



FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #20274Generic Copy

Issue Date: 06-Nov-2013

TITLE: Release of an additional tester platform (Micro Flex) for the C622-SOIC package (currently tested on TMT platform)

PROPOSED FIRST SHIP DATE: 06-Feb-2014 or earlier upon customer approval

AFFECTED CHANGE CATEGORY(S): Final test and QC insertions

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:

Contact your local ON Semiconductor Sales Office or your customer quality interface or Jean-Jacques Goubet (Jean-Jacques.Goubet@onsemi.com).

NOTIFICATION TYPE:

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 90 days prior to implementation of the change.

ON Semiconductor will consider this change approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact <quality@onsemi.com>.

DESCRIPTION AND PURPOSE:

Release of Micro FLEX tester platform (An-UFlex) for Final Test and QC to improve tester capacity balancing and loading.

Qualification data:

QC ambient correlation data between the source tester (TMT) and the target tester (Micro FLEX – An-UFlex) is provided as an annex (*AMIS30622C6223(R)G TMT-uFlex Correlation report at QCA*) together with the Final PCN (this document).

The correlation procedure that has been used is the same as in previous PCN's covering the release of additional tester platforms:

- 2 correlation units will be serialized and datalogged in 30 loops using the source tester platform where the device is already qualified. The test will be done at room temperature, using the QC program.
- Then, the same correlation units will be used to gather data on target tester microFLEX.
- The same datalogging procedure used for TMT will be followed for microFLEX.

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Full parametric correlation will be performed and for every test the shift will be evaluated as follows:

$$\Delta\text{mean} = \text{abs}(\text{mean}(\text{ref}) - \text{mean}(\text{qual}))$$

$$\Delta\text{sigma} = 0$$

$$\Delta\text{sigma} = \text{sigma}(\text{qual}) - \text{sigma}(\text{ref})$$

if $\text{sigma}(\text{qual}) < \text{sigma}(\text{ref})$

if $\text{sigma}(\text{qual}) > \text{sigma}(\text{ref})$

$$\text{shift} = \Delta\text{mean} + 4 * \Delta\text{sigma}$$

If $\text{shift} < \max(5\% \text{ specwidth}, 6 * \text{sigma}(\text{ref}))$ then correlation is OK for this test,
else correlation is NOK for this test

Any parameter that is NOK is independently analysed and explained.

ELECTRICAL CHARACTERISTIC SUMMARY:

Electrical Performance will continue to meet specifications.

List of affected Customer Specific Parts:

Internal ONSEMI sellable code	External ONSEMI part number
0C622-003-XTD/XTP	AMIS30622C6223G / AMIS30622C6223RG
0C622-005-XTD/XTP	0C622-005-XTD / 0C622-005-XTP
0C622-007-XTD/XTP	AMIS30622C6227G / AMIS30622C6227RG



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ANNEX: AMIS30622C6223(R)G TMT-uFlex Correlation report at QCA

ON Semiconductor®

**Product and Test Engineering
New Product Device Test Qualification Report**

Creation Date : 03-Oct-2013
Author : Jean-Jacques Goubet

Distribution : Internal – Pavel Kaderka, Ian Lozano, Miroslav Stuchlik, Ludek Chyba, Manny Cabral, Steven De Leenheer, Xavier Van Esch
: External – Report attached to the FPCN # 16798

Title : AMIS30622C6223(R)G TMT-uFlex Correlation report at QCA

1. Introduction:

This report covers the procedures and analysis of the gathered data of the product **0C622-003/AMIS30622C6223(R)G** on **TMT-28** to evaluate the correlation for the release on tester **uFlex-63**.

Details:

Resources	Source	Target
Tester-ID	ASL1000 (TMT-28)	uFXAn ID: 63
Load board SN	SN609D	8267
Correlation Units	Reference devices “Unit1” and “Unit2”	Reference devices “Unit1” and “Unit2”
Insertion	QC at ambient (30C)	QC at ambient (30C)
Test Program	21_0c622_000_m_qca_1.prg	2_0c622_000_u_qca_so_8_pac.load

2. Description:

2 Correlation parts denoted “Unit 1” and “Unit 2” were tested on source tester **TMT-28** and looped 30 times. The test was done at room temperature using the specified test program. The correlation units were then looped 30 times on the target tester **uFlex-63**.

