1	19.768	20.091	20.699	20.421	20.434	20.188	20.272	20.528	20.348	20.801	20.354991										
A	2	19.771	20.098	20.709	20.426	20.423	20.186	20.261	20.526	20.351	20.805	20.355611										
A	3	19.773	20.106	20.708	20.420	20.435	20.189	20.259	20.528	20.347	20.804	20.356791										
	Ave	19.771	20.099	20.705	20.422	20.430	20.188	20.264	20.528	20.348	20.803	<-- Ave X-bar: 20.356										
	R	0.005202	0.014599	0.010898	0.006398	0.011701	0.002898	0.013402	0.001900	0.004102	0.003600	<-- Ave R: 0.007470										
B	1	19.760	20.098	20.711	20.419	20.426	20.187	20.272	20.519	20.335	20.809	20.353491										
B	2	19.762	20.097	20.697	20.420	20.422	20.199	20.258	20.529	20.347	20.817	20.354591										
B	3	19.762	20.094	20.710	20.417	20.415	20.187	20.277	20.532	20.337	20.802	20.353201										
	Ave	19.761	20.096	20.706	20.419	20.421	20.191	20.269	20.527	20.340	20.809	<-- Ave X-bar: 20.354										
	R	0.002399	0.004299	0.014098	0.002300	0.011399	0.012001	0.018898	0.012500	0.011500	0.015199	<-- Ave R: 0.010459										
C	1	19.759	20.113	20.715	20.421	20.425	20.190	20.278	20.531	20.337	20.804	20.356831										
C	2	19.760	20.095	20.709	20.412	20.436	20.187	20.277	20.531	20.337	20.816	20.356011										
C	3	19.770	20.093	20.701	20.419	20.424	20.194	20.261	20.533	20.336	20.804	20.353471										
	Ave	19.763	20.100	20.708	20.417	20.429	20.190	20.270	20.532	20.337	20.808	<-- Ave X-bar: 20.355										
	R	0.010900	0.020601	0.013600	0.006801	0.012198	0.006299	0.015797	0.002800	0.001600	0.011699	<-- Ave R: 0.010450										
Total Part Ave.												19.765	20.098	20.706	20.419	20.427	20.190	20.268	20.529	20.342	20.807	<--Mean Range: 1.041922
Grand Average Range																						0.009460
XDIFF																						0.002040

Equipment Variation (EV): 0.028852  
 Appraiser Variation (AV): 0.001609  
 Repeatability and Reproducibility (R&R): 0.028897  
 Part Variation (PV): 1.687913  
 Total Variation (TV): 1.688161

EV as % of TV: 1.709093%  
 AV as % of TV: 0.095326%  
 R&R as % of TV: **1.711749% PASS**  
 PV as % of TV: 99.985349%

IOL pin 11

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average										
A	1	20.532	19.650	20.230	20.411	20.108	20.146	20.045	21.168	19.618	20.803	20.271001										
A	2	20.544	19.649	20.248	20.428	20.097	20.153	20.030	21.168	19.621	20.805	20.274121										
A	3	20.535	19.661	20.246	20.415	20.109	20.150	20.030	21.167	19.621	20.810	20.274371										
	Ave	20.537	19.653	20.241	20.418	20.105	20.149	20.035	21.168	19.620	20.806	<-- Ave X-bar: 20.273										
	R	0.011401	0.011800	0.017999	0.016399	0.011401	0.006901	0.015002	0.001200	0.003302	0.006700	<-- Ave R: 0.010210										
B	1	20.523	19.653	20.248	20.415	20.100	20.150	20.048	21.155	19.604	20.806	20.270241										
B	2	20.525	19.648	20.232	20.417	20.100	20.161	20.029	21.166	19.619	20.819	20.271421										
B	3	20.528	19.648	20.247	20.415	20.087	20.150	20.050	21.168	19.607	20.805	20.270661										
	Ave	20.525	19.650	20.242	20.416	20.096	20.154	20.042	21.163	19.610	20.810	<-- Ave X-bar: 20.271										
	R	0.005400	0.005499	0.016499	0.001702	0.013800	0.011601	0.021601	0.013500	0.014400	0.013800	<-- Ave R: 0.011750										
C	1	20.529	19.663	20.252	20.417	20.105	20.151	20.044	21.170	19.605	20.812	20.274791										
C	2	20.526	19.647	20.248	20.418	20.112	20.149	20.047	21.170	19.608	20.824	20.274891										
C	3	20.545	19.652	20.239	20.418	20.095	20.152	20.039	21.170	19.607	20.809	20.272570										
	Ave	20.532	19.654	20.246	20.418	20.104	20.151	20.043	21.170	19.607	20.815	<-- Ave X-bar: 20.274										
	R	0.019001	0.015700	0.012502	0.000698	0.016801	0.003198	0.008700	0.000600	0.002801	0.015501	<-- Ave R: 0.009550										
Total Part Ave.												20.532	19.652	20.243	20.417	20.101	20.151	20.040	21.167	19.612	20.810	<--Mean Range: 1.554467
Grand Average Range																						0.010504
XDIFF																						0.003310

Equipment Variation (EV): 0.032036  
 Appraiser Variation (AV): 0.006757  
 Repeatability and Reproducibility (R&R): 0.032741  
 Part Variation (PV): 2.518237  
 Total Variation (TV): 2.518449

EV as % of TV: 1.272064%  
 AV as % of TV: 0.268306%  
 R&R as % of TV: **1.300052% PASS**  
 PV as % of TV: 99.991549%



Qualification Report of AMKOR Testing

IOL pin 12

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.331	20.201	20.392	20.405	19.974	20.139	20.606	20.755	19.887	20.512	20.320301
A	2	20.333	20.204	20.404	20.418	19.968	20.146	20.595	20.757	19.888	20.518	20.323131
A	3	20.333	20.215	20.412	20.406	19.976	20.142	20.594	20.760	19.890	20.521	20.324751
	Ave	20.332	20.207	20.403	20.410	19.973	20.142	20.598	20.757	19.888	20.517	<-- Ave X-bar: 20.323
	R	0.002101	0.014601	0.020001	0.013599	0.007898	0.006700	0.012400	0.004699	0.002602	0.008199	<-- Ave R: 0.009250
B	1	20.317	20.203	20.410	20.402	19.964	20.144	20.604	20.746	19.877	20.514	20.318151
B	2	20.317	20.202	20.394	20.407	19.963	20.154	20.594	20.760	19.886	20.533	20.320951
B	3	20.319	20.201	20.411	20.400	19.953	20.143	20.611	20.756	19.875	20.517	20.318511
	Ave	20.317	20.202	20.405	20.403	19.960	20.147	20.603	20.754	19.879	20.521	<-- Ave X-bar: 20.319
	R	0.002399	0.002300	0.016900	0.007700	0.011098	0.011599	0.017801	0.014201	0.011399	0.018800	<-- Ave R: 0.011420
C	1	20.323	20.220	20.406	20.405	19.962	20.147	20.605	20.756	19.880	20.516	20.322011
C	2	20.319	20.207	20.412	20.407	19.973	20.147	20.610	20.757	19.876	20.531	20.323991
C	3	20.332	20.208	20.394	20.404	19.964	20.146	20.598	20.759	19.880	20.522	20.320471
	Ave	20.325	20.212	20.404	20.405	19.966	20.147	20.603	20.757	19.879	20.523	<-- Ave X-bar: 20.322
	R	0.013402	0.013402	0.017298	0.003101	0.011699	0.001600	0.015600	0.003200	0.004401	0.015000	<-- Ave R: 0.009870
Total Part Ave.		20.325	20.207	20.404	20.406	19.966	20.145	20.602	20.756	19.882	20.520	<--Mean Range: 0.074089
Grand Average Range												0.010180
XDIFF												0.003530
Equipment Variation (EV):												0.031049
Appraiser Variation (AV):												0.007662
Repeatability and Reproducibility (R&R):												0.031981
Part Variation (PV):												1.416025
Total Variation (TV):												1.416386
EV as % of TV:												2.192137%
AV as % of TV:												0.540949%
R&R as % of TV:												2.257895% PASS
PV as % of TV:												99.974506%

IOL pin 13

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.485	20.357	20.417	20.091	20.233	20.222	20.063	20.331	19.915	20.289	20.240201
A	2	20.488	20.364	20.429	20.106	20.227	20.224	20.056	20.335	19.919	20.292	20.243991
A	3	20.486	20.375	20.432	20.097	20.238	20.226	20.057	20.341	19.918	20.293	20.246211
	Ave	20.487	20.365	20.426	20.098	20.232	20.224	20.059	20.336	19.917	20.291	<-- Ave X-bar: 20.243
	R	0.002802	0.017799	0.015099	0.015002	0.011200	0.003401	0.007302	0.010001	0.003299	0.003999	<-- Ave R: 0.009090
B	1	20.476	20.359	20.435	20.094	20.226	20.223	20.066	20.323	19.903	20.295	20.240071
B	2	20.471	20.356	20.419	20.093	20.225	20.237	20.055	20.337	19.917	20.306	20.241591
B	3	20.479	20.358	20.432	20.090	20.217	20.224	20.068	20.337	19.905	20.293	20.240221
	Ave	20.475	20.358	20.429	20.092	20.223	20.228	20.063	20.332	19.908	20.298	<-- Ave X-bar: 20.241
	R	0.007899	0.002800	0.015901	0.004502	0.009403	0.014199	0.012901	0.013199	0.013901	0.013400	<-- Ave R: 0.010810
C	1	20.477	20.374	20.430	20.087	20.227	20.223	20.071	20.337	19.905	20.289	20.241951
C	2	20.477	20.361	20.435	20.096	20.238	20.225	20.071	20.339	19.906	20.306	20.245381
C	3	20.486	20.359	20.424	20.090	20.225	20.226	20.056	20.338	19.908	20.297	20.240901
	Ave	20.480	20.364	20.430	20.091	20.230	20.224	20.066	20.338	19.907	20.297	<-- Ave X-bar: 20.243
	R	0.009401	0.015199	0.010200	0.008602	0.013599	0.003099	0.014998	0.002598	0.003200	0.017200	<-- Ave R: 0.009820
Total Part Ave.		20.481	20.362	20.428	20.094	20.228	20.225	20.063	20.335	19.911	20.295	<--Mean Range: 0.569890
Grand Average Range												0.009907
XDIFF												0.002840
Equipment Variation (EV):												0.030216
Appraiser Variation (AV):												0.005326
Repeatability and Reproducibility (R&R):												0.030681
Part Variation (PV):												0.923222
Total Variation (TV):												0.923731
EV as % of TV:												3.271049%
AV as % of TV:												0.576564%
R&R as % of TV:												3.321474% PASS
PV as % of TV:												99.944824%



Qualification Report of AMKOR Testing

IOL pin 14

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	19.998	20.077	20.622	20.555	20.312	20.214	20.539	20.608	20.043	20.887	20.385451
A	2	20.001	20.079	20.635	20.572	20.301	20.217	20.524	20.608	20.044	20.893	20.387431
A	3	19.998	20.091	20.635	20.560	20.311	20.215	20.524	20.611	20.044	20.893	20.388271
	Ave	19.999	20.082	20.631	20.562	20.308	20.215	20.529	20.609	20.044	20.891	<-- Ave X-bar: 20.387
	R	0.003202	0.014201	0.013299	0.016900	0.010302	0.003198	0.015698	0.002999	0.001499	0.005400	<-- Ave R: 0.008670
B	1	19.988	20.084	20.632	20.557	20.307	20.213	20.536	20.593	20.034	20.890	20.383421
B	2	19.987	20.075	20.621	20.562	20.301	20.228	20.522	20.608	20.046	20.903	20.385301
B	3	19.987	20.081	20.639	20.560	20.293	20.213	20.539	20.609	20.035	20.884	20.384051
	Ave	19.987	20.080	20.631	20.559	20.301	20.218	20.533	20.604	20.038	20.893	<-- Ave X-bar: 20.384
	R	0.000602	0.009498	0.017200	0.005201	0.013798	0.015000	0.017000	0.016300	0.011802	0.019100	<-- Ave R: 0.012550
C	1	19.989	20.093	20.639	20.557	20.309	20.215	20.536	20.609	20.032	20.891	20.387091
C	2	19.990	20.084	20.635	20.559	20.313	20.213	20.539	20.609	20.035	20.905	20.388311
C	3	19.998	20.084	20.622	20.563	20.294	20.216	20.528	20.609	20.032	20.891	20.383701
	Ave	19.993	20.087	20.632	20.560	20.306	20.215	20.534	20.609	20.033	20.896	<-- Ave X-bar: 20.386
	R	0.009501	0.009401	0.017101	0.005800	0.019301	0.002800	0.011101	0.000600	0.002600	0.014700	<-- Ave R: 0.009291
Total Part Ave.		19.993	20.083	20.631	20.561	20.305	20.216	20.532	20.607	20.038	20.893	<--Mean Range: 0.900155
Grand Average Range												0.010170
XDIFF												0.002790

Equipment Variation (EV): 0.031019  
 Appraiser Variation (AV): 0.004967  
 Repeatability and Reproducibility (R&R): 0.031414  
 Part Variation (PV): 1.458250  
 Total Variation (TV): 1.458589

EV as % of TV: 2.126632%  
 AV as % of TV: 0.340554%  
 R&R as % of TV: 2.153727% **PASS**  
 PV as % of TV: 99.976805%

IOL pin 15

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	19.754	19.634	19.814	20.074	20.289	20.831	20.755	20.219	20.586	20.256	20.221231
A	2	19.758	19.632	19.825	20.083	20.276	20.827	20.737	20.217	20.591	20.254	20.220021
A	3	19.756	19.646	19.827	20.070	20.285	20.831	20.737	20.216	20.589	20.258	20.221481
	Ave	19.756	19.637	19.822	20.075	20.284	20.830	20.743	20.217	20.589	20.256	<-- Ave X-bar: 20.221
	R	0.004299	0.014301	0.012599	0.013100	0.012899	0.003900	0.018401	0.002701	0.004798	0.003599	<-- Ave R: 0.009060
B	1	19.743	19.633	19.824	20.071	20.280	20.829	20.753	20.206	20.577	20.253	20.216921
B	2	19.744	19.633	19.816	20.073	20.275	20.844	20.739	20.220	20.586	20.265	20.219501
B	3	19.746	19.631	19.828	20.072	20.267	20.829	20.758	20.222	20.582	20.254	20.218881
	Ave	19.745	19.632	19.823	20.072	20.274	20.834	20.750	20.216	20.582	20.257	<-- Ave X-bar: 20.218
	R	0.002699	0.001701	0.011999	0.001399	0.012901	0.015100	0.018600	0.016401	0.009300	0.012800	<-- Ave R: 0.010290
C	1	19.749	19.644	19.829	20.072	20.277	20.832	20.756	20.216	20.578	20.251	20.220421
C	2	19.747	19.634	19.824	20.070	20.286	20.828	20.759	20.215	20.580	20.267	20.220871
C	3	19.762	19.634	19.817	20.074	20.275	20.836	20.740	20.222	20.578	20.255	20.219181
	Ave	19.753	19.638	19.824	20.072	20.279	20.832	20.751	20.218	20.578	20.258	<-- Ave X-bar: 20.220
	R	0.014700	0.010701	0.012098	0.004098	0.011800	0.008099	0.019001	0.007100	0.001799	0.016201	<-- Ave R: 0.010830
Total Part Ave.		19.751	19.636	19.823	20.073	20.279	20.832	20.748	20.217	20.583	20.257	<--Mean Range: 1.196267
Grand Average Range												0.009960
XDIFF												0.002480

Equipment Variation (EV): 0.030377  
 Appraiser Variation (AV): 0.003752  
 Repeatability and Reproducibility (R&R): 0.030608  
 Part Variation (PV): 1.937952  
 Total Variation (TV): 1.938194

EV as % of TV: 1.567305%  
 AV as % of TV: 0.193578%  
 R&R as % of TV: 1.579214% **PASS**  
 PV as % of TV: 99.987530%