The testers have undergone full system calibration and passed all diagnostic checks prior testing the correlation units.

A distribution shift between the two testers is calculated for all electrical parameters. This distribution shift is based on the shift of the mean values and spread of the measurements and is evaluated as follows:



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$dmean = abs[mean(ref) - mean(qual)]$ $dsigma = 0$ $dsigma = sigma(qual) - sigma(ref)$ $shift = dmean + 4 * dsigma$ If shift < max[5% specwidth, 6*sigma(ref)]	if sigma(qual) < sigma(ref) if sigma(qual) > sigma(ref) then correlation is OK for this test, else correlation is NOK for this test
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Any parameter that exceeds the allowable shift is independently analyzed and explained.

3. Remarks: All Parametric measurements fell within the specified set conditions described above. Parameters showing some shifts are fully explained in the following sections and do not present any issue for the target tester release to production.

4. Conclusion:

Correlation is acceptable. **0C622-003/AMIS30622C6223(R)G** can now be released on **uFlex-63** in **On-Semi**.

5. Correlation Data:

In the tables below, the specification parameters (from the datasheet) are reported with their limits, mean and standard deviation for each device on the TMT platform and on the An-UFlex platform. The last column flags if the correlation requirements from section 2. above are met. The notes refer to explanations at the bottom of the tables.

5.1 Dev "Unit 1":

Test#	Test name	Unit	Low limit	High Limit	TMT (Source tester)		An-Uflex (Target tester)		NOTE
					Mean	Std. Dev.	Mean	Std. Dev.	
2014	hw2 ,	s	0.0006	0.0014	0.0009932	9.869E-08	0.0009932	1.005E-06	OK
2015	swin ,	s	0.0006	0.0014	0.0009932	1.009E-07	0.0009932	8.89E-07	OK
7002	i800_xp ,	A	-0.001	0.872	0.7756631	2.253E-16	0.7757681	0.0002922	OK
7003	i800_xn ,	A	-0.001	0.872	0.7846756	0.0010602	0.7841698	0.0003202	OK
7004	i800_yp ,	A	-0.001	0.872	0.7824833	3.379E-16	0.7821844	0.0002952	OK
7005	i800_yn ,	A	-0.001	0.872	0.7804371	0.0006919	0.7817999	0.0003402	OK
7014	i400_xp ,	A	0.082	0.436	0.3900215	2.816E-16	0.3898333	0.0002598	OK
7015	i400_xn ,	A	0.082	0.436	0.3914043	1.126E-16	0.392027	0.0002036	OK
7016	i400_yp ,	A	0.082	0.436	0.3907524	0.0001628	0.3909643	0.0001614	OK
7017	i400_yn ,	A	-0.0225	0.436	0.3920957	2.253E-16	0.3927999	0.0001991	OK
7020	i200_xp ,	A	0.182	0.436	0.1971309	8.448E-17	0.1968217	0.0001919	OK
7021	i200_xn ,	A	0.182	0.436	0.1971309	8.448E-17	0.1975688	0.0001764	OK
7022	i200_yp ,	A	0.182	0.436	0.1971309	8.448E-17	0.1968948	0.0001908	OK
7023	i200_yn ,	A	-0.009	0.218	0.198123	1.126E-16	0.1983782	0.0001719	OK
7026	i100_xp ,	A	0.091	0.218	0.0998056	8.448E-17	0.0998498	4.999E-05	OK
7027	i100_xn ,	A	0.091	0.218	0.0996497	0.0001216	0.1000962	4.998E-05	OK



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Test#	Test name	Unit	Low limit	High Limit	TMT (Source tester)		An-Uflex (Target tester)		NOTE
					Mean	Std. Dev.	Mean	Std. Dev.	
7028	i100_yp ,	A	0.091	0.218	0.0995576	4.224E-17	0.0997718	4.932E-05	OK
7029	i100_yn ,	A	-0.009	0.109	0.1000537	5.632E-17	0.1006046	5.284E-05	OK
7032	ineg_xp ,	A	-0.436	0.109	-0.389415	0.0006388	-0.388421	0.0002477	OK
7033	ineg_xn ,	A	-0.436	0.109	-0.390054	0.0002035	-0.389936	0.0002614	OK
7034	ineg_yp ,	A	-0.436	0.109	-0.392593	0.0001254	-0.39346	0.0001891	OK
7035	ineg_yn ,	A	-0.436	0.009	-0.388366	1.69E-16	-0.387792	0.0003871	OK
9001	ivbat ,	A	0.001	0.01	0.0034001	4.329E-06	0.0026863	2.92E-06	Note 1
10002	s_UV1 ,	V	8.85	9.75	9.3131001	0.0004952	9.3165906	0.0020143	OK
10004	s_UV2 ,	V	8.14	8.86	8.4570921	0.0011085	8.4514074	0.0018521	OK
11001	s_FCP ,_13.1.1.1	Hz	227500	272500	257592.38	29.881382	257759.55	53.853541	OK
11002	c_Fosc ,	Hz	3640000	4360000	4121478.1	478.10211	4124152.8	861.65666	OK
11003	s_Tsw_h_HW2 ,		4038.4	4153.6	4093.6851	0.2756719	4096.2157	0.3496027	OK
11004	s_Tsw_on_h_HW2 ,		244.48	267.52	258.93325	0.021385	260.56511	0.5195475	Note 2a
11005	s_Tsw_l_HW2 ,		4038.4	4153.6	4093.6851	0.2783297	4096.2242	0.3189048	OK
11006	s_Tsw_on_l_HW2 ,		244.48	267.52	256.19404	0.0184698	255.73674	0.1541698	OK
11007	s_Tsw_h_SWI ,		4038.4	4153.6	4093.697	0.2781245	4096.2452	0.3000363	OK
11008	s_Tsw_on_h_SWI ,		244.48	267.52	258.92812	0.0236807	260.10498	0.3703182	Note 2a
11009	s_Tsw_l_SWI ,		4038.4	4153.6	4093.7008	0.2798367	4096.3083	0.4113215	OK
11010	s_Tsw_on_l_SWI ,		244.48	267.52	256.3905	0.0181227	255.34679	0.4278933	Note 2b
12001	vdd_supply_6v ,	V	4.775	5.225	5.0556812	0.000228	5.0564987	0.0003559	OK
12002	vdd_supply_14v ,	V	4.775	5.225	5.0583838	0.0002368	5.0584871	0.0003537	OK
12003	vdd_supply_load ,	V	4.775	5.225	5.0155852	0.0003042	5.0310449	0.0004574	OK
12004	vdd_supply_29v ,	V	4.775	5.225	5.0576745	0.0002436	5.0574898	0.0003699	OK
13001	vdd_ilim ,	A	-0.0387	-0.0158	-0.032056	2.055E-05	-0.031943	3.769E-05	OK
13002	vdd_porvddh ,	V	4.02	4.38	4.2400041	1.802E-15	4.2619976	0.001915	Note 3
13003	vdd_porvddl ,	V	3.53	4.07	3.839999	2.253E-15	3.8781472	0.0017924	Note 3
14001	vcp_h35_0 ,	V	7.4	14.6	13.2259	0.0017192	13.250569	0.0019346	OK
14002	vcp_h35_1 ,	V	7.4	14.6	12.703133	0.0014101	12.722882	0.0015593	OK
14003	vcp_l8_0 ,	V	5.845	6.655	6.3283504	0.0014545	6.3280604	0.0021143	OK
14004	vcp_l8_1 ,	V	5.37	6.63	5.9910657	0.0010287	5.9927054	0.0014257	OK
14005	vcp_l14_0 ,	V	10.25	14.75	12.305627	0.0013749	12.298796	0.0020128	OK
14006	vcp_l14_1 ,	V	10.25	14.75	11.99036	0.0010162	11.986079	0.0013331	OK
16001	s_Vlow_HW0 ,		0.035	0.665	0.4640625	4.12E-08	0.4517576	0.0001924	OK
16002	s_Vhigh_HW0 ,		0.335	0.965	0.5704911	0.0007359	0.5607924	0.0001876	OK
16003	s_HWhyst_HW0 ,		0.08125	0.19375	0.1064286	0.000736	0.1090348	0.0002695	OK
16004	s_Vlow_HW1 ,		0.035	0.665	0.4640625	4.12E-08	0.4514538	0.0002156	OK
16005	s_Vhigh_HW1 ,		0.335	0.965	0.5765625	4.111E-08	0.5630654	0.0001825	OK
16006	s_HWhyst_HW1 ,		0.08125	0.19375	0.1125	5.388E-08	0.1116116	0.0002887	OK
17001	s_ilim_sw_t_HW2 ,	A	-0.0435	-0.0165	-0.032963	2.705E-05	-0.032771	5.048E-05	OK
17002	s_ilim_sw_b_HW2 ,	A	0.0165	0.0435	0.0304573	3.138E-05	0.0301887	5.724E-05	OK
17003	s_ilim_sw_t_SWI ,	A	-0.0435	-0.0165	-0.033091	3.288E-05	-0.032864	5.042E-05	OK
17004	s_ilim_sw_b_SWI ,	A	0.0165	0.0435	0.030779	3.168E-05	0.0304525	5.72E-05	OK
17005	s_Rt_on_t_HW2 ,	Ohm	2150	4850	3496.5795	3.4029369	3500.3225	1.6339077	OK
17006	s_Rt_off_t_HW2 ,	Ohm	2150	4850	3101.3893	2.9701335	3076.7441	1.2333466	OK