Qualification Report of AMKOR Testing

IOL pin 16

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.515	19.743	20.833	20.408	20.389	20.336	20.485	20.483	19.845	20.094	20.313011
A	2	20.516	19.742	20.852	20.418	20.389	20.334	20.469	20.480	19.847	20.091	20.311831
A	3	20.519	19.752	20.849	20.406	20.389	20.332	20.470	20.480	19.845	20.097	20.313791
	Ave	20.517	19.746	20.845	20.411	20.383	20.334	20.474	20.481	19.845	20.094	<-- Ave X-bar: 20.313
	R	0.003500	0.010598	0.019399	0.012301	0.019701	0.004301	0.016300	0.002701	0.002300	0.005199	<-- Ave R: 0.009630
B	1	20.508	19.744	20.851	20.404	20.376	20.333	20.482	20.470	19.830	20.092	20.308971
B	2	20.507	19.742	20.836	20.407	20.377	20.345	20.467	20.482	19.846	20.106	20.311371
B	3	20.508	19.745	20.849	20.403	20.368	20.334	20.484	20.486	19.834	20.089	20.309901
	Ave	20.508	19.744	20.845	20.405	20.374	20.337	20.478	20.479	19.837	20.096	<-- Ave X-bar: 20.310
	R	0.001099	0.002701	0.014700	0.004401	0.008801	0.011699	0.017600	0.015801	0.015400	0.017099	<-- Ave R: 0.010930
C	1	20.505	19.756	20.850	20.405	20.377	20.337	20.484	20.479	19.836	20.091	20.311891
C	2	20.507	19.744	20.850	20.408	20.385	20.328	20.484	20.482	19.832	20.105	20.312491
C	3	20.519	19.744	20.841	20.408	20.376	20.334	20.474	20.486	19.834	20.089	20.310441
	Ave	20.511	19.748	20.847	20.407	20.379	20.333	20.480	20.482	19.834	20.095	<-- Ave X-bar: 20.312
	R	0.014102	0.012200	0.008799	0.002898	0.008501	0.008501	0.010300	0.006801	0.003899	0.015801	<-- Ave R: 0.009180
Total Part Ave.		20.512	19.746	20.846	20.407	20.378	20.335	20.477	20.481	19.839	20.095	<--Mean Range: 1.099867

Grand Average Range 0.009913  
 XDIFF 0.002800

Equipment Variation (EV): 0.030236  
 Appraiser Variation (AV): 0.005165  
 Repeatability and Reproducibility (R&R): 0.030674  
 Part Variation (PV): 1.781784  
 Total Variation (TV): 1.782048

EV as % of TV: 1.696708%  
 AV as % of TV: 0.289847%  
 R&R as % of TV: **1.721287% PASS**  
 PV as % of TV: 99.985185%

IOL pin 17

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.596	20.398	20.583	20.344	20.373	20.897	20.191	20.877	20.370	20.576	20.520531
A	2	20.596	20.404	20.604	20.360	20.364	20.899	20.182	20.877	20.368	20.577	20.523191
A	3	20.602	20.417	20.601	20.346	20.372	20.901	20.184	20.873	20.374	20.578	20.524801
	Ave	20.598	20.406	20.596	20.350	20.370	20.899	20.186	20.876	20.371	20.577	<-- Ave X-bar: 20.523
	R	0.005798	0.018600	0.020999	0.015400	0.009300	0.003399	0.008700	0.004098	0.005901	0.002002	<-- Ave R: 0.009420
B	1	20.583	20.401	20.600	20.348	20.360	20.900	20.197	20.868	20.363	20.576	20.519241
B	2	20.588	20.401	20.590	20.347	20.362	20.914	20.184	20.873	20.369	20.591	20.521931
B	3	20.583	20.403	20.597	20.349	20.355	20.899	20.192	20.870	20.358	20.577	20.518321
	Ave	20.588	20.402	20.596	20.348	20.359	20.904	20.191	20.869	20.363	20.581	<-- Ave X-bar: 20.520
	R	0.005100	0.002299	0.009501	0.002200	0.006599	0.015100	0.013800	0.010600	0.011900	0.014601	<-- Ave R: 0.009170
C	1	20.580	20.415	20.594	20.351	20.361	20.899	20.195	20.873	20.364	20.579	20.521031
C	2	20.582	20.400	20.591	20.345	20.375	20.899	20.195	20.874	20.359	20.583	20.520371
C	3	20.594	20.404	20.587	20.346	20.366	20.897	20.183	20.876	20.365	20.574	20.519181
	Ave	20.585	20.407	20.591	20.347	20.368	20.898	20.191	20.874	20.363	20.579	<-- Ave X-bar: 20.520
	R	0.014599	0.015501	0.007000	0.006000	0.014700	0.002099	0.012700	0.003500	0.005499	0.009300	<-- Ave R: 0.009090
Total Part Ave.		20.589	20.405	20.594	20.348	20.366	20.901	20.189	20.873	20.366	20.579	<--Mean Range: 0.711389

Grand Average Range 0.009227  
 XDIFF 0.003010

Equipment Variation (EV): 0.028141  
 Appraiser Variation (AV): 0.006297  
 Repeatability and Reproducibility (R&R): 0.028837  
 Part Variation (PV): 1.152450  
 Total Variation (TV): 1.152811

EV as % of TV: 2.441091%  
 AV as % of TV: 0.546219%  
 R&R as % of TV: **2.501456% PASS**  
 PV as % of TV: 99.968709%





Qualification Report of AMKOR Testing

IOL pin 18

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.744	20.594	20.746	20.294	20.075	20.506	20.610	20.487	20.210	20.591	20.485830
A	2	20.744	20.587	20.763	20.305	20.068	20.507	20.599	20.486	20.215	20.591	20.486531
A	3	20.744	20.602	20.758	20.297	20.079	20.508	20.599	20.493	20.214	20.593	20.488671
	Ave	20.744	20.595	20.756	20.299	20.074	20.507	20.603	20.489	20.213	20.592	<-- Ave X-bar: 20.487
	R	0.000700	0.014801	0.017000	0.010800	0.010600	0.002502	0.011399	0.006799	0.004999	0.002099	<-- Ave R: 0.008190
B	1	20.732	20.587	20.761	20.299	20.063	20.508	20.612	20.474	20.201	20.594	20.483061
B	2	20.736	20.586	20.748	20.297	20.067	20.516	20.601	20.488	20.210	20.607	20.485721
B	3	20.730	20.589	20.757	20.299	20.059	20.505	20.606	20.482	20.201	20.595	20.482441
	Ave	20.733	20.588	20.755	20.298	20.063	20.510	20.606	20.482	20.204	20.599	<-- Ave X-bar: 20.484
	R	0.005699	0.002900	0.012599	0.001799	0.008002	0.010999	0.011601	0.013400	0.009399	0.013798	<-- Ave R: 0.009040
C	1	20.730	20.599	20.758	20.295	20.063	20.505	20.611	20.490	20.199	20.601	20.485061
C	2	20.729	20.589	20.762	20.302	20.082	20.508	20.610	20.489	20.200	20.606	20.487651
C	3	20.745	20.590	20.748	20.301	20.068	20.506	20.600	20.487	20.199	20.596	20.483951
	Ave	20.734	20.593	20.756	20.299	20.071	20.506	20.607	20.489	20.199	20.601	<-- Ave X-bar: 20.486
	R	0.016200	0.010200	0.013400	0.006400	0.019498	0.003500	0.011401	0.003001	0.001201	0.010099	<-- Ave R: 0.009500
Total Part Ave.		20.737	20.592	20.756	20.299	20.069	20.508	20.605	20.486	20.206	20.597	<--Mean Range: 0.686255
Grand Average Range												0.008910
XDIFF												0.003270

Equipment Variation (EV): 0.027175  
 Appraiser Variation (AV): 0.007803  
 Repeatability and Reproducibility (R&R): 0.028139  
 Part Variation (PV): 1.111734  
 Total Variation (TV): 1.112090

IOL pin 19

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.438	20.449	20.905	20.791	20.109	20.781	20.785	20.339	20.321	20.558	20.547571
A	2	20.430	20.448	20.923	20.801	20.096	20.775	20.768	20.340	20.318	20.561	20.545981
A	3	20.435	20.459	20.918	20.791	20.111	20.782	20.770	20.348	20.326	20.556	20.549511
	Ave	20.434	20.452	20.915	20.794	20.105	20.779	20.774	20.342	20.322	20.558	<-- Ave X-bar: 20.548
	R	0.007901	0.010900	0.018600	0.010500	0.014801	0.007004	0.016300	0.008699	0.007899	0.004401	<-- Ave R: 0.010701
B	1	20.420	20.447	20.922	20.789	20.094	20.784	20.785	20.327	20.308	20.559	20.543501
B	2	20.420	20.444	20.911	20.791	20.094	20.795	20.775	20.339	20.318	20.574	20.545941
B	3	20.425	20.444	20.918	20.792	20.088	20.778	20.779	20.335	20.306	20.567	20.543011
	Ave	20.422	20.445	20.917	20.791	20.092	20.785	20.780	20.333	20.311	20.566	<-- Ave X-bar: 20.544
	R	0.004997	0.002399	0.011301	0.002600	0.006299	0.016799	0.010701	0.011601	0.012500	0.015199	<-- Ave R: 0.009440
C	1	20.421	20.458	20.922	20.792	20.097	20.780	20.789	20.342	20.312	20.562	20.547541
C	2	20.424	20.445	20.921	20.792	20.111	20.781	20.785	20.341	20.314	20.577	20.549141
C	3	20.436	20.448	20.908	20.794	20.100	20.779	20.770	20.341	20.313	20.563	20.545021
	Ave	20.427	20.450	20.917	20.793	20.103	20.780	20.782	20.341	20.313	20.567	<-- Ave X-bar: 20.547
	R	0.015300	0.012001	0.014499	0.001401	0.013599	0.002101	0.019100	0.001600	0.002500	0.014400	<-- Ave R: 0.009650
Total Part Ave.		20.427	20.449	20.916	20.793	20.100	20.782	20.778	20.339	20.315	20.564	<--Mean Range: 0.816578
Grand Average Range												0.009930
XDIFF												0.003540

Equipment Variation (EV): 0.030287  
 Appraiser Variation (AV): 0.007796  
 Repeatability and Reproducibility (R&R): 0.031274  
 Part Variation (PV): 1.322856  
 Total Variation (TV): 1.323226

EV as % of TV: 2.288854%  
 AV as % of TV: 0.589174%  
 R&R as % of TV: **2.363468%** **PASS**  
 PV as % of TV: 99.972066%



Qualification Report of AMKOR Testing

IOL pin 20

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.729	20.031	20.521	20.644	20.564	20.854	20.470	20.139	20.199	20.696	20.484871
A	2	20.728	20.032	20.534	20.656	20.549	20.850	20.458	20.140	20.202	20.697	20.484181
A	3	20.728	20.046	20.533	20.644	20.564	20.851	20.460	20.145	20.201	20.693	20.486441
	Ave	20.727	20.036	20.529	20.648	20.559	20.851	20.463	20.141	20.201	20.695	<-- Ave X-bar: 20.485
	R	0.004200	0.014599	0.012800	0.011701	0.014700	0.004798	0.012701	0.006402	0.002800	0.003800	<-- Ave R: 0.006850
B	1	20.715	20.030	20.535	20.644	20.555	20.853	20.470	20.127	20.191	20.699	20.481821
B	2	20.717	20.029	20.518	20.647	20.553	20.862	20.456	20.144	20.202	20.711	20.483821
B	3	20.715	20.032	20.535	20.650	20.546	20.849	20.468	20.143	20.189	20.697	20.482231
	Ave	20.716	20.030	20.529	20.647	20.551	20.855	20.465	20.138	20.194	20.702	<-- Ave X-bar: 20.483
	R	0.002000	0.002900	0.017500	0.006001	0.009099	0.013299	0.014400	0.017298	0.013698	0.013599	<-- Ave R: 0.010980
C	1	20.716	20.045	20.537	20.645	20.550	20.850	20.473	20.142	20.191	20.696	20.484601
C	2	20.713	20.032	20.533	20.647	20.569	20.852	20.471	20.148	20.191	20.707	20.486350
C	3	20.728	20.029	20.522	20.648	20.554	20.848	20.456	20.139	20.193	20.694	20.481201
	Ave	20.719	20.035	20.530	20.647	20.558	20.850	20.467	20.143	20.192	20.699	<-- Ave X-bar: 20.484
	R	0.015100	0.015799	0.014899	0.003301	0.018898	0.003602	0.016801	0.009099	0.002000	0.013398	<-- Ave R: 0.011290
Total Part Ave.		20.721	20.034	20.530	20.647	20.556	20.852	20.465	20.141	20.195	20.699	<--Mean Range: 0.818189
Grand Average Range												0.010373
XDIFF												0.002540
Equipment Variation (EV):												0.031638
Appraiser Variation (AV):												0.003697
Repeatability and Reproducibility (R&R):												0.031853
Part Variation (PV):												1.325467
Total Variation (TV):												1.325850
EV as % of TV:												2.386261%
AV as % of TV:												0.278824%
R&R as % of TV:												2.402495% PASS
PV as % of TV:												99.971136%

Pin to Pin %

LIMITS  
 Lo Limit: 0.035 No. Of Operators: 3  
 Hi Limit: 0.035 No. Of Trials: 3  
 Tolerance: 0.035 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	0.025	0.027	0.030	0.018	0.017	0.021	0.022	0.026	0.025	0.020	0.022890
A	2	0.025	0.027	0.030	0.018	0.017	0.021	0.022	0.026	0.025	0.020	0.022894
A	3	0.025	0.027	0.030	0.018	0.017	0.021	0.022	0.026	0.025	0.020	0.022868
	Ave	0.025	0.027	0.030	0.018	0.017	0.021	0.022	0.026	0.025	0.020	<-- Ave X-bar: 0.023
	R	0.000108	0.000093	0.000105	0.000100	0.000126	0.000328	0.000115	0.000216	0.000064	0.000190	<-- Ave R: 0.000145
B	1	0.025	0.026	0.030	0.018	0.017	0.021	0.022	0.026	0.025	0.020	0.022878
B	2	0.025	0.026	0.030	0.018	0.017	0.021	0.022	0.026	0.025	0.020	0.022885
B	3	0.025	0.027	0.029	0.018	0.017	0.021	0.022	0.026	0.025	0.020	0.022903
	Ave	0.025	0.026	0.030	0.018	0.017	0.021	0.022	0.026	0.025	0.020	<-- Ave X-bar: 0.023
	R	0.000201	0.000070	0.000022	0.000044	0.000220	0.000045	0.000202	0.000153	0.000199	0.000064	<-- Ave R: 0.000122
C	1	0.025	0.027	0.029	0.018	0.017	0.021	0.022	0.026	0.025	0.020	0.022902
C	2	0.025	0.027	0.030	0.018	0.017	0.021	0.022	0.026	0.025	0.020	0.022902
C	3	0.025	0.027	0.029	0.018	0.017	0.021	0.022	0.026	0.025	0.020	0.022873
	Ave	0.025	0.027	0.029	0.018	0.017	0.021	0.022	0.026	0.025	0.020	<-- Ave X-bar: 0.023
	R	0.000057	0.000171	0.000181	0.000072	0.000131	0.000114	0.000264	0.000048	0.000052	0.000062	<-- Ave R: 0.000115
Total Part Ave.		0.025	0.027	0.030	0.018	0.017	0.021	0.022	0.026	0.025	0.020	<--Mean Range: 0.012864
Grand Average Range												0.000127
XDIFF												0.000009
Equipment Variation (EV):												0.000388
Appraiser Variation (AV):												0.000000
Repeatability and Reproducibility (R&R):												0.000388
Part Variation (PV):												0.020840
Total Variation (TV):												0.020843
EV as % of TV:												1.861789%
AV as % of TV:												0.000000%
R&R as % of TV:												1.861789% PASS
PV as % of TV:												99.982667%