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Test#	Test name	Unit	Low limit	High Limit	TMT (Source tester)		An-Uflex (Target tester)		NOTE
					Mean	Std. Dev.	Mean	Std. Dev.	
17008	s_Rt_on_b_HW2 ,	Ohm	2150	4850	3414.2631	3.913094	3511.4935	3.3301786	OK
17009	s_Rt_off_b_HW2 ,	Ohm	2150	4850	3045.1359	1.1344654	2950.8783	1.3538328	OK
17011	s_Rt_on_t_SWI ,	Ohm	2150	4850	3481.9107	3.6629604	3466.4631	2.9277154	OK
17012	s_Rt_off_t_SWI ,	Ohm	2150	4850	3068.172	3.0707612	3058.2063	1.2496309	OK
17014	s_Rt_on_b_SWI ,	Ohm	2150	4850	3370.9731	2.1029879	3447.7946	1.5019106	OK
17015	s_Rt_off_b_SWI ,	Ohm	2150	4850	3008.6467	1.7171895	2937.8619	1.378889	OK
18002	s_Vlow ,		0.035	0.665	0.4511914	4.165E-08	0.4511902	0.0002124	OK
18003	s_Vhigh ,		0.335	0.965	0.5499101	0.0003951	0.5556931	0.0001695	OK
18004	s_HWhyst ,		0.08125	0.19375	0.0987187	0.0003951	0.104503	0.0002737	OK
19001	s_imsI_n_mxp ,	A	0.00049	0.00211	0.0015513	1.415E-06	0.0015466	2.632E-06	OK
19002	s_imsI_n_mxn ,	A	0.00049	0.00211	0.0015106	1.507E-06	0.0015055	2.77E-06	OK
19003	s_imsI_n_myp ,	A	0.00049	0.00211	0.0015435	1.418E-06	0.0015396	2.643E-06	OK
19004	s_imsI_n_myn ,	A	0.00049	0.00211	0.0015307	1.441E-06	0.0015264	2.612E-06	OK
19005	s_imsI_n_avg ,	A	0.00049	0.00211	0.001534	1.441E-06	0.0015295	2.663E-06	OK
19006	s_imsI_n_mtch ,	pct	-8.5	18.5	2.6242392	0.0164046	2.6557866	0.0150911	OK
19007	s_imsI_slp_mxp ,	A	8.3E-05	0.00095	0.0008303	6.01E-07	0.0007972	2.914E-07	OK
19008	s_imsI_slp_mxn ,	A	8.3E-05	0.00095	0.0008121	5.923E-07	0.000782	3.032E-07	OK
19009	s_imsI_slp_myp ,	A	8.3E-05	0.00095	0.0008077	5.606E-07	0.0007788	3.251E-07	OK
19010	s_imsI_slp_myn ,	A	8.3E-05	0.00095	0.00081	5.467E-07	0.0007824	3.513E-07	OK
19011	s_imsI_slp_avg ,	A	8.3E-05	0.00095	0.000815	5.729E-07	0.0007851	3.171E-07	OK