Qualification Report of AMKOR Testing

IOL pin 5

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	53.737	53.583	53.853	53.379	53.239	54.358	53.876	53.827	53.261	53.564	53.667623
A	2	53.756	53.588	53.868	53.393	53.247	54.369	53.764	53.834	53.264	53.580	53.666282
A	3	53.753	53.582	53.992	53.401	53.250	54.368	53.769	53.835	53.271	53.585	53.680563
	Ave	53.748	53.584	53.904	53.391	53.245	54.365	53.803	53.832	53.265	53.576	<--- Ave X-bar: 53.671
	R	0.019100	0.005502	0.138599	0.022002	0.011399	0.011399	0.111602	0.007801	0.010096	0.020698	<--- Ave R: 0.035820
B	1	53.759	53.583	54.004	53.395	53.249	54.369	53.901	53.835	53.265	53.586	53.694553
B	2	53.754	53.574	53.868	53.395	53.253	54.361	53.762	53.830	53.259	53.579	53.663412
B	3	53.757	53.582	53.863	53.393	53.241	54.369	53.759	53.837	53.133	53.573	53.650732
	Ave	53.757	53.579	53.912	53.394	53.248	54.366	53.807	53.834	53.219	53.580	<--- Ave X-bar: 53.670
	R	0.004202	0.009097	0.140797	0.002000	0.011101	0.008401	0.141799	0.006400	0.131503	0.013001	<--- Ave R: 0.046830
C	1	53.766	53.596	53.875	53.414	53.265	54.380	53.782	53.853	53.280	53.589	53.680003
C	2	53.767	53.602	53.870	53.285	53.260	54.383	53.907	53.847	53.152	53.594	53.666672
C	3	53.766	53.602	53.871	53.291	53.134	54.376	53.769	53.850	53.272	53.590	53.652102
	Ave	53.766	53.600	53.872	53.330	53.220	54.380	53.819	53.850	53.235	53.591	<--- Ave X-bar: 53.666
	R	0.001203	0.006203	0.005204	0.129201	0.130497	0.006501	0.138000	0.006802	0.127196	0.005197	<--- Ave R: 0.055600
Total Part Ave.		53.757	53.588	53.896	53.372	53.238	54.370	53.810	53.839	53.240	53.582	<---Mean Range: 1.132677
Grand Average Range												0.046083
XDIFF												0.005230

Equipment Variation (EV): 0.140555  
 Appraiser Variation (AV): 0.000000  
 Repeatability and Reproducibility (R&R): 0.140555  
 Part Variation (PV): 1.834537  
 Total Variation (TV): 1.840313

EV as % of TV: 7.637535%  
 AV as % of TV: 0.000000%  
 R&R as % of TV: **7.637535% PASS**  
 PV as % of TV: 99.707914%

IOL pin 6

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	52.879	52.960	53.305	53.552	53.135	54.107	54.189	53.139	52.904	53.480	53.364943
A	2	52.892	52.968	53.319	53.556	53.152	54.111	54.072	53.159	52.915	53.485	53.362912
A	3	52.889	52.971	53.449	53.554	53.155	54.121	54.087	53.176	52.916	53.479	53.379682
	Ave	52.887	52.966	53.358	53.554	53.147	54.113	54.116	53.158	52.912	53.482	<--- Ave X-bar: 53.369
	R	0.013396	0.010997	0.143401	0.004899	0.019498	0.013702	0.117205	0.036400	0.012703	0.005797	<--- Ave R: 0.037800
B	1	52.909	52.974	53.442	53.554	53.141	54.128	54.217	53.157	52.918	53.488	53.392762
B	2	52.899	52.965	53.320	53.561	53.160	54.116	54.075	53.157	52.914	53.482	53.364952
B	3	52.890	52.986	53.311	53.562	53.148	54.116	54.069	53.156	52.789	53.497	53.352363
	Ave	52.899	52.975	53.358	53.559	53.150	54.120	54.120	53.156	52.874	53.489	<--- Ave X-bar: 53.370
	R	0.019096	0.021398	0.130799	0.007801	0.018802	0.011403	0.148699	0.001602	0.129100	0.014603	<--- Ave R: 0.050330
C	1	52.899	52.985	53.328	53.570	53.159	54.130	54.089	53.179	52.930	53.502	53.377132
C	2	52.907	52.984	53.330	53.451	53.168	54.135	54.217	53.176	52.807	53.507	53.368203
C	3	52.901	52.985	53.331	53.452	53.098	54.130	54.084	53.173	52.923	53.503	53.351932
	Ave	52.902	52.985	53.329	53.491	53.122	54.132	54.130	53.176	52.887	53.504	<--- Ave X-bar: 53.366
	R	0.008099	0.001300	0.003200	0.116800	0.130203	0.005201	0.133701	0.006501	0.123002	0.004500	<--- Ave R: 0.053450
Total Part Ave.		52.896	52.975	53.348	53.535	53.140	54.122	54.122	53.163	52.891	53.492	<---Mean Range: 1.231322
Grand Average Range												0.047193
XDIFF												0.004270

Equipment Variation (EV): 0.143940  
 Appraiser Variation (AV): 0.000000  
 Repeatability and Reproducibility (R&R): 0.143940  
 Part Variation (PV): 1.994742  
 Total Variation (TV): 1.999929

EV as % of TV: 7.197261%  
 AV as % of TV: 0.000000%  
 R&R as % of TV: **7.197261% PASS**  
 PV as % of TV: 99.740661%





Qualification Report of AMKOR Testing

IOL pin 7

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	52.871	52.750	53.041	52.778	52.529	53.268	53.511	53.068	52.700	52.808	52.922423
A	2	52.882	52.758	53.050	52.783	52.559	53.283	53.379	53.085	52.709	52.813	52.920154
A	3	52.888	52.758	53.179	52.783	52.552	53.281	53.391	53.094	52.708	52.813	52.944763
	Ave	52.880	52.755	53.090	52.782	52.547	53.277	53.427	53.083	52.706	52.812	<-- Ave X-bar: 52.936
	R	0.017904	0.008099	0.138599	0.008201	0.029203	0.015900	0.132501	0.025298	0.008497	0.005201	<-- Ave R: 0.038640
B	1	52.910	52.755	53.188	52.777	52.548	53.290	53.518	53.085	52.715	52.815	52.960013
B	2	52.892	52.756	53.048	52.781	52.551	53.284	53.395	53.083	52.703	52.817	52.920972
B	3	52.886	52.764	53.044	52.784	52.560	53.271	53.380	53.076	52.583	52.826	52.917543
	Ave	52.896	52.758	53.093	52.781	52.553	53.282	53.431	53.082	52.667	52.820	<-- Ave X-bar: 52.936
	R	0.024002	0.009499	0.144199	0.007801	0.011399	0.018202	0.137001	0.009097	0.131700	0.010800	<-- Ave R: 0.050370
C	1	52.888	52.772	53.064	52.791	52.563	53.290	53.399	53.106	52.720	52.836	52.942953
C	2	52.899	52.773	53.069	52.676	52.565	53.294	53.530	53.103	52.607	52.836	52.925253
C	3	52.899	52.779	53.060	52.681	52.440	53.289	53.394	53.094	52.722	52.835	52.919193
	Ave	52.895	52.774	53.065	52.716	52.523	53.291	53.441	53.101	52.683	52.836	<-- Ave X-bar: 52.932
	R	0.011001	0.006501	0.009097	0.114601	0.125904	0.004802	0.136297	0.012401	0.115201	0.001304	<-- Ave R: 0.052711
Total Part Ave.		52.891	52.763	53.082	52.759	52.541	53.283	53.433	53.088	52.685	52.822	<--Mean Range: 0.892057
Grand Average Range												0.047574
XDIFF												0.003710

Equipment Variation (EV): 0.145100  
 Appraiser Variation (AV): 0.000000  
 Repeatability and Reproducibility (R&R): 0.145100  
 Part Variation (PV): 1.445133  
 Total Variation (TV): 1.452399

EV as % of TV: 9.990353%  
 AV as % of TV: 0.000000%  
 R&R as % of TV: **9.990353% PASS**  
 PV as % of TV: 99.499713%

IOL pin 8

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	53.029	52.787	53.815	53.303	53.128	53.238	53.928	53.377	52.697	53.008	53.230933
A	2	53.041	52.802	53.830	53.315	53.150	53.247	53.821	53.383	52.721	53.019	53.232953
A	3	53.044	52.799	53.964	53.313	53.149	53.255	53.829	53.384	52.725	53.018	53.247743
	Ave	53.038	52.796	53.869	53.310	53.142	53.246	53.859	53.381	52.714	53.015	<-- Ave X-bar: 53.237
	R	0.014599	0.014599	0.149202	0.011701	0.022396	0.016601	0.107799	0.006501	0.027601	0.011701	<-- Ave R: 0.038300
B	1	53.051	52.807	53.955	53.309	53.143	53.255	53.955	53.391	52.719	53.027	53.261213
B	2	53.040	52.794	53.826	53.318	53.146	53.256	53.825	53.384	52.718	53.022	53.232873
B	3	53.053	52.809	53.819	53.309	53.135	53.255	53.804	53.374	52.603	53.022	53.216373
	Ave	53.048	52.803	53.867	53.312	53.141	53.255	53.861	53.383	52.680	53.024	<-- Ave X-bar: 53.237
	R	0.012998	0.014901	0.135999	0.009399	0.010401	0.002000	0.150599	0.016902	0.115898	0.005201	<-- Ave R: 0.047430
C	1	53.048	52.815	53.838	53.319	53.144	53.264	53.837	53.397	52.727	53.033	53.242303
C	2	53.049	52.819	53.842	53.201	53.162	53.262	53.967	53.396	52.604	53.030	53.233342
C	3	53.046	52.815	53.835	53.202	53.023	53.260	53.834	53.396	52.732	53.035	53.217772
	Ave	53.048	52.817	53.839	53.240	53.110	53.262	53.879	53.396	52.688	53.033	<-- Ave X-bar: 53.231
	R	0.002999	0.004198	0.007499	0.117805	0.138897	0.004202	0.133801	0.001304	0.125500	0.005201	<-- Ave R: 0.054441
Total Part Ave.		53.045	52.805	53.858	53.288	53.131	53.255	53.867	53.387	52.694	53.024	<--Mean Range: 1.172743
Grand Average Range												0.046723
XDIFF												0.006350

Equipment Variation (EV): 0.142507  
 Appraiser Variation (AV): 0.000000  
 Repeatability and Reproducibility (R&R): 0.142507  
 Part Variation (PV): 1.899844  
 Total Variation (TV): 1.905181

EV as % of TV: 7.479949%  
 AV as % of TV: 0.000000%  
 R&R as % of TV: **7.479949% PASS**  
 PV as % of TV: 99.719859%



Qualification Report of AMKOR Testing

IOL pin 9

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	52.992	52.296	53.150	52.991	53.166	53.243	53.454	53.117	52.633	53.408	53.045222
A	2	53.013	52.314	53.186	52.999	53.166	53.253	53.343	53.129	52.653	53.420	53.047512
A	3	53.013	52.306	53.304	53.004	53.173	53.254	53.345	53.126	52.655	53.428	53.060833
	Ave	53.006	52.306	53.213	52.998	53.169	53.250	53.381	53.124	52.647	53.419	<-- Ave X-bar: 53.051
	R	0.021499	0.016198	0.153605	0.013001	0.007205	0.010397	0.111397	0.011403	0.021797	0.020102	<-- Ave R: 0.038860
B	1	53.017	52.318	53.303	52.998	53.179	53.249	53.475	53.135	52.655	53.425	53.075393
B	2	53.006	52.313	53.174	53.007	53.177	53.258	53.334	53.139	52.644	53.432	53.048413
B	3	53.012	52.311	53.169	52.996	53.167	53.259	53.337	53.139	52.537	53.415	53.024103
	Ave	53.012	52.314	53.215	53.000	53.174	53.255	53.382	53.138	52.612	53.424	<-- Ave X-bar: 53.053
	R	0.010099	0.007201	0.134699	0.011101	0.012301	0.009801	0.140201	0.003900	0.118196	0.016604	<-- Ave R: 0.046410
C	1	53.021	52.326	53.192	53.013	53.180	53.277	53.354	53.145	52.667	53.428	53.060313
C	2	53.028	52.320	53.195	52.894	53.183	53.263	53.490	53.146	52.547	53.430	53.049523
C	3	53.032	52.328	53.197	52.891	53.051	53.269	53.354	53.144	52.658	53.439	53.026312
	Ave	53.027	52.325	53.194	52.933	53.138	53.270	53.399	53.145	52.624	53.432	<-- Ave X-bar: 53.049
	R	0.011098	0.007499	0.005201	0.122402	0.131601	0.014298	0.135999	0.001300	0.120100	0.011303	<-- Ave R: 0.056100
Total Part Ave.		53.015	52.315	53.208	52.977	53.160	53.258	53.387	53.136	52.628	53.425	<--Mean Range: 1.110411
Grand Average Range												0.047124
XDIFF												0.003920
Equipment Variation (EV):												0.143727
Appraiser Variation (AV):												0.000000
Repeatability and Reproducibility (R&R):												0.143727
Part Variation (PV):												1.798865
Total Variation (TV):												1.804598
EV as % of TV:												7.964481%
AV as % of TV:												0.000000%
R&R as % of TV:												7.964481% PASS
PV as % of TV:												99.682321%

IOL pin 10

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	52.305	52.539	53.265	52.968	53.005	52.793	53.141	53.316	52.765	53.453	52.964953
A	2	52.330	52.553	53.276	52.985	53.009	52.804	53.012	53.335	52.775	53.463	52.964233
A	3	52.323	52.548	53.498	52.981	53.006	52.805	53.017	53.337	52.774	53.474	52.976393
	Ave	52.319	52.547	53.413	52.978	53.007	52.801	53.057	53.329	52.771	53.463	<-- Ave X-bar: 52.969
	R	0.024300	0.014301	0.132803	0.017200	0.004198	0.012100	0.128798	0.021700	0.010401	0.021402	<-- Ave R: 0.038720
B	1	52.325	52.561	53.505	52.981	53.023	52.800	53.149	53.331	52.773	53.468	52.991552
B	2	52.318	52.550	53.275	52.988	53.015	52.809	53.007	53.325	52.767	53.465	52.961852
B	3	52.324	52.548	53.278	52.979	53.002	52.814	53.034	53.339	52.662	53.457	52.953473
	Ave	52.322	52.553	53.419	52.983	53.013	52.808	53.063	53.332	52.734	53.463	<-- Ave X-bar: 52.969
	R	0.006497	0.013299	0.129800	0.008799	0.021398	0.013303	0.141799	0.013303	0.110701	0.010699	<-- Ave R: 0.046960
C	1	52.356	52.571	53.395	52.997	53.029	52.833	53.036	53.346	52.787	53.482	52.983132
C	2	52.345	52.566	53.384	52.874	53.020	52.816	53.165	53.346	52.664	53.487	52.966812
C	3	52.342	52.569	53.395	52.866	52.891	52.832	53.040	53.352	52.790	53.481	52.957853
	Ave	52.348	52.569	53.392	52.919	52.980	52.827	53.080	53.348	52.747	53.484	<-- Ave X-bar: 52.969
	R	0.014197	0.004496	0.011001	0.123002	0.137899	0.016302	0.129201	0.005901	0.126004	0.005901	<-- Ave R: 0.057390
Total Part Ave.		52.330	52.556	53.408	52.960	53.000	52.812	53.067	53.336	52.751	53.470	<--Mean Range: 1.140266
Grand Average Range												0.047690
XDIFF												0.000750
Equipment Variation (EV):												0.145455
Appraiser Variation (AV):												0.000000
Repeatability and Reproducibility (R&R):												0.145455
Part Variation (PV):												1.847231
Total Variation (TV):												1.852949
EV as % of TV:												7.849919%
AV as % of TV:												0.000000%
R&R as % of TV:												7.849919% PASS
PV as % of TV:												99.691418%



Qualification Report of AMKOR Testing

IOL pin 11

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average											
A	1	53.060	52.043	52.882	52.977	52.641	52.688	52.812	53.949	51.973	53.444	52.846932											
A	2	53.091	52.063	52.882	52.997	52.644	52.713	52.694	53.972	51.986	53.470	52.851133											
A	3	53.078	52.057	53.025	52.999	52.640	52.717	52.692	53.968	51.977	53.467	52.862082											
	Ave	53.076	52.055	52.930	52.991	52.642	52.706	52.733	53.963	51.979	53.460	<-- Ave X-bar: 52.853											
	R	0.030801	0.019703	0.143200	0.021402	0.003502	0.029497	0.119500	0.023101	0.013299	0.025298	<-- Ave R: 0.042930											
B	1	53.081	52.062	53.027	53.001	52.668	52.713	52.822	53.963	51.980	53.468	52.878523											
B	2	53.075	52.060	52.887	52.996	52.652	52.707	52.698	53.961	51.982	53.470	52.848783											
B	3	53.081	52.050	52.901	52.999	52.641	52.707	52.703	53.965	51.969	53.464	52.838103											
	Ave	53.079	52.057	52.939	52.999	52.654	52.709	52.741	53.963	51.944	53.467	<-- Ave X-bar: 52.855											
	R	0.006199	0.012100	0.140503	0.005502	0.026301	0.006501	0.124399	0.004202	0.113003	0.005800	<-- Ave R: 0.044451											
C	1	53.111	52.073	52.911	53.006	52.664	52.723	52.702	53.979	51.988	53.474	52.863042											
C	2	53.105	52.077	52.896	52.890	52.657	52.722	52.845	53.979	51.982	53.480	52.853353											
C	3	53.096	52.082	52.911	52.896	52.524	52.737	52.706	53.983	51.993	53.479	52.840782											
	Ave	53.104	52.077	52.906	52.931	52.615	52.727	52.751	53.980	51.954	53.478	<-- Ave X-bar: 52.852											
	R	0.015002	0.009701	0.015199	0.115298	0.140302	0.015501	0.143401	0.004601	0.110999	0.006098	<-- Ave R: 0.057610											
Total Part Ave.												53.086	52.063	52.925	52.974	52.637	52.714	52.742	53.969	51.959	53.468	<--Mean Range: 2.009833	
Grand Average Range																							0.048330
XDIFF																							0.002750

Equipment Variation (EV): 0.147408  
 Appraiser Variation (AV): 0.000000  
 Repeatability and Reproducibility (R&R): 0.147408  
 Part Variation (PV): 3.255929  
 Total Variation (TV): 3.259265

EV as % of TV: 4.522732%  
 AV as % of TV: 0.000000%  
 R&R as % of TV: **4.522732% PASS**  
 PV as % of TV: 99.997672%

IOL pin 12

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average											
A	1	52.896	52.659	53.078	53.019	52.551	52.631	53.426	53.544	52.224	53.188	52.921643											
A	2	52.917	52.676	53.092	53.042	52.575	52.659	53.310	53.570	52.236	53.202	52.927892											
A	3	52.909	52.683	53.231	53.056	52.568	52.647	53.321	53.579	52.240	53.212	52.944472											
	Ave	52.907	52.673	53.134	53.039	52.565	52.645	53.352	53.564	52.233	53.201	<-- Ave X-bar: 52.931											
	R	0.021100	0.023399	0.152901	0.036400	0.024397	0.027601	0.115499	0.034399	0.016201	0.024300	<-- Ave R: 0.047620											
B	1	52.921	52.689	53.224	53.043	52.575	52.656	53.449	53.568	52.240	53.206	52.956972											
B	2	52.915	52.680	53.096	53.042	52.559	52.656	53.319	53.565	52.230	53.206	52.926883											
B	3	52.922	52.682	53.099	53.033	52.545	52.654	53.306	53.564	52.112	53.202	52.911793											
	Ave	52.919	52.684	53.140	53.039	52.560	52.655	53.358	53.566	52.194	53.205	<-- Ave X-bar: 52.932											
	R	0.006501	0.009399	0.127498	0.009701	0.029203	0.002597	0.142101	0.003897	0.127900	0.004299	<-- Ave R: 0.046309											
C	1	52.945	52.695	53.105	53.055	52.582	52.673	53.323	53.581	52.252	53.222	52.943293											
C	2	52.938	52.688	53.112	52.941	52.571	52.672	53.458	53.585	52.132	53.221	52.931882											
C	3	52.931	52.694	53.114	52.943	52.440	52.671	53.328	53.581	52.250	53.223	52.917543											
	Ave	52.938	52.692	53.110	52.980	52.531	52.672	53.370	53.583	52.211	53.222	<-- Ave X-bar: 52.931											
	R	0.014003	0.006199	0.008497	0.113599	0.142198	0.002600	0.135701	0.004500	0.120502	0.002600	<-- Ave R: 0.055040											
Total Part Ave.												52.921	52.683	53.128	53.019	52.552	52.657	53.360	53.571	52.213	53.209	<--Mean Range: 1.358101	
Grand Average Range																							0.049656
XDIFF																							0.000970

Equipment Variation (EV): 0.151452  
 Appraiser Variation (AV): 0.000000  
 Repeatability and Reproducibility (R&R): 0.151452  
 Part Variation (PV): 2.200124  
 Total Variation (TV): 2.205930

EV as % of TV: 6.867542%  
 AV as % of TV: 0.000000%  
 R&R as % of TV: **6.867542% PASS**  
 PV as % of TV: 99.763906%





Qualification Report of AMKOR Testing

IOL pin 13

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	52.998	52.730	53.073	52.676	52.779	52.749	52.906	53.122	52.230	52.950	52.821122
	2	53.048	52.761	53.108	52.714	52.812	52.785	52.814	53.164	52.263	52.971	52.843942
	3	53.042	52.763	53.247	52.716	52.819	52.782	52.808	53.165	52.264	52.982	52.858782
	Ave	53.030	52.751	53.142	52.702	52.803	52.772	52.843	53.150	52.252	52.968	<-- Ave X-bar: 52.841
R		0.050098	0.033304	0.174101	0.039600	0.039898	0.036299	0.098199	0.043496	0.034600	0.032298	<-- Ave R: 0.058189
B	1	53.048	52.771	53.238	52.709	52.811	52.776	52.934	53.158	52.255	52.983	52.868262
	2	53.033	52.763	53.104	52.697	52.799	52.772	52.805	53.164	52.250	52.979	52.835592
	3	53.042	52.765	53.106	52.695	52.792	52.774	52.801	53.160	52.148	52.979	52.826292
	Ave	53.041	52.766	53.149	52.700	52.801	52.774	52.847	53.157	52.218	52.980	<-- Ave X-bar: 52.843
R		0.015497	0.008300	0.138503	0.013102	0.018697	0.003900	0.132799	0.005700	0.107400	0.003699	<-- Ave R: 0.044260
C	1	53.042	52.751	53.099	52.690	52.794	52.771	52.799	53.146	52.254	52.970	52.831722
	2	53.034	52.753	53.098	52.583	52.800	52.776	52.925	53.156	52.140	52.981	52.824533
	3	53.035	52.758	53.102	52.573	52.658	52.773	52.791	53.151	52.257	52.975	52.807452
	Ave	53.037	52.754	53.099	52.615	52.751	52.773	52.838	53.151	52.217	52.976	<-- Ave X-bar: 52.821
R		0.008900	0.006903	0.004601	0.117704	0.141099	0.005003	0.134502	0.010300	0.117101	0.010498	<-- Ave R: 0.055661
Total Part Ave.		53.036	52.757	53.130	52.673	52.785	52.773	52.843	53.153	52.229	52.974	<--Mean Range: 0.923811
Grand Average Range												0.052703
XDIFF												0.022140

Equipment Variation (EV): 0.160745  
 Appraiser Variation (AV): 0.052078  
 Repeatability and Reproducibility (R&R): 0.168971  
 Part Variation (PV): 1.496574  
 Total Variation (TV): 1.506083

EV as % of TV: 10.673081%  
 AV as % of TV: 3.457837%  
 R&R as % of TV: **11.219238% PASS**  
 PV as % of TV: 99.368650%

IOL pin 14

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	52.479	52.450	53.220	53.127	52.841	52.794	53.421	53.386	52.441	53.530	52.969112
	2	52.526	52.473	53.243	53.158	52.856	52.830	53.312	53.432	52.470	53.555	52.985463
	3	52.512	52.478	53.381	53.162	52.868	52.827	53.317	53.433	52.465	53.567	53.000973
	Ave	52.505	52.467	53.282	53.149	52.855	52.817	53.350	53.417	52.459	53.551	<-- Ave X-bar: 52.985
R		0.046503	0.028301	0.160899	0.034198	0.027001	0.035603	0.109099	0.046801	0.028700	0.036601	<-- Ave R: 0.055370
B	1	52.512	52.483	53.377	53.155	52.881	52.821	53.443	53.431	52.465	53.557	53.012583
	2	52.513	52.478	53.252	53.150	52.873	52.818	53.306	53.421	52.465	53.556	52.983202
	3	52.525	52.475	53.260	53.153	52.859	52.822	53.318	53.424	52.357	53.557	52.974942
	Ave	52.517	52.479	53.296	53.153	52.871	52.820	53.356	53.425	52.429	53.557	<-- Ave X-bar: 52.990
R		0.012498	0.007600	0.125602	0.005297	0.021800	0.004299	0.137102	0.010602	0.107702	0.000700	<-- Ave R: 0.043320
C	1	52.522	52.464	53.238	53.157	52.877	52.818	53.309	53.421	52.456	53.549	52.981212
	2	52.520	52.474	53.239	53.030	52.854	52.809	53.441	53.416	52.346	53.548	52.967782
	3	52.514	52.470	53.239	53.029	52.723	52.824	53.311	53.425	52.463	53.551	52.954932
	Ave	52.519	52.469	53.239	53.072	52.818	52.817	53.354	53.420	52.422	53.549	<-- Ave X-bar: 52.968
R		0.007901	0.009198	0.001598	0.128299	0.184600	0.015203	0.132203	0.008598	0.116698	0.002299	<-- Ave R: 0.057660
Total Part Ave.		52.514	52.472	53.272	53.125	52.848	52.818	53.353	53.421	52.436	53.552	<--Mean Range: 1.115777
Grand Average Range												0.052117
XDIFF												0.022260

Equipment Variation (EV): 0.158956  
 Appraiser Variation (AV): 0.052631  
 Repeatability and Reproducibility (R&R): 0.167443  
 Part Variation (PV): 1.807559  
 Total Variation (TV): 1.815298

EV as % of TV: 8.756485%  
 AV as % of TV: 2.899300%  
 R&R as % of TV: **9.223989% PASS**  
 PV as % of TV: 99.573681%



Qualification Report of AMKOR Testing

IOL pin 15

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	52.256	51.978	52.443	52.649	52.799	53.496	53.661	53.007	52.999	52.957	52.824463
	2	52.295	52.000	52.463	52.675	52.817	53.517	53.555	53.033	53.027	52.991	52.837363
	3	52.282	51.991	52.594	52.672	52.811	53.518	53.545	53.031	53.026	52.989	52.846083
	Ave	52.278	51.990	52.500	52.666	52.809	53.511	53.587	53.021	53.020	52.979	<-- Ave X-bar: 52.836
R		0.038896	0.021800	0.150897	0.026103	0.018198	0.022400	0.116099	0.033598	0.020102	0.034604	<-- Ave R: 0.048270
B	1	52.292	52.008	52.590	52.670	52.832	53.518	53.672	53.027	53.015	52.981	52.860402
	2	52.290	51.999	52.457	52.666	52.833	53.517	53.536	53.026	53.021	52.979	52.832382
	3	52.293	52.000	52.471	52.673	52.816	53.524	53.558	53.028	52.919	52.971	52.825182
	Ave	52.292	52.002	52.506	52.670	52.827	53.520	53.589	53.027	52.985	52.977	<-- Ave X-bar: 52.839
R		0.009301	0.009898	0.132603	0.006199	0.017095	0.006699	0.135798	0.001296	0.102501	0.009604	<-- Ave R: 0.042539
C	1	52.291	51.989	52.462	52.662	52.824	53.529	53.535	53.020	53.014	52.973	52.829872
	2	52.289	51.989	52.461	52.541	52.807	53.504	53.673	53.019	52.900	52.985	52.816773
	3	52.288	51.997	52.464	52.552	52.668	53.527	53.545	53.028	53.016	52.978	52.806332
	Ave	52.289	51.992	52.463	52.585	52.767	53.520	53.584	53.022	52.976	52.979	<-- Ave X-bar: 52.818
R		0.002701	0.008002	0.002701	0.121303	0.155896	0.024699	0.138100	0.009499	0.116296	0.011899	<-- Ave R: 0.059110
Total Part Ave.		52.286	51.995	52.489	52.640	52.801	53.517	53.586	53.023	52.994	52.978	<--Mean Range: 1.591799
Grand Average Range												0.049973
XDIFF												0.021660

Equipment Variation (EV): 0.152417  
 Appraiser Variation (AV): 0.051437  
 Repeatability and Reproducibility (R&R): 0.160863  
 Part Variation (PV): 2.578715  
 Total Variation (TV): 2.582727

EV as % of TV: 5.899127%  
 AV as % of TV: 1.990810%  
 R&R as % of TV: **6.225996% PASS**  
 PV as % of TV: 99.805997%

IOL pin 16

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	52.993	52.083	53.409	52.965	52.886	53.041	53.422	53.219	52.257	52.731	52.900733
	2	53.019	52.117	53.435	52.995	52.915	53.058	53.316	53.247	52.287	52.766	52.915533
	3	53.023	52.114	53.569	52.987	52.918	53.060	53.317	53.245	52.281	52.767	52.926073
	Ave	53.012	52.105	53.471	52.983	52.907	53.053	53.352	53.237	52.275	52.755	<-- Ave X-bar: 52.915
R		0.029702	0.033598	0.159498	0.030000	0.032298	0.018198	0.106499	0.027999	0.030704	0.036597	<-- Ave R: 0.050509
B	1	53.014	52.113	53.558	52.986	52.916	53.054	53.451	53.246	52.281	52.760	52.937703
	2	53.013	52.109	53.435	52.988	52.916	53.054	53.308	53.246	52.280	52.766	52.911813
	3	53.020	52.111	53.428	52.985	52.904	53.062	53.324	53.253	52.162	52.754	52.900382
	Ave	53.016	52.111	53.474	52.986	52.912	53.057	53.361	53.249	52.241	52.760	<-- Ave X-bar: 52.917
R		0.006896	0.003595	0.130203	0.002600	0.011902	0.008208	0.142399	0.007197	0.118397	0.012502	<-- Ave R: 0.044389
C	1	53.013	52.106	53.421	52.980	52.907	53.059	53.311	53.242	52.275	52.749	52.906312
	2	53.012	52.104	53.422	52.858	52.901	53.047	53.442	53.243	52.153	52.747	52.892952
	3	53.014	52.108	53.433	52.859	52.766	53.055	53.303	53.242	52.274	52.754	52.880832
	Ave	53.013	52.106	53.425	52.899	52.858	53.054	53.352	53.242	52.234	52.750	<-- Ave X-bar: 52.893
R		0.001997	0.004597	0.011902	0.122296	0.141095	0.012200	0.138704	0.001300	0.121702	0.006303	<-- Ave R: 0.056210
Total Part Ave.		53.014	52.107	53.457	52.956	52.892	53.054	53.355	53.243	52.250	52.755	<--Mean Range: 1.349322
Grand Average Range												0.050370
XDIFF												0.023620

Equipment Variation (EV): 0.153627  
 Appraiser Variation (AV): 0.056191  
 Repeatability and Reproducibility (R&R): 0.163581  
 Part Variation (PV): 2.185902  
 Total Variation (TV): 2.192014

EV as % of TV: 7.008489%  
 AV as % of TV: 2.563423%  
 R&R as % of TV: **7.462577% PASS**  
 PV as % of TV: 99.721161%





Qualification Report of AMKOR Testing

IOL pin 17

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	53.284	52.964	53.381	53.090	53.049	53.885	53.383	53.838	52.982	53.437	53.329282
A	2	53.307	52.999	53.423	53.119	53.070	53.913	53.270	53.879	53.014	53.457	53.345044
A	3	53.322	52.994	53.540	53.124	53.079	53.919	53.291	53.866	53.022	53.474	53.363163
	Ave	53.304	52.986	53.448	53.111	53.066	53.906	53.315	53.861	53.006	53.456	<-- Ave X-bar: 53.346
	R	0.038303	0.034600	0.159204	0.034600	0.029001	0.033602	0.112403	0.040904	0.040501	0.037201	<-- Ave R: 0.056032
B	1	53.316	52.993	53.536	53.118	53.069	53.908	53.417	53.869	53.006	53.459	53.368972
B	2	53.308	52.994	53.413	53.121	53.070	53.911	53.282	53.857	53.005	53.469	53.349083
B	3	53.310	53.002	53.406	53.112	53.060	53.908	53.265	53.860	52.890	53.472	53.328512
	Ave	53.311	52.996	53.452	53.117	53.066	53.909	53.321	53.862	52.967	53.467	<-- Ave X-bar: 53.347
	R	0.007600	0.008900	0.129599	0.008900	0.010204	0.003602	0.152301	0.011601	0.115700	0.012796	<-- Ave R: 0.046120
C	1	53.298	52.991	53.401	53.112	53.059	53.902	53.271	53.863	53.011	53.455	53.336202
C	2	53.291	52.979	53.399	52.992	53.069	53.905	53.397	53.862	52.881	53.441	53.321522
C	3	53.299	52.993	53.410	52.994	52.981	53.900	53.271	53.862	53.005	53.459	53.312353
	Ave	53.296	52.987	53.403	53.033	53.020	53.902	53.313	53.862	52.966	53.452	<-- Ave X-bar: 53.323
	R	0.007998	0.014205	0.011601	0.119999	0.137698	0.004597	0.126202	0.000998	0.130501	0.017803	<-- Ave R: 0.057160
Total Part Ave.		53.304	52.990	53.434	53.067	53.051	53.906	53.316	53.862	52.980	53.458	<--Mean Range: 0.926078
Grand Average Range												0.053104
XDIFF												0.023500