30001	s_R_RT_MXP ,	%	-31	21	-1.826214	0.4810021	1.488E-07	3.947E-09	Note 4
30002	s_R_RT_MXN ,	%	-31	21	-3.758208	0.4569877	1.546E-07	4.869E-09	Note 4
30003	s_R_RT_MYP ,	%	-31	21	-2.468583	0.5370045	1.566E-07	9.42E-10	Note 4
30004	s_R_RT_MYN ,	%	-31	21	-4.462936	0.4909007	1.579E-07	1.078E-09	Note 4
30005	s_R_FT_MXP ,	%	-21	21	-3.224316	0.39785	1.401E-07	9.56E-10	Note 4
30006	s_R_FT_MXN ,	%	-21	21	-1.590828	0.4807452	1.313E-07	1.953E-09	Note 4
30007	s_R_FT_MYP ,	%	-21	21	-0.902072	0.5884326	1.394E-07	1.367E-09	Note 4
30008	s_R_FT_MYN ,	%	-21	21	-1.778084	0.5278763	1.371E-07	4.308E-09	Note 4
30009	s_R_RB_MXP_100 ,	%	-34	11	-16.24265	0.4052631	1.568E-07	2.468E-09	Note 4
30010	s_R_RB_MXN_100 ,	%	-34	11	-15.94964	0.484735	1.579E-07	3.842E-09	Note 4
30011	s_R_RB_MYP_100 ,	%	-34	11	-17.07309	0.4162176	1.733E-07	2.696E-09	Note 4
30012	s_R_RB_MYN_100 ,	%	-34	11	-18.17275	0.5654625	1.612E-07	3.853E-09	Note 4
30013	s_R_FB_MXP_100 ,	%	-33	27	2.1347975	0.56362	1.58E-07	1.295E-09	Note 4
30014	s_R_FB_MXN_100 ,	%	-33	27	3.2310012	0.5613658	1.663E-07	1.097E-09	Note 4
30015	s_R_FB_MYP_100 ,	%	-33	27	1.69568	0.4502096	1.534E-07	2.927E-09	Note 4
30016	s_R_FB_MYN_100 ,	%	-33	27	5.0304475	0.4064291	1.453E-07	1.229E-09	Note 4
30017	s_R_RB_MXP_200 ,	%	-29	20	-10.20744	0.5400689	1.461E-07	1.394E-09	Note 4
30018	s_R_RB_MXN_200 ,	%	-29	20	-9.648976	0.4715305	1.43E-07	5.966E-09	Note 4
30019	s_R_RB_MYP_200 ,	%	-29	20	-12.1376	0.5073484	1.55E-07	1.213E-09	Note 4
30020	s_R_RB_MYN_200 ,	%	-29	20	-12.24742	0.4881088	1.516E-07	2.276E-09	Note 4
30021	s_R_FB_MXP_200 ,	%	-53	50	4.1181272	0.4527492	1.47E-07	1.142E-09	Note 4
30022	s_R_FB_MXN_200 ,	%	-53	50	4.0335881	0.5148742	1.655E-07	1.123E-09	Note 4
30023	s_R_FB_MYP_200 ,	%	-53	50	3.6991776	0.3780424	1.526E-07	1.07E-09	Note 4
30024	s_R_FB_MYN_200 ,	%	-53	50	7.1381767	0.4362631	1.541E-07	1.198E-09	Note 4