Equipment Variation (EV): 0.161968  
 Appraiser Variation (AV): 0.056138  
 Repeatability and Reproducibility (R&R): 0.171420  
 Part Variation (PV): 1.500247  
 Total Variation (TV): 1.510008

EV as % of TV: 10.726278%  
 AV as % of TV: 3.717714%  
 R&R as % of TV: **11.352283% PASS**  
 PV as % of TV: 99.352389%

IOL pin 18

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	53.182	52.896	53.294	52.799	52.572	53.295	53.567	53.192	52.581	53.206	53.058232
A	2	53.202	52.923	53.326	52.820	52.591	53.315	53.469	53.232	52.598	53.234	53.071063
A	3	53.208	52.923	53.446	52.821	52.602	53.323	53.471	53.233	52.615	53.235	53.087603
	Ave	53.197	52.914	53.355	52.813	52.588	53.311	53.502	53.219	52.596	53.225	<-- Ave X-bar: 53.072
	R	0.026401	0.026699	0.152301	0.022102	0.030003	0.027999	0.097502	0.041202	0.033904	0.028599	<-- Ave R: 0.048671
B	1	53.211	52.914	53.445	52.817	52.586	53.312	53.607	53.224	52.611	53.241	53.096722
B	2	53.205	52.918	53.313	52.822	52.595	53.310	53.463	53.219	52.593	53.240	53.067732
B	3	53.209	52.918	53.309	52.828	52.580	53.312	53.464	53.220	52.472	53.249	53.055103
	Ave	53.208	52.916	53.356	52.822	52.587	53.311	53.508	53.221	52.559	53.243	<-- Ave X-bar: 53.073
	R	0.006597	0.004198	0.136502	0.010900	0.014499	0.002000	0.152397	0.004299	0.138700	0.009201	<-- Ave R: 0.047979
C	1	53.189	52.921	53.306	52.814	52.575	53.300	53.461	53.221	52.596	53.232	53.061362
C	2	53.191	52.914	53.313	52.698	52.587	53.323	53.597	53.221	52.467	53.228	53.054083
C	3	53.193	52.917	53.311	52.702	52.457	53.306	53.464	53.218	52.600	53.237	53.040533
	Ave	53.191	52.917	53.310	52.738	52.540	53.310	53.507	53.220	52.554	53.233	<-- Ave X-bar: 53.052
	R	0.004902	0.006299	0.006605	0.115998	0.129499	0.023797	0.136502	0.003301	0.132099	0.008296	<-- Ave R: 0.056730
Total Part Ave.		53.199	52.916	53.340	52.791	52.572	53.311	53.506	53.220	52.570	53.234	<--Mean Range: 0.935457
Grand Average Range												0.051127
XDIFF												0.021200

Equipment Variation (EV): 0.155937  
 Appraiser Variation (AV): 0.049658  
 Repeatability and Reproducibility (R&R): 0.162653  
 Part Variation (PV): 1.515440  
 Total Variation (TV): 1.524251

EV as % of TV: 10.230401%  
 AV as % of TV: 3.257834%  
 R&R as % of TV: **10.736600% PASS**  
 PV as % of TV: 99.421956%



Qualification Report of AMKOR Testing

IOL pin 19

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	53.154	53.037	53.755	53.596	52.861	53.918	54.070	53.401	52.989	53.476	53.425803
	2	53.173	53.050	53.773	53.615	52.888	53.933	53.958	53.431	53.010	53.507	53.433712
	3	53.177	53.046	53.908	53.620	52.892	53.942	53.966	53.440	53.029	53.503	53.452164
	Ave	53.168	53.044	53.812	53.611	52.880	53.931	53.958	53.424	53.009	53.495	<-- Ave X-bar: 53.437
R	0.022400	0.012796	0.153199	0.024397	0.030700	0.023704	0.111803	0.038501	0.040300	0.030302	<-- Ave R: 0.048810	
B	1	53.175	53.043	53.900	53.619	52.876	53.946	54.098	53.428	53.020	53.512	53.461682
	2	53.170	53.048	53.777	53.612	52.889	53.922	53.964	53.426	53.006	53.500	53.432583
	3	53.175	53.045	53.774	53.617	52.878	53.927	53.953	53.423	52.992	53.515	53.419863
	Ave	53.174	53.045	53.817	53.616	52.881	53.925	54.005	53.425	52.973	53.509	<-- Ave X-bar: 53.438
R	0.004999	0.004895	0.125203	0.007197	0.013202	0.019502	0.144999	0.004899	0.126195	0.014801	<-- Ave R: 0.046789	
C	1	53.165	53.041	53.760	53.607	52.881	53.923	53.967	53.426	53.012	53.493	53.428462
	2	53.167	53.047	53.771	53.487	52.882	53.935	54.084	53.423	52.983	53.495	53.417373
	3	53.167	53.052	53.768	53.492	52.751	53.926	53.956	53.425	53.008	53.501	53.404753
	Ave	53.166	53.047	53.766	53.529	52.838	53.931	54.002	53.425	52.968	53.497	<-- Ave X-bar: 53.417
R	0.002999	0.011500	0.011202	0.119999	0.131197	0.008900	0.127904	0.002399	0.129797	0.007898	<-- Ave R: 0.055379	
Total Part Ave.		53.169	53.045	53.798	53.585	52.866	53.932	54.002	53.425	52.983	53.500	<--Mean Range: 1.135500

Grand Average Range XDIFF 0.050326  
 0.021180

Equipment Variation (EV): 0.153495  
 Appraiser Variation (AV): 0.049849  
 Repeatability and Reproducibility (R&R): 0.161287  
 Part Variation (PV): 1.839510  
 Total Variation (TV): 1.846576

EV as % of TV: 8.312426%  
 AV as % of TV: 2.699513%  
 R&R as % of TV: **8.739782% PASS**  
 PV as % of TV: 99.617849%

IOL pin 20

Units of Measure = mA

LIMITS  
 Lo Limit: 46.267 No. Of Operators: 3  
 Hi Limit: 54.467 No. Of Trials: 3  
 Tolerance: 8.200 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	53.689	52.901	53.614	53.707	53.504	54.314	54.017	53.367	53.040	53.844	53.599603
	2	53.720	52.920	53.635	53.743	53.532	54.330	53.910	53.401	53.066	53.882	53.613872
	3	53.724	52.915	53.767	53.738	53.535	54.340	53.924	53.414	53.068	53.889	53.631363
	Ave	53.711	52.912	53.672	53.729	53.524	54.326	53.950	53.394	53.058	53.872	<-- Ave X-bar: 53.615
R	0.034902	0.018500	0.153299	0.035599	0.030998	0.026003	0.107102	0.047404	0.028599	0.045199	<-- Ave R: 0.052761	
B	1	53.722	52.917	53.766	53.731	53.526	54.330	54.044	53.400	53.060	53.876	53.637204
	2	53.731	52.922	53.643	53.728	53.526	54.329	53.905	53.396	53.056	53.874	53.611062
	3	53.716	52.924	53.634	53.737	53.520	54.326	53.902	53.391	52.940	53.885	53.597582
	Ave	53.723	52.921	53.681	53.732	53.524	54.328	53.950	53.396	53.019	53.879	<-- Ave X-bar: 53.615
R	0.015799	0.007197	0.131499	0.008900	0.006203	0.003301	0.141401	0.009604	0.120003	0.010896	<-- Ave R: 0.045480	
C	1	53.714	52.913	53.628	53.728	53.518	54.321	53.907	53.401	53.061	53.873	53.606394
	2	53.710	52.912	53.625	53.604	53.521	54.324	54.037	53.390	52.937	53.877	53.593722
	3	53.716	52.918	53.627	53.603	53.392	54.321	53.900	53.391	53.056	53.870	53.579393
	Ave	53.713	52.914	53.627	53.645	53.477	54.322	53.948	53.394	53.018	53.874	<-- Ave X-bar: 53.593
R	0.006299	0.006601	0.002999	0.124898	0.129595	0.002995	0.137400	0.010904	0.124000	0.006899	<-- Ave R: 0.055259	
Total Part Ave.		53.716	52.916	53.660	53.702	53.508	54.326	53.950	53.394	53.031	53.875	<--Mean Range: 1.410288

Grand Average Range XDIFF 0.051167  
 0.022110

Equipment Variation (EV): 0.156058  
 Appraiser Variation (AV): 0.052459  
 Repeatability and Reproducibility (R&R): 0.164639  
 Part Variation (PV): 2.284666  
 Total Variation (TV): 2.290591

EV as % of TV: 6.813010%  
 AV as % of TV: 2.290187%  
 R&R as % of TV: **7.187633% PASS**  
 PV as % of TV: 99.741355%



Qualification Report of AMKOR Testing

Pin to Pin %

LIMITS													
Lo Limit:												No. Of Operators:	3
Hi Limit:		0.035										No. Of Trials:	3
Tolerance:												No. Of Parts:	10
Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average	
A	1	0.014	0.015	0.013	0.010	0.009	0.016	0.013	0.009	0.012	0.011	0.012372	
A	2	0.014	0.015	0.013	0.010	0.009	0.016	0.013	0.009	0.012	0.011	0.012305	
A	3	0.014	0.015	0.013	0.010	0.009	0.016	0.013	0.009	0.012	0.011	0.012361	
	Ave	0.014	0.015	0.013	0.010	0.009	0.016	0.013	0.009	0.012	0.011	<-- Ave X-bar: 0.012	
	R	0.000200	0.000175	0.000157	0.000086	0.000095	0.000162	0.000192	0.000120	0.000151	0.000074	<-- Ave R: 0.000141	
B	1	0.014	0.015	0.013	0.010	0.009	0.016	0.013	0.009	0.012	0.011	0.012322	
B	2	0.014	0.015	0.013	0.010	0.009	0.016	0.013	0.009	0.012	0.011	0.012281	
B	3	0.014	0.015	0.013	0.010	0.009	0.016	0.013	0.009	0.012	0.011	0.012284	
	Ave	0.014	0.015	0.013	0.010	0.009	0.016	0.013	0.009	0.012	0.011	<-- Ave X-bar: 0.012	
	R	0.000025	0.000072	0.000179	0.000024	0.000028	0.000096	0.000250	0.000028	0.000174	0.000224	<-- Ave R: 0.000110	
C	1	0.014	0.015	0.013	0.010	0.009	0.016	0.013	0.009	0.012	0.011	0.012372	
C	2	0.014	0.015	0.013	0.010	0.009	0.016	0.013	0.009	0.012	0.011	0.012350	
C	3	0.014	0.015	0.013	0.010	0.009	0.016	0.013	0.009	0.012	0.011	0.012320	
	Ave	0.014	0.015	0.013	0.010	0.009	0.016	0.013	0.009	0.012	0.011	<-- Ave X-bar: 0.012	
	R	0.000020	0.000069	0.000087	0.000127	0.000012	0.000052	0.000183	0.000049	0.000181	0.000126	<-- Ave R: 0.000088	
Total Part Ave.		0.014	0.015	0.013	0.010	0.009	0.016	0.013	0.009	0.012	0.011	<--Mean Range: 0.007348	
Grand Average Range												0.000113	
XDIFF												0.000052	
Equipment Variation (EV):												0.000244	
Appraiser Variation (AV):												0.000125	
Repeatability and Reproducibility (R&R):												0.000367	
Part Variation (PV):												0.011904	
Total Variation (TV):												0.011910	
EV as % of TV:												2.892096%	
AV as % of TV:												1.053219%	
R&R as % of TV:												<b>3.077904%</b> PASS	
PV as % of TV:												99.952621%	

IOL pin 5

Units of Measure = mA

LIMITS													
Lo Limit:		16.800										No. Of Operators:	3
Hi Limit:		22.236										No. Of Trials:	3
Tolerance:		3.436										No. Of Parts:	10
Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average	
A	1	20.925	20.918	21.032	20.601	20.591	21.197	20.755	20.928	20.649	20.772	20.836861	
A	2	20.917	20.916	21.041	20.614	20.579	21.194	20.743	20.928	20.643	20.777	20.835171	
A	3	20.924	20.933	21.039	20.601	20.587	21.197	20.744	20.929	20.646	20.775	20.837511	
	Ave	20.922	20.922	21.037	20.605	20.585	21.196	20.748	20.929	20.646	20.775	<-- Ave X-bar: 20.837	
	R	0.006101	0.016497	0.009399	0.012800	0.011900	0.003600	0.011900	0.000600	0.006501	0.004699	<-- Ave R: 0.006600	
B	1	20.907	20.916	21.044	20.599	20.574	21.193	20.754	20.918	20.636	20.776	20.831661	
B	2	20.912	20.920	21.032	20.604	20.580	21.208	20.739	20.926	20.646	20.785	20.835031	
B	3	20.909	20.919	21.043	20.603	20.571	21.197	20.754	20.926	20.632	20.772	20.832661	
	Ave	20.909	20.918	21.040	20.602	20.575	21.199	20.749	20.923	20.638	20.777	<-- Ave X-bar: 20.833	
	R	0.004699	0.004498	0.012500	0.004699	0.009401	0.014700	0.015398	0.008401	0.013702	0.012599	<-- Ave R: 0.010060	
C	1	20.908	20.933	21.043	20.603	20.580	21.196	20.754	20.927	20.635	20.775	20.835581	
C	2	20.913	20.921	21.044	20.604	20.591	21.199	20.760	20.927	20.634	20.789	20.838211	
C	3	20.926	20.920	21.031	20.606	20.582	21.197	20.740	20.927	20.637	20.776	20.834131	
	Ave	20.916	20.925	21.040	20.604	20.584	21.198	20.751	20.927	20.636	20.780	<-- Ave X-bar: 20.836	
	R	0.017701	0.013199	0.012899	0.002600	0.011101	0.003099	0.020301	0.000602	0.003099	0.013702	<-- Ave R: 0.009830	
Total Part Ave.		20.916	20.922	21.039	20.604	20.582	21.198	20.749	20.926	20.640	20.777	<--Mean Range: 0.616067	
Grand Average Range												0.009497	
XDIFF												0.008390	
Equipment Variation (EV):												0.028965	
Appraiser Variation (AV):												0.007471	
Repeatability and Reproducibility (R&R):												0.029913	
Part Variation (PV):												0.998029	
Total Variation (TV):												0.998477	
EV as % of TV:												2.900891%	
AV as % of TV:												0.748215%	
R&R as % of TV:												<b>2.995830%</b> PASS	
PV as % of TV:												99.955115%	



IOL pin 6

Qualification Report of AMKOR Testing

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.363	20.560	20.740	20.957	20.627	21.221	21.208	20.457	20.556	20.875	20.756471
A	2	20.362	20.555	20.754	20.962	20.616	21.220	21.194	20.454	20.552	20.871	20.753921
A	3	20.363	20.568	20.750	20.951	20.629	21.221	21.195	20.455	20.558	20.868	20.755610
	Ave	20.363	20.561	20.748	20.956	20.624	21.221	21.199	20.455	20.556	20.871	<-- Ave X-bar: 20.755
	R	0.001002	0.013301	0.014000	0.010800	0.011999	0.001200	0.014501	0.002800	0.006098	0.007700	<-- Ave R: 0.008340
B	1	20.349	20.557	20.749	20.947	20.615	21.221	21.213	20.442	20.547	20.870	20.750971
B	2	20.355	20.558	20.737	20.953	20.617	21.224	21.196	20.456	20.555	20.884	20.754571
B	3	20.353	20.561	20.746	20.953	20.614	21.220	21.204	20.453	20.542	20.874	20.752161
	Ave	20.352	20.559	20.744	20.951	20.615	21.225	21.204	20.451	20.548	20.876	<-- Ave X-bar: 20.753
	R	0.005301	0.004001	0.011699	0.006301	0.002699	0.014400	0.017099	0.013700	0.012800	0.014398	<-- Ave R: 0.010240
C	1	20.350	20.572	20.761	20.955	20.617	21.224	21.211	20.453	20.545	20.873	20.755260
C	2	20.350	20.559	20.751	20.954	20.634	21.220	21.209	20.456	20.542	20.883	20.755781
C	3	20.360	20.557	20.740	20.956	20.622	21.223	21.194	20.463	20.540	20.878	20.753372
	Ave	20.353	20.562	20.747	20.955	20.625	21.222	21.205	20.458	20.542	20.878	<-- Ave X-bar: 20.755
	R	0.010401	0.015099	0.011299	0.002701	0.016602	0.003900	0.016399	0.010099	0.005698	0.010099	<-- Ave R: 0.010230
Total Part Ave.		20.356	20.561	20.746	20.954	20.621	21.223	21.203	20.454	20.549	20.875	<--Mean Range: 0.866444

Grand Average Range XDIFF 0.009603  
 0.002760

Equipment Variation (EV): 0.029290  
 Appraiser Variation (AV): 0.005190  
 Repeatability and Reproducibility (R&R): 0.029746  
 Part Variation (PV): 1.403640  
 Total Variation (TV): 1.403955

EV as % of TV: 2.086227%  
 AV as % of TV: 0.369670%  
 R&R as % of TV: **2.118725% PASS**  
 PV as % of TV: 99.977552%

IOL pin 7

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.593	20.606	20.747	20.496	20.351	20.762	20.889	20.671	20.631	20.523	20.626961
A	2	20.593	20.603	20.756	20.505	20.338	20.761	20.881	20.671	20.633	20.524	20.626470
A	3	20.593	20.616	20.761	20.495	20.349	20.761	20.881	20.672	20.629	20.524	20.628231
	Ave	20.593	20.608	20.754	20.499	20.346	20.762	20.884	20.671	20.631	20.524	<-- Ave X-bar: 20.627
	R	0.000600	0.013500	0.014601	0.010500	0.013100	0.000600	0.008900	0.001300	0.003200	0.000801	<-- Ave R: 0.006710
B	1	20.580	20.599	20.758	20.495	20.335	20.763	20.894	20.660	20.621	20.525	20.622901
B	2	20.581	20.603	20.743	20.496	20.327	20.776	20.879	20.673	20.632	20.543	20.626241
B	3	20.582	20.602	20.758	20.493	20.325	20.760	20.890	20.669	20.616	20.528	20.623291
	Ave	20.581	20.601	20.753	20.495	20.336	20.766	20.887	20.667	20.623	20.532	<-- Ave X-bar: 20.624
	R	0.001999	0.004200	0.014801	0.002800	0.001601	0.015698	0.015100	0.013001	0.016600	0.017701	<-- Ave R: 0.010370
C	1	20.576	20.616	20.760	20.493	20.334	20.761	20.892	20.676	20.617	20.527	20.625201
C	2	20.579	20.604	20.759	20.497	20.354	20.765	20.893	20.672	20.620	20.540	20.628291
C	3	20.595	20.606	20.748	20.495	20.341	20.764	20.881	20.673	20.620	20.529	20.625001
	Ave	20.583	20.608	20.756	20.495	20.343	20.764	20.889	20.674	20.619	20.532	<-- Ave X-bar: 20.626
	R	0.019301	0.012400	0.011900	0.003800	0.019899	0.003800	0.012200	0.003899	0.002902	0.013201	<-- Ave R: 0.010330
Total Part Ave.		20.586	20.606	20.754	20.496	20.342	20.764	20.887	20.671	20.624	20.529	<--Mean Range: 0.544867

Grand Average Range XDIFF 0.009137  
 0.003080

Equipment Variation (EV): 0.027867  
 Appraiser Variation (AV): 0.006578  
 Repeatability and Reproducibility (R&R): 0.028633  
 Part Variation (PV): 0.882684  
 Total Variation (TV): 0.883148

EV as % of TV: 3.155433%  
 AV as % of TV: 0.744824%  
 R&R as % of TV: **3.242150% PASS**  
 PV as % of TV: 99.947429%





Qualification Report of AMKOR Testing

IOL pin 8

Units of Measure = mA

LIMITS													
Lo Limit:	18.800	No. Of Operators:										3	
Hi Limit:	22.236	No. Of Trials:										3	
Tolerance:	3.436	No. Of Parts:										10	
Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average	
A	1	20.529	20.491	21.231	20.772	20.699	20.602	21.119	20.748	20.428	20.490	20.711001	
A	2	20.529	20.491	21.245	20.785	20.692	20.600	21.103	20.752	20.429	20.491	20.711661	
A	3	20.531	20.501	21.246	20.772	20.702	20.599	21.109	20.751	20.428	20.493	20.713191	
	Ave	20.530	20.494	21.240	20.776	20.698	20.601	21.110	20.751	20.428	20.491	<-- Ave X-bar: 20.712	
	R	0.002300	0.009900	0.015100	0.012601	0.009898	0.002500	0.015799	0.004102	0.001200	0.002300	<-- Ave R: 0.007570	
B	1	20.517	20.486	21.244	20.769	20.688	20.603	21.123	20.738	20.418	20.491	20.707701	
B	2	20.518	20.493	21.230	20.774	20.688	20.612	21.110	20.749	20.431	20.504	20.710921	
B	3	20.518	20.491	21.246	20.767	20.685	20.598	21.119	20.748	20.415	20.493	20.708011	
	Ave	20.518	20.490	21.240	20.770	20.687	20.605	21.117	20.745	20.421	20.496	<-- Ave X-bar: 20.709	
	R	0.001300	0.006799	0.015799	0.006201	0.003500	0.014501	0.012500	0.010598	0.015400	0.013899	<-- Ave R: 0.010050	
C	1	20.516	20.504	21.244	20.770	20.688	20.602	21.120	20.752	20.419	20.493	20.710821	
C	2	20.512	20.486	21.246	20.772	20.702	20.604	21.121	20.752	20.416	20.505	20.711521	
C	3	20.527	20.492	21.234	20.774	20.691	20.598	21.108	20.752	20.418	20.488	20.708211	
	Ave	20.518	20.494	21.241	20.772	20.693	20.601	21.116	20.752	20.418	20.495	<-- Ave X-bar: 20.710	
	R	0.015099	0.017799	0.011699	0.003701	0.013500	0.005599	0.012800	0.000399	0.003099	0.017099	<-- Ave R: 0.010080	
Total Part Ave.		20.522	20.493	21.241	20.773	20.693	20.602	21.115	20.749	20.422	20.494	<--Mean Range: 0.818234	
Grand Average Range												0.009233	
XDIFF												0.003070	
Equipment Variation (EV):												0.028161	
Appraiser Variation (AV):												0.006502	
Repeatability and Reproducibility (R&R):												0.028902	
Part Variation (PV):												1.325538	
Total Variation (TV):												1.325853	
EV as % of TV:												2.123979%	
AV as % of TV:												0.490384%	
R&R as % of TV:												<b>2.179854%</b> <b>PASS</b>	
PV as % of TV:												99.976238%	

IOL pin 9

Units of Measure = mA

LIMITS													
Lo Limit:	18.800	No. Of Operators:										3	
Hi Limit:	22.236	No. Of Trials:										3	
Tolerance:	3.436	No. Of Parts:										10	
Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average	
A	1	20.640	20.121	20.818	20.713	20.873	20.826	20.892	20.683	20.454	21.012	20.703181	
A	2	20.644	20.121	20.832	20.721	20.863	20.827	20.880	20.683	20.455	21.014	20.704081	
A	3	20.644	20.135	20.831	20.709	20.872	20.830	20.883	20.679	20.455	21.016	20.705661	
	Ave	20.643	20.125	20.827	20.714	20.869	20.828	20.885	20.682	20.455	21.014	<-- Ave X-bar: 20.704	
	R	0.006199	0.014201	0.014601	0.011299	0.010701	0.003099	0.011399	0.004400	0.001200	0.004200	<-- Ave R: 0.008130	
B	1	20.632	20.121	20.830	20.710	20.862	20.830	20.897	20.667	20.440	21.014	20.700221	
B	2	20.632	20.120	20.818	20.711	20.859	20.838	20.882	20.681	20.458	21.030	20.702830	
B	3	20.633	20.119	20.834	20.708	20.855	20.828	20.895	20.683	20.445	21.013	20.701291	
	Ave	20.632	20.120	20.827	20.710	20.859	20.832	20.891	20.677	20.448	21.019	<-- Ave X-bar: 20.701	
	R	0.001200	0.002200	0.016002	0.003099	0.007300	0.009699	0.015000	0.016600	0.017401	0.016300	<-- Ave R: 0.010480	
C	1	20.629	20.137	20.833	20.713	20.864	20.828	20.893	20.681	20.446	21.018	20.704201	
C	2	20.633	20.119	20.833	20.713	20.875	20.828	20.891	20.678	20.447	21.025	20.704071	
C	3	20.647	20.122	20.823	20.714	20.863	20.828	20.882	20.682	20.447	21.017	20.702771	
	Ave	20.637	20.126	20.830	20.713	20.867	20.828	20.889	20.680	20.447	21.020	<-- Ave X-bar: 20.704	
	R	0.015001	0.016600	0.009999	0.001101	0.011699	0.001401	0.010701	0.004901	0.001499	0.008499	<-- Ave R: 0.006640	
Total Part Ave.		20.637	20.124	20.828	20.712	20.865	20.829	20.888	20.680	20.450	21.018	<--Mean Range: 0.899333	
Grand Average Range												0.009083	
XDIFF												0.002850	
Equipment Variation (EV):												0.027704	
Appraiser Variation (AV):												0.005799	
Repeatability and Reproducibility (R&R):												0.028305	
Part Variation (PV):												1.448172	
Total Variation (TV):												1.448449	
EV as % of TV:												1.912674%	
AV as % of TV:												0.400364%	
R&R as % of TV:												<b>1.954127%</b> <b>PASS</b>	
PV as % of TV:												99.980905%	



Qualification Report of AMKOR Testing

IOL pin 10

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.013	20.363	20.966	20.684	20.700	20.476	20.612	20.827	20.603	21.039	20.625361
A	2	20.016	20.365	20.979	20.696	20.687	20.474	20.595	20.829	20.604	21.040	20.625491
A	3	20.018	20.375	20.980	20.684	20.697	20.477	20.593	20.826	20.599	21.041	20.629041
	Ave	20.016	20.368	20.975	20.688	20.695	20.476	20.600	20.828	20.602	21.040	<-- Ave X-bar: 20.629
	R	0.004601	0.012299	0.014700	0.012100	0.013201	0.002401	0.019200	0.003001	0.005199	0.001701	<-- Ave R: 0.008840
B	1	20.003	20.365	20.977	20.687	20.694	20.475	20.606	20.816	20.592	21.042	20.625861
B	2	20.010	20.366	20.965	20.687	20.689	20.486	20.591	20.828	20.605	21.056	20.628431
B	3	20.004	20.368	20.982	20.687	20.687	20.481	20.611	20.829	20.596	21.038	20.628301
	Ave	20.006	20.366	20.975	20.687	20.690	20.481	20.603	20.824	20.598	21.046	<-- Ave X-bar: 20.628
	R	0.006599	0.003599	0.016700	0.000400	0.007501	0.010999	0.019800	0.013702	0.012903	0.018001	<-- Ave R: 0.011020
C	1	20.009	20.379	20.981	20.688	20.693	20.478	20.610	20.830	20.591	21.038	20.629591
C	2	20.007	20.367	20.979	20.682	20.702	20.478	20.608	20.829	20.592	21.053	20.629551
C	3	20.019	20.363	20.969	20.685	20.688	20.480	20.596	20.832	20.588	21.042	20.626211
	Ave	20.012	20.369	20.976	20.685	20.694	20.479	20.605	20.830	20.590	21.044	<-- Ave X-bar: 20.628
	R	0.012498	0.015799	0.011401	0.005400	0.013901	0.002401	0.013398	0.002598	0.003200	0.014501	<-- Ave R: 0.009510
Total Part Ave.		20.011	20.368	20.975	20.687	20.693	20.478	20.602	20.827	20.597	21.043	<--Mean Range: 1.032156
Grand Average Range												0.009790
XDIFF												0.001100

Equipment Variation (EV): 0.029860  
 Appraiser Variation (AV): 0.000000  
 Repeatability and Reproducibility (R&R): 0.029860  
 Part Variation (PV): 1.672093  
 Total Variation (TV): 1.672359

EV as % of TV: 1.785483%  
 AV as % of TV: 0.000000%  
 R&R as % of TV: **1.785483% PASS**  
 PV as % of TV: 99.984059%

IOL pin 11

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.725	19.982	20.532	20.705	20.376	20.442	20.433	21.394	19.971	21.028	20.558921
A	2	20.729	19.980	20.545	20.718	20.365	20.444	20.421	21.382	19.971	21.030	20.559141
A	3	20.729	19.991	20.543	20.706	20.378	20.442	20.421	21.392	19.971	21.035	20.560891
	Ave	20.728	19.984	20.540	20.709	20.373	20.443	20.425	21.393	19.971	21.031	<-- Ave X-bar: 20.560
	R	0.004400	0.011900	0.013499	0.010800	0.012698	0.001602	0.012400	0.002701	0.000600	0.007199	<-- Ave R: 0.007780
B	1	20.715	19.982	20.547	20.706	20.367	20.443	20.436	21.386	19.960	21.035	20.557721
B	2	20.713	19.984	20.533	20.707	20.364	20.456	20.421	21.394	19.972	21.048	20.559161
B	3	20.720	19.981	20.548	20.705	20.359	20.441	20.438	21.396	19.961	21.031	20.558021
	Ave	20.716	19.982	20.542	20.706	20.363	20.447	20.432	21.392	19.964	21.038	<-- Ave X-bar: 20.558
	R	0.007298	0.003198	0.014899	0.002300	0.008799	0.014799	0.017799	0.009198	0.012400	0.016499	<-- Ave R: 0.010719
C	1	20.725	19.995	20.551	20.706	20.370	20.444	20.437	21.390	19.960	21.032	20.560921
C	2	20.723	19.982	20.548	20.706	20.374	20.443	20.438	21.395	19.962	21.045	20.561611
C	3	20.734	19.982	20.535	20.709	20.363	20.447	20.423	21.396	19.961	21.033	20.558301
	Ave	20.727	19.986	20.545	20.707	20.369	20.445	20.433	21.394	19.961	21.037	<-- Ave X-bar: 20.560
	R	0.010902	0.013700	0.015302	0.002699	0.010600	0.003599	0.014700	0.005297	0.002800	0.013500	<-- Ave R: 0.009310
Total Part Ave.		20.724	19.984	20.542	20.707	20.369	20.445	20.430	21.393	19.965	21.035	<--Mean Range: 1.427289
Grand Average Range												0.009270
XDIFF												0.001980

Equipment Variation (EV): 0.028272  
 Appraiser Variation (AV): 0.001391  
 Repeatability and Reproducibility (R&R): 0.028306  
 Part Variation (PV): 2.312208  
 Total Variation (TV): 2.312381

EV as % of TV: 1.222637%  
 AV as % of TV: 0.060174%  
 R&R as % of TV: **1.224117% PASS**  
 PV as % of TV: 99.992507%



Qualification Report of AMKOR Testing

IOL pin 12

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.498	20.451	20.671	20.660	20.291	20.383	20.908	21.029	20.191	20.764	20.584631
	2	20.505	20.456	20.689	20.679	20.286	20.392	20.897	21.032	20.194	20.761	
	3	20.501	20.469	20.687	20.664	20.295	20.385	20.899	21.032	20.196	20.763	
	Ave	20.501	20.459	20.682	20.668	20.291	20.387	20.901	21.031	20.194	20.763	
B	1	20.488	20.458	20.689	20.657	20.286	20.387	20.912	21.021	20.182	20.764	20.584361
	2	20.489	20.454	20.677	20.665	20.280	20.400	20.897	21.032	20.193	20.778	
	3	20.492	20.456	20.687	20.660	20.277	20.387	20.911	21.032	20.184	20.764	
	Ave	20.490	20.456	20.684	20.661	20.281	20.391	20.906	21.028	20.186	20.769	
C	1	20.491	20.471	20.688	20.663	20.283	20.388	20.907	21.037	20.185	20.766	20.587621
	2	20.494	20.459	20.686	20.663	20.294	20.389	20.910	21.033	20.185	20.778	
	3	20.504	20.458	20.675	20.665	20.280	20.390	20.897	21.030	20.184	20.767	
	Ave	20.496	20.463	20.683	20.664	20.286	20.389	20.905	21.033	20.185	20.770	
R		0.013201	0.013800	0.012998	0.002399	0.014300	0.002200	0.012299	0.006398	0.001600	0.012500	<-- Ave R: 0.009169
Total Part Ave.		20.496	20.459	20.683	20.664	20.286	20.389	20.904	21.031	20.188	20.767	<--Mean Range: 0.642745

Grand Average Range XDIFF 0.009750  
 0.002350

Equipment Variation (EV): 0.029737  
 Appraiser Variation (AV): 0.003284  
 Repeatability and Reproducibility (R&R): 0.029918  
 Part Variation (PV): 1.365246  
 Total Variation (TV): 1.365574