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Test#	Test name	Unit	Low limit	High Limit	TMT (Source tester)		An-Uflex (Target tester)		NOTE
					Mean	Std. Dev.	Mean	Std. Dev.	
30025	s_R_RB_MXP_400 ,	%	-27	18	-6.453453	0.4486578	1.381E-07	2.276E-09	Note 4
30026	s_R_RB_MXN_400 ,	%	-27	18	-5.443149	0.4241001	1.373E-07	3.114E-09	Note 4
30027	s_R_RB_MYP_400 ,	%	-27	18	-7.601712	0.5425922	1.433E-07	5.449E-09	Note 4
30028	s_R_RB_MYN_400 ,	%	-27	18	-7.641372	0.5412418	1.379E-07	5.628E-09	Note 4
30029	s_R_FB_MXP_400 ,	%	-26	31	6.4514553	0.5074217	1.422E-07	1.142E-09	Note 4
30030	s_R_FB_MXN_400 ,	%	-26	31	6.044172	0.4921816	1.51E-07	8.497E-10	Note 4
30031	s_R_FB_MYP_400 ,	%	-26	31	5.6834999	0.5151373	1.543E-07	3.159E-09	Note 4
30032	s_R_FB_MYN_400 ,	%	-26	31	9.0975449	0.4521682	1.495E-07	1.152E-09	Note 4
30033	s_R_RB_MXP_800 ,	%	-27	20	-4.975338	0.4658387	1.326E-07	2.006E-09	Note 4
30034	s_R_RB_MXN_800 ,	%	-27	20	-3.797994	0.3496495	1.274E-07	5.939E-09	Note 4
30035	s_R_RB_MYP_800 ,	%	-27	20	-5.900335	0.4789124	1.396E-07	1.284E-09	Note 4
30036	s_R_RB_MYN_800 ,	%	-27	20	-6.164765	0.7207289	1.326E-07	5.337E-09	Note 4
30037	s_R_FB_MXP_800 ,	%	-22	35	10.025867	0.394787	1.436E-07	3.243E-09	Note 4
30038	s_R_FB_MXN_800 ,	%	-22	35	9.1470293	0.3090096	1.451E-07	1.152E-09	Note 4
30039	s_R_FB_MYP_800 ,	%	-22	35	9.27099	0.5010169	1.383E-07	1.435E-09	Note 4
30040	s_R_FB_MYN_800 ,	%	-22	35	12.405785	0.6407127	1.343E-07	1.116E-09	Note 4