EV as % of TV: 2.177631%  
 AV as % of TV: 0.240460%  
 R&R as % of TV: **2.190867% PASS**  
 PV as % of TV: 99.975998%

IOL pin 13

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average	
A	1	20.643	20.586	20.699	20.399	20.519	20.477	20.425	20.640	20.218	20.585	20.519191	
	2	20.649	20.589	20.713	20.412	20.509	20.481	20.413	20.642	20.221	20.586		
	3	20.648	20.602	20.715	20.401	20.523	20.478	20.420	20.644	20.219	20.591		
	Ave	20.647	20.592	20.709	20.404	20.517	20.479	20.419	20.642	20.219	20.587		<-- Ave X-bar: 20.522
B	1	20.637	20.590	20.714	20.398	20.511	20.479	20.429	20.634	20.206	20.589	20.518821	
	2	20.631	20.591	20.699	20.398	20.506	20.494	20.418	20.643	20.220	20.603		
	3	20.635	20.590	20.718	20.398	20.503	20.483	20.431	20.642	20.206	20.588		
	Ave	20.634	20.591	20.710	20.398	20.507	20.485	20.426	20.640	20.211	20.592		<-- Ave X-bar: 20.519
C	1	20.640	20.590	20.710	20.398	20.510	20.477	20.428	20.644	20.208	20.590	20.520751	
	2	20.633	20.588	20.712	20.399	20.521	20.480	20.431	20.643	20.208	20.604		
	3	20.648	20.589	20.701	20.397	20.508	20.484	20.415	20.645	20.209	20.591		
	Ave	20.640	20.592	20.709	20.398	20.513	20.480	20.425	20.644	20.208	20.595		<-- Ave X-bar: 20.520
R	0.014802	0.011800	0.012500	0.002000	0.013798	0.006700	0.015099	0.001801	0.001000	0.014201	<-- Ave R: 0.009370		
	Total Part Ave.		20.640	20.592	20.709	20.400	20.512	20.481	20.423	20.642	20.213	20.592	<--Mean Range: 0.496433

Grand Average Range XDIFF 0.009523  
 0.002080

Equipment Variation (EV): 0.029046  
 Appraiser Variation (AV): 0.001848  
 Repeatability and Reproducibility (R&R): 0.029105  
 Part Variation (PV): 0.804222  
 Total Variation (TV): 0.804748

EV as % of TV: 3.609371%  
 AV as % of TV: 0.229682%  
 R&R as % of TV: **3.616672% PASS**  
 PV as % of TV: 99.934577%





Qualification Report of AMKOR Testing

IOL pin 14

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.207	20.351	20.888	20.803	20.575	20.502	20.844	20.889	20.315	21.111	20.648461
A	2	20.215	20.354	20.902	20.817	20.561	20.506	20.833	20.891	20.317	21.111	20.650841
A	3	20.209	20.365	20.904	20.803	20.574	20.505	20.832	20.891	20.318	21.111	20.651161
	Ave	20.210	20.357	20.898	20.808	20.570	20.504	20.836	20.891	20.317	21.111	<-- Ave X-bar: 20.650
	R	0.007998	0.013798	0.016101	0.014998	0.013299	0.004198	0.012100	0.001900	0.002300	0.000400	<-- Ave R: 0.008709
B	1	20.199	20.352	20.899	20.800	20.566	20.503	20.843	20.877	20.307	21.108	20.645331
B	2	20.198	20.353	20.888	20.802	20.564	20.517	20.831	20.890	20.320	21.123	20.648711
B	3	20.196	20.352	20.908	20.799	20.557	20.505	20.849	20.891	20.307	21.106	20.647021
	Ave	20.197	20.353	20.898	20.800	20.562	20.509	20.841	20.886	20.311	21.112	<-- Ave X-bar: 20.647
	R	0.002701	0.001401	0.020100	0.003802	0.009099	0.014301	0.017202	0.013899	0.013301	0.017101	<-- Ave R: 0.011291
C	1	20.202	20.363	20.904	20.804	20.566	20.504	20.845	20.888	20.306	21.107	20.648801
C	2	20.199	20.355	20.900	20.802	20.570	20.501	20.847	20.887	20.303	21.123	20.648720
C	3	20.212	20.354	20.891	20.805	20.559	20.506	20.834	20.887	20.308	21.109	20.646421
	Ave	20.204	20.357	20.898	20.804	20.565	20.504	20.842	20.887	20.306	21.113	<-- Ave X-bar: 20.648
	R	0.012198	0.009401	0.013402	0.003500	0.011599	0.004901	0.012700	0.001298	0.004800	0.016501	<-- Ave R: 0.009030
Total Part Ave.		20.204	20.355	20.898	20.804	20.566	20.505	20.840	20.888	20.311	21.112	<--Mean Range: 0.908056
Grand Average Range												0.009677
XDIFF												0.003130
Equipment Variation (EV):												0.029514
Appraiser Variation (AV):												0.006510
Repeatability and Reproducibility (R&R):												0.030223
Part Variation (PV):												1.471050
Total Variation (TV):												1.471361
EV as % of TV:												2.005879%
AV as % of TV:												0.442468%
R&R as % of TV:												<b>2.054101%</b> <b>PASS</b>
PV as % of TV:												99.978901%

IOL pin 15

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	19.981	19.937	20.161	20.377	20.589	21.025	21.054	20.543	20.836	20.831	20.503381
A	2	19.990	19.937	20.175	20.386	20.574	21.026	21.043	20.542	20.840	20.837	20.505061
A	3	19.984	19.949	20.174	20.372	20.584	21.022	21.036	20.539	20.836	20.839	20.503391
	Ave	19.985	19.941	20.170	20.379	20.583	21.025	21.044	20.541	20.837	20.836	<-- Ave X-bar: 20.504
	R	0.008399	0.012001	0.014201	0.013702	0.014899	0.004102	0.017999	0.004400	0.004301	0.008298	<-- Ave R: 0.010230
B	1	19.971	19.937	20.173	20.379	20.581	21.023	21.053	20.531	20.824	20.836	20.500681
B	2	19.967	19.940	20.164	20.377	20.574	21.037	21.037	20.543	20.835	20.848	20.502141
B	3	19.973	19.938	20.180	20.375	20.574	21.028	21.058	20.546	20.831	20.832	20.503391
	Ave	19.970	19.938	20.172	20.377	20.576	21.029	21.049	20.540	20.830	20.839	<-- Ave X-bar: 20.502
	R	0.006400	0.002800	0.016101	0.003900	0.007398	0.014300	0.020599	0.015000	0.011200	0.015501	<-- Ave R: 0.011320
C	1	19.977	19.953	20.176	20.376	20.582	21.029	21.052	20.541	20.825	20.834	20.504471
C	2	19.976	19.937	20.174	20.376	20.590	21.024	21.058	20.543	20.826	20.845	20.504791
C	3	19.990	19.939	20.163	20.375	20.572	21.032	21.040	20.544	20.825	20.837	20.501661
	Ave	19.981	19.943	20.171	20.375	20.581	21.028	21.050	20.543	20.825	20.839	<-- Ave X-bar: 20.504
	R	0.014400	0.015799	0.013398	0.000600	0.018600	0.008199	0.017900	0.003200	0.001099	0.010898	<-- Ave R: 0.010409
Total Part Ave.		19.979	19.941	20.171	20.377	20.580	21.027	21.048	20.541	20.831	20.838	<--Mean Range: 1.107066
Grand Average Range												0.010653
XDIFF												0.001870
Equipment Variation (EV):												0.032492
Appraiser Variation (AV):												0.000000
Repeatability and Reproducibility (R&R):												0.032492
Part Variation (PV):												1.793448
Total Variation (TV):												1.793742
EV as % of TV:												1.811404%
AV as % of TV:												0.000000%
R&R as % of TV:												<b>1.811404%</b> <b>PASS</b>
PV as % of TV:												99.983593%





Qualification Report of AMKOR Testing

IOL pin 16

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.672	20.052	21.085	20.651	20.659	20.593	20.807	20.789	20.163	20.398	20.586881
A	2	20.671	20.053	21.098	20.664	20.641	20.590	20.791	20.789	20.169	20.396	20.586311
A	3	20.674	20.066	21.094	20.647	20.654	20.591	20.789	20.784	20.164	20.396	20.585981
	Ave	20.673	20.057	21.092	20.654	20.651	20.591	20.796	20.787	20.165	20.397	<-- Ave X-bar: 20.586
	R	0.002600	0.014300	0.012901	0.016898	0.017701	0.002598	0.017302	0.005100	0.005599	0.001302	<-- Ave R: 0.009630
B	1	20.661	20.055	21.096	20.649	20.645	20.587	20.806	20.778	20.153	20.395	20.582581
B	2	20.660	20.056	21.085	20.650	20.645	20.603	20.792	20.787	20.165	20.406	20.584870
B	3	20.660	20.056	21.097	20.646	20.642	20.592	20.804	20.794	20.152	20.390	20.583271
	Ave	20.661	20.056	21.092	20.648	20.644	20.594	20.801	20.786	20.157	20.397	<-- Ave X-bar: 20.584
	R	0.001101	0.000898	0.011900	0.003201	0.003500	0.016600	0.013700	0.016101	0.013601	0.015998	<-- Ave R: 0.009670
C	1	20.662	20.063	21.098	20.647	20.644	20.594	20.807	20.789	20.155	20.395	20.585500
C	2	20.663	20.056	21.096	20.646	20.652	20.589	20.806	20.791	20.151	20.403	20.585321
C	3	20.675	20.056	21.083	20.648	20.642	20.593	20.795	20.792	20.152	20.392	20.582621
	Ave	20.667	20.058	21.092	20.647	20.646	20.592	20.803	20.790	20.153	20.396	<-- Ave X-bar: 20.584
	R	0.012301	0.007199	0.015900	0.002401	0.010502	0.004901	0.012400	0.002300	0.003299	0.010900	<-- Ave R: 0.008210
Total Part Ave.		20.667	20.057	21.092	20.650	20.647	20.593	20.800	20.788	20.158	20.397	<--Mean Range: 1.035333
Grand Average Range												0.009170
XDIFF												0.002620

Equipment Variation (EV): 0.027969  
 Appraiser Variation (AV): 0.005648  
 Repeatability and Reproducibility (R&R): 0.028533  
 Part Variation (PV): 1.677240  
 Total Variation (TV): 1.677483

EV as % of TV: 1.667299%  
 AV as % of TV: 0.336686%  
 R&R as % of TV: **1.700954% PASS**  
 PV as % of TV: 99.985523%

IOL pin 17

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average
A	1	20.765	20.650	20.872	20.629	20.628	21.136	20.559	21.127	20.661	20.838	20.788551
A	2	20.764	20.651	20.894	20.643	20.632	21.138	20.550	21.141	20.665	20.837	20.791471
A	3	20.766	20.667	20.887	20.628	20.645	21.135	20.552	21.142	20.665	20.840	20.792721
	Ave	20.765	20.656	20.884	20.633	20.638	21.136	20.554	21.140	20.664	20.838	<-- Ave X-bar: 20.791
	R	0.002500	0.017501	0.022199	0.014300	0.012999	0.002999	0.008797	0.005100	0.003899	0.003101	<-- Ave R: 0.009339
B	1	20.753	20.650	20.890	20.629	20.629	21.140	20.566	21.134	20.653	20.838	20.788080
B	2	20.754	20.652	20.875	20.629	20.630	21.146	20.550	21.140	20.667	20.851	20.789641
B	3	20.751	20.653	20.886	20.628	20.630	21.136	20.556	21.143	20.654	20.838	20.787631
	Ave	20.753	20.652	20.884	20.629	20.630	21.141	20.557	21.139	20.658	20.842	<-- Ave X-bar: 20.788
	R	0.003001	0.003699	0.014799	0.000598	0.001300	0.010099	0.015801	0.009000	0.014503	0.013102	<-- Ave R: 0.008590
C	1	20.746	20.664	20.887	20.631	20.630	21.136	20.563	21.143	20.655	20.836	20.789091
C	2	20.750	20.649	20.885	20.628	20.644	21.137	20.559	21.141	20.649	20.851	20.789351
C	3	20.762	20.652	20.876	20.629	20.635	21.134	20.552	21.141	20.656	20.837	20.787471
	Ave	20.753	20.655	20.883	20.629	20.636	21.136	20.558	21.142	20.653	20.842	<-- Ave X-bar: 20.789
	R	0.015901	0.014899	0.010600	0.003299	0.014100	0.002600	0.011001	0.001600	0.007199	0.014901	<-- Ave R: 0.009630
Total Part Ave.		20.757	20.654	20.884	20.630	20.635	21.138	20.557	21.140	20.658	20.841	<--Mean Range: 0.583833
Grand Average Range												0.009187
XDIFF												0.002460

Equipment Variation (EV): 0.028019  
 Appraiser Variation (AV): 0.004236  
 Repeatability and Reproducibility (R&R): 0.028337  
 Part Variation (PV): 0.945810  
 Total Variation (TV): 0.946235

EV as % of TV: 2.961108%  
 AV as % of TV: 0.447714%  
 R&R as % of TV: **2.994763% PASS**  
 PV as % of TV: 99.955147%



Qualification Report of AMKOR Testing

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average										
A	1	20.882	20.810	20.982	20.579	20.362	20.762	20.910	20.786	20.479	20.837	20.739051										
A	2	20.886	20.804	20.995	20.588	20.350	20.760	20.899	20.784	20.481	20.832	20.737841										
A	3	20.888	20.819	20.989	20.579	20.362	20.762	20.902	20.789	20.480	20.832	20.740201										
	Ave	20.885	20.811	20.989	20.582	20.358	20.761	20.903	20.786	20.480	20.834	<-- Ave X-bar: 20.739										
	R	0.005201	0.014601	0.013800	0.009002	0.012800	0.001801	0.011699	0.005199	0.001801	0.005800	<-- Ave R: 0.006170										
B	1	20.875	20.804	20.992	20.581	20.346	20.764	20.911	20.771	20.469	20.834	20.734541										
B	2	20.870	20.807	20.977	20.578	20.347	20.777	20.903	20.785	20.479	20.846	20.736871										
B	3	20.875	20.806	20.990	20.580	20.343	20.761	20.906	20.781	20.466	20.833	20.734040										
	Ave	20.873	20.805	20.986	20.580	20.345	20.767	20.907	20.779	20.471	20.837	<-- Ave X-bar: 20.735										
	R	0.004798	0.003099	0.015099	0.002800	0.004500	0.015700	0.008801	0.014601	0.013001	0.012700	<-- Ave R: 0.009510										
C	1	20.871	20.820	20.990	20.580	20.343	20.760	20.912	20.790	20.472	20.836	20.737351										
C	2	20.869	20.810	20.993	20.578	20.360	20.763	20.912	20.788	20.469	20.848	20.739031										
C	3	20.886	20.811	20.978	20.578	20.350	20.760	20.899	20.790	20.473	20.836	20.736101										
	Ave	20.876	20.814	20.987	20.579	20.351	20.761	20.907	20.789	20.471	20.840	<-- Ave X-bar: 20.737										
	R	0.016900	0.010001	0.014899	0.001900	0.017500	0.003600	0.013100	0.002300	0.003399	0.011500	<-- Ave R: 0.009510										
Total Part Ave.												20.878	20.810	20.987	20.580	20.352	20.763	20.906	20.785	20.474	20.837	<--Mean Range: 0.635734
Grand Average Range																						0.009063
XDIFF																						0.003880

Equipment Variation (EV): 0.027644  
 Appraiser Variation (AV): 0.009180  
 Repeatability and Reproducibility (R&R): 0.029128  
 Part Variation (PV): 1.029889  
 Total Variation (TV): 1.030301

EV as % of TV: 2.683053%  
 AV as % of TV: 0.891013%  
 R&R as % of TV: **2.827132%** **PASS**  
 PV as % of TV: 99.960029%

IOL pin 19

Units of Measure = mA

LIMITS  
 Lo Limit: 18.800 No. Of Operators: 3  
 Hi Limit: 22.236 No. Of Trials: 3  
 Tolerance: 3.436 No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average										
A	1	20.634	20.672	21.160	21.044	20.498	21.020	21.087	20.676	20.617	20.842	20.818921										
A	2	20.630	20.667	21.172	21.051	20.427	21.020	21.073	20.675	20.615	20.840	20.816991										
A	3	20.631	20.680	21.173	21.042	20.441	21.021	21.076	20.678	20.619	20.837	20.819951										
	Ave	20.632	20.673	21.168	21.046	20.485	21.020	21.079	20.677	20.617	20.840	<-- Ave X-bar: 20.819										
	R	0.004498	0.013599	0.013500	0.009399	0.014102	0.001799	0.013299	0.002598	0.004500	0.004200	<-- Ave R: 0.006150										
B	1	20.622	20.664	21.173	21.041	20.426	21.025	21.090	20.665	20.603	20.842	20.815051										
B	2	20.617	20.668	21.160	21.042	20.428	21.034	21.075	20.680	20.615	20.855	20.817321										
B	3	20.621	20.667	21.172	21.047	20.423	21.023	21.088	20.674	20.605	20.842	20.816241										
	Ave	20.620	20.666	21.168	21.043	20.426	21.027	21.084	20.673	20.608	20.846	<-- Ave X-bar: 20.816										
	R	0.005199	0.004498	0.012402	0.006501	0.004800	0.010900	0.015100	0.014901	0.012403	0.012700	<-- Ave R: 0.010040										
C	1	20.619	20.682	21.177	21.043	20.423	21.025	21.092	20.679	20.606	20.842	20.818831										
C	2	20.614	20.668	21.175	21.045	20.441	21.024	21.088	20.677	20.608	20.852	20.819211										
C	3	20.634	20.673	21.159	21.044	20.429	21.024	21.078	20.675	20.606	20.842	20.816541										
	Ave	20.623	20.674	21.170	21.044	20.431	21.025	21.086	20.677	20.607	20.845	<-- Ave X-bar: 20.818										
	R	0.020299	0.014201	0.017701	0.001799	0.018599	0.000598	0.013400	0.004301	0.001600	0.010200	<-- Ave R: 0.010270										
Total Part Ave.												20.625	20.671	21.169	21.045	20.431	21.024	21.083	20.676	20.610	20.844	<--Mean Range: 0.738222
Grand Average Range																						0.009487
XDIFF																						0.002420

Equipment Variation (EV): 0.028934  
 Appraiser Variation (AV): 0.003845  
 Repeatability and Reproducibility (R&R): 0.029188  
 Part Variation (PV): 1.195920  
 Total Variation (TV): 1.196276

EV as % of TV: 2.418677%  
 AV as % of TV: 0.321449%  
 R&R as % of TV: **2.439945%** **PASS**  
 PV as % of TV: 99.970229%



Qualification Report of AMKOR Testing

Units of Measure = mA

LIMITS													
Lo Limit:	18.800	No. Of Operators:										3	
Hi Limit:	22.236	No. Of Trials:										3	
Tolerance:	3.436	No. Of Parts:										10	
Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average	
A	1	20.903	20.322	20.827	20.909	20.821	21.119	20.828	20.522	20.530	20.968	20.774811	
A	2	20.899	20.320	20.839	20.919	20.810	21.120	20.813	20.524	20.528	20.970	20.774201	
A	3	20.899	20.323	20.833	20.909	20.820	21.120	20.817	20.527	20.527	20.972	20.775821	
	Ave	20.900	20.325	20.833	20.912	20.817	21.120	20.819	20.524	20.528	20.970	<-- Ave X-bar: 20.775	
	R	0.004498	0.012899	0.012297	0.009898	0.010600	0.001600	0.014897	0.004400	0.002600	0.004401	<-- Ave R: 0.007809	
B	1	20.891	20.319	20.835	20.904	20.805	21.125	20.828	20.508	20.517	20.970	20.770221	
B	2	20.895	20.321	20.826	20.908	20.810	21.133	20.815	20.520	20.526	20.981	20.773521	
B	3	20.893	20.322	20.835	20.908	20.804	21.121	20.824	20.524	20.513	20.970	20.771371	
	Ave	20.893	20.321	20.832	20.907	20.806	21.126	20.823	20.517	20.519	20.974	<-- Ave X-bar: 20.772	
	R	0.004100	0.002401	0.008799	0.004601	0.006501	0.012400	0.013601	0.016099	0.012299	0.011601	<-- Ave R: 0.009240	
C	1	20.890	20.327	20.837	20.908	20.811	21.121	20.828	20.522	20.517	20.966	20.773531	
C	2	20.891	20.321	20.835	20.909	20.826	21.124	20.828	20.522	20.517	20.983	20.775711	
C	3	20.903	20.324	20.823	20.909	20.810	21.119	20.811	20.522	20.514	20.970	20.770521	
	Ave	20.895	20.327	20.832	20.909	20.816	21.121	20.823	20.522	20.516	20.973	<-- Ave X-bar: 20.773	
	R	0.013100	0.015600	0.014300	0.001298	0.016199	0.005201	0.016998	0.000700	0.003299	0.017099	<-- Ave R: 0.010379	
Total Part Ave.		20.896	20.324	20.832	20.909	20.813	21.122	20.821	20.521	20.521	20.972	<--Mean Range: 0.798123	
Grand Average Range												0.009143	
XDIFF												0.003240	
Equipment Variation (EV):												0.027866	
Appraiser Variation (AV):												0.007114	
Repeatability and Reproducibility (R&R):												0.028779	
Part Variation (PV):												1.292959	
Total Variation (TV):												1.293279	
EV as % of TV:												2.156202%	
AV as % of TV:												0.550064%	
R&R as % of TV:												<b>2.225259%</b> <b>PASS</b>	
PV as % of TV:												99.975238%	

Bit to Bit

Units of Measure = mA

LIMITS													
Lo Limit:	18.800	No. Of Operators:										3	
Hi Limit:	22.236	No. Of Trials:										3	
Tolerance:	3.436	No. Of Parts:										10	
Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average	
A	1	20.453	20.427	20.696	20.711	20.582	20.802	20.817	20.925	20.403	20.754	20.657081	
A	2	20.453	20.427	20.710	20.719	20.574	20.806	20.804	20.923	20.405	20.754	20.657371	
A	3	20.454	20.441	20.710	20.707	20.583	20.803	20.807	20.923	20.404	20.754	20.658591	
	Ave	20.453	20.432	20.705	20.712	20.580	20.804	20.809	20.924	20.404	20.754	<-- Ave X-bar: 20.658	
	R	0.000700	0.014098	0.014201	0.011500	0.009002	0.003699	0.013098	0.002699	0.002002	0.000602	<-- Ave R: 0.007160	
B	1	20.439	20.426	20.709	20.710	20.574	20.804	20.821	20.914	20.392	20.751	20.654121	
B	2	20.439	20.430	20.697	20.709	20.569	20.817	20.807	20.925	20.404	20.764	20.656181	
B	3	20.441	20.428	20.713	20.711	20.566	20.803	20.817	20.924	20.396	20.748	20.654901	
	Ave	20.440	20.428	20.706	20.710	20.570	20.808	20.815	20.921	20.397	20.755	<-- Ave X-bar: 20.655	
	R	0.002399	0.003599	0.016002	0.001900	0.008002	0.013798	0.014201	0.010600	0.011800	0.016600	<-- Ave R: 0.009890	
C	1	20.442	20.443	20.710	20.710	20.574	20.806	20.819	20.922	20.392	20.751	20.656932	
C	2	20.444	20.429	20.710	20.710	20.584	20.805	20.820	20.925	20.394	20.763	20.658471	
C	3	20.458	20.430	20.699	20.710	20.571	20.807	20.805	20.930	20.393	20.750	20.655191	
	Ave	20.448	20.434	20.706	20.710	20.577	20.806	20.815	20.926	20.393	20.755	<-- Ave X-bar: 20.657	
	R	0.015398	0.014000	0.012001	0.000799	0.012998	0.002000	0.015002	0.007700	0.001598	0.012498	<-- Ave R: 0.009399	
Total Part Ave.		20.447	20.431	20.706	20.711	20.576	20.806	20.813	20.924	20.398	20.754	<--Mean Range: 0.525400	
Grand Average Range												0.008817	
XDIFF												0.002610	
Equipment Variation (EV):												0.026691	
Appraiser Variation (AV):												0.005085	
Repeatability and Reproducibility (R&R):												0.027362	
Part Variation (PV):												0.851149	
Total Variation (TV):												0.851588	
EV as % of TV:												3.157696%	
AV as % of TV:												0.592640%	
R&R as % of TV:												<b>3.213013%</b> <b>PASS</b>	
PV as % of TV:												99.948269%	





Qualification Report of AMKOR Testing

Pin to Pin %

LIMITS

Lo Limit: No. Of Operators: 3  
 Hi Limit: 0.035 No. Of Trials: 3  
 Tolerance: No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average										
A	1	0.024	0.025	0.027	0.016	0.014	0.021	0.019	0.023	0.022	0.017	0.020723										
A	2	0.023	0.025	0.027	0.016	0.014	0.020	0.019	0.023	0.022	0.018	0.020641										
A	3	0.024	0.025	0.027	0.016	0.014	0.020	0.019	0.023	0.022	0.018	0.020698										
	Ave	0.023	0.025	0.027	0.016	0.014	0.020	0.019	0.023	0.022	0.018	<-- Ave X-bar: 0.021										
	R	0.000423	0.000109	0.000056	0.000116	0.000134	0.000256	0.000196	0.000035	0.000114	0.000040	<-- Ave R: 0.000148										
B	1	0.023	0.025	0.027	0.016	0.014	0.020	0.019	0.023	0.022	0.017	0.020682										
B	2	0.024	0.025	0.026	0.016	0.014	0.020	0.019	0.023	0.022	0.018	0.020691										
B	3	0.023	0.025	0.026	0.016	0.014	0.020	0.019	0.023	0.022	0.018	0.020695										
	Ave	0.024	0.025	0.026	0.016	0.014	0.020	0.019	0.023	0.022	0.018	<-- Ave X-bar: 0.021										
	R	0.000225	0.000057	0.000145	0.000261	0.000084	0.000018	0.000236	0.000164	0.000169	0.000098	<-- Ave R: 0.000146										
C	1	0.023	0.025	0.026	0.016	0.014	0.020	0.019	0.023	0.022	0.017	0.020676										
C	2	0.023	0.025	0.027	0.016	0.014	0.020	0.019	0.023	0.022	0.018	0.020709										
C	3	0.023	0.025	0.027	0.016	0.014	0.020	0.019	0.023	0.022	0.018	0.020683										
	Ave	0.023	0.025	0.027	0.016	0.014	0.020	0.019	0.023	0.022	0.018	<-- Ave X-bar: 0.021										
	R	0.000158	0.000106	0.000088	0.000049	0.000075	0.000128	0.000116	0.000179	0.000061	0.000198	<-- Ave R: 0.000116										
Total Part Ave.												0.023	0.025	0.027	0.016	0.014	0.020	0.019	0.023	0.022	0.018	<--Mean Range: 0.012239
Grand Average Range																						0.000136
XDIFF																						0.000002

Equipment Variation (EV): 0.000416  
 Appraiser Variation (AV): 0.000000  
 Repeatability and Reproducibility (R&R): 0.000416  
 Part Variation (PV): 0.019826  
 Total Variation (TV): 0.019831

EV as % of TV: 2.098870%  
 AV as % of TV: 0.000000%  
 R&R as % of TV: **2.098870% PASS**  
 PV as % of TV: 99.977971%

VOL

Units of Measure = mV

LIMITS

Lo Limit: No. Of Operators: 3  
 Hi Limit: 300.000 No. Of Trials: 3  
 Tolerance: No. Of Parts: 10

Appraiser	Trial	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Average										
A	1	88.340	88.340	88.340	88.340	89.465	93.600	92.837	89.625	89.625	88.822	89.758525										
A	2	88.340	88.822	88.340	88.340	89.465	93.640	92.837	89.465	89.786	88.662	89.769576										
A	3	88.340	88.340	88.501	88.340	89.625	93.600	93.319	89.465	89.465	88.983	89.617765										
	Ave	88.340	88.501	88.394	88.340	89.518	93.747	92.997	89.518	89.625	88.822	<-- Ave X-bar: 89.780										
	R	0.000000	0.481799	0.160597	0.000000	0.160597	0.160597	0.481807	0.160597	0.321098	0.321195	<-- Ave R: 0.224829										
B	1	88.340	88.501	88.180	87.698	89.465	93.479	93.640	89.465	89.946	88.983	89.769585										
B	2	88.662	88.340	88.662	88.662	89.465	93.640	93.319	89.465	89.465	88.983	89.865947										
B	3	88.501	88.340	88.180	88.662	89.625	93.479	93.479	89.625	89.625	88.822	89.839826										
	Ave	88.501	88.394	88.340	88.340	89.518	93.533	93.479	89.518	89.679	88.929	<-- Ave X-bar: 89.823										
	R	0.321202	0.160597	0.481799	0.963502	0.160597	0.160597	0.321195	0.160597	0.481695	0.160597	<-- Ave R: 0.337238										
C	1	88.019	88.340	88.019	88.340	89.786	93.479	93.158	89.465	89.625	88.983	89.721415										
C	2	88.662	88.340	88.501	88.501	89.465	93.640	93.319	89.465	89.625	88.983	89.849886										
C	3	88.340	88.180	88.180	88.662	89.625	93.479	92.997	89.465	89.625	88.822	89.737466										
	Ave	88.340	88.287	88.233	88.501	89.625	93.533	93.158	89.465	89.625	88.929	<-- Ave X-bar: 89.770										
	R	0.642300	0.160597	0.481695	0.321202	0.321098	0.160597	0.321209	0.000000	0.000000	0.160597	<-- Ave R: 0.256929										
Total Part Ave.												88.394	88.394	88.322	88.394	89.554	93.604	93.212	89.500	89.643	88.893	<--Mean Range: 5.281645
Grand Average Range																						0.272999
XDIFF																						0.053530

Equipment Variation (EV): 0.832646  
 Appraiser Variation (AV): 0.000000  
 Repeatability and Reproducibility (R&R): 0.832646  
 Part Variation (PV): 8.556266  
 Total Variation (TV): 8.596684

EV as % of TV: 9.685665%  
 AV as % of TV: 0.000000%  
 R&R as % of TV: **9.685665% PASS**  
 PV as % of TV: 99.529834%



Qualification Report of AMKOR Testing

**Conclusion:**

Results of these tests showed that the new Testing Facility in AMKOR has passed the ST Qualification Test.

**Please Read Carefully:**

Information in this document is provided solely in connection with ST products. STMicroelectronics NV and its subsidiaries ("ST") reserve the right to make changes, corrections, modifications or improvements, to this document, and the products and services described herein at any time, without notice.

All ST products are sold pursuant to ST's terms and conditions of sale.

Purchasers are solely responsible for the choice, selection and use of the ST products and services described herein, and ST assumes no liability whatsoever relating to the choice, selection or use of the ST products and services described herein.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted under this document. If any part of this document refers to any third party products or services it shall not be deemed a license grant by ST for the use of such third party products or services, or any intellectual property contained therein or considered as a warranty covering the use in any manner whatsoever of such third party products or services or any intellectual property contained therein.

**UNLESS OTHERWISE SET FORTH IN ST'S TERMS AND CONDITIONS OF SALE ST DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE USE AND/OR SALE OF ST PRODUCTS INCLUDING WITHOUT LIMITATION IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE ( AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION ), OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT.**

**UNLESS EXPRESSLY APPROVED IN WRITING BY AN AUTHORIZED ST REPRESENTATIVE, ST PRODUCTS ARE NOT RECOMMENDED, AUTHORIZED OR WARRANTED FOR USE IN MILITARY, AIR CRAFT, SPACE, LIFE SAVING, OR LIFE SUSTAINING APPLICATIONS, NOR IN PRODUCTS OR SYSTEMS WHERE FAILURE OR MALFUNCTION MAY RESULT IN PERSONAL INJURY, DEATH, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE. ST PRODUCTS WHICH ARE NOT SPECIFIED AS "AUTOMOTIVE GRADE" MAY ONLY BE USED IN AUTOMOTIVE APPLICATIONS AT USER'S OWN RISK.**

Resale of ST products with provisions different from the statements and/or technical features set forth in this document shall immediately void any warranty granted by ST for the ST product or service described herein and shall not create or extend in any manner whatsoever, any liability of ST.

ST and the ST logo are trademarks or registered trademarks of ST in various countries.

Information in this document supersedes and replaces all information previously supplied.

The ST logo is a registered trademark of STMicroelectronics. All other names are the property of their respective owners

© 2007 STMicroelectronics - All rights reserved.

STMicroelectronics group of companies

Australia - Belgium - Brazil - Canada - China - Czech Republic - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States of America

[www.st.com](http://www.st.com)