Notes:

Note 1 = Better values measured on u-Flex vs TMT (based on bench data). U-Flex measures more accurate values.

Note 2a = Different test methods and test conditions (threshold voltage values for time stamps) between uFlex and TMT. Good correlation is not possible. Similar values on U-Flex vs TMT but the test method used on U-Flex takes advantage of the increased U-Flex capabilities compared to TMT.

Note 2b = The test method on U-Flex takes advantage of the U-Flex capabilities with signal capture and post-processing. Sample rate of the capture signal is 1MHz --> resolution of the method is 1us. Similar values on U-Flex vs TMT.

Note 3 = On TMT, a binary search is used for the threshold determination, on U-Flex a voltage ramp is used = different test methods explain the mis-correlation.

Note 4 = Different types of measurements between TMT and U-Flex : On TMT a ratio of the slope timings is logged due to test HW sensitivity ; For U-Flex, the absolute values in seconds are logged. No correlation is possible between the two test platforms due to the different nature of the logged results.



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5.2 Dev "Unit 2":

Test#	Test name	Unit	Low limit	High Limit	TMT (Source tester)		An-Uflex (Target tester)		NOTE
					Mean	Std. Dev.	Mean	Std. Dev.	
2014	hw2 ,	s	0.0006	0.0014	0.0009998	5.335E-08	0.0009999	3.551E-07	OK
2015	swin ,	s	0.0006	0.0014	0.0009998	5.232E-08	0.001	2.113E-07	OK
7002	i800_xp ,	A	-0.001	0.872	0.7756631	2.253E-16	0.7761924	0.0002971	OK
7003	i800_xn ,	A	-0.001	0.872	0.7832628	0.0008618	0.7826755	0.000271	OK
7004	i800_yp ,	A	-0.001	0.872	0.7790732	0	0.7789728	0.0003128	OK
7005	i800_yn ,	A	-0.001	0.872	0.772253	2.253E-16	0.774839	0.0002328	OK
7014	i400_xp ,	A	0.082	0.436	0.3900215	2.816E-16	0.3901133	0.000169	OK
7015	i400_xn ,	A	0.082	0.436	0.3905746	0.0002806	0.3913284	0.0001325	OK
7016	i400_yp ,	A	0.082	0.436	0.3893301	2.253E-16	0.3893121	0.0002463	OK
7017	i400_yn ,	A	-0.0225	0.436	0.3886189	0.0001169	0.3890963	0.0002782	OK
7020	i200_xp ,	A	0.182	0.436	0.1971309	8.448E-17	0.1969492	0.0001773	OK
7021	i200_xn ,	A	0.182	0.436	0.1966348	1.126E-16	0.1971592	0.0001895	OK
7022	i200_yp ,	A	0.182	0.436	0.1961387	1.126E-16	0.1961592	0.0001603	OK
7023	i200_yn ,	A	-0.009	0.218	0.1961387	1.126E-16	0.1965108	0.0001934	OK
7026	i100_xp ,	A	0.091	0.218	0.0998056	8.448E-17	0.0999235	5.486E-05	OK
7027	i100_xn ,	A	0.091	0.218	0.0995434	5.841E-05	0.0999063	6.258E-05	OK
7028	i100_yp ,	A	0.091	0.218	0.0990615	2.816E-17	0.0993645	6.365E-05	OK
7029	i100_yn ,	A	-0.009	0.109	0.0993096	8.448E-17	0.0996746	4.975E-05	OK
7032	ineg_xp ,	A	-0.436	0.109	-0.3874229	0.0007425	-0.3865068	0.0002596	OK
7033	ineg_xn ,	A	-0.436	0.109	-0.3899624	2.253E-16	-0.3897786	0.0002729	OK
7034	ineg_yp ,	A	-0.436	0.109	-0.3883809	8.996E-05	-0.3893452	0.0003013	OK
7035	ineg_yn ,	A	-0.436	0.009	-0.3857502	0.0001512	-0.3853585	0.0003558	OK
9001	ivbat ,	A	0.001	0.01	0.0033685	5.086E-06	0.0026632	2.685E-06	Note 1
10002	s_UV1 ,	V	8.85	9.75	9.2726704	0.0016642	9.2772846	0.0017525	OK
10004	s_UV2 ,	V	8.14	8.86	8.4992264	0.0013703	8.495708	0.0015152	OK
11001	s_FCP ,_13.1.1.1	Hz	227500	272500	255901.44	27.250093	256017.41	36.31619	OK
11002	c_Fosc ,	Hz	4E+06	4E+06	4094423.1	436.00149	4096278.6	581.05904	OK
11003	s_Tsw_h_HW2 ,		4038.4	4153.6	4093.724	0.3634021	4096.0446	0.4609765	OK
11004	s_Tsw_on_h_HW2 ,		244.48	267.52	258.89692	0.0265721	260.32831	1.6874305	Note 2a
11005	s_Tsw_l_HW2 ,		4038.4	4153.6	4093.6944	0.3437603	4096.0613	0.4368176	OK
11006	s_Tsw_on_l_HW2 ,		244.48	267.52	256.16945	0.0204865	255.66909	1.5095798	Note 2b
11007	s_Tsw_h_SWI ,		4038.4	4153.6	4093.6932	0.341347	4096.1449	0.3954944	OK
11008	s_Tsw_on_h_SWI ,		244.48	267.52	258.90855	0.0252896	260.03564	1.7702833	Note 2a
11009	s_Tsw_l_SWI ,		4038.4	4153.6	4093.6809	0.3526162	4096.0446	0.481297	OK
11010	s_Tsw_on_l_SWI ,		244.48	267.52	256.38606	0.021709	255.43223	1.5185452	Note 2b
12001	vdd_supply_6v ,	V	4.775	5.225	5.0454221	0.00012	5.0456616	8.273E-05	OK
12002	vdd_supply_14v ,	V	4.775	5.225	5.0481038	0.0001419	5.0475366	7.958E-05	OK
12003	vdd_supply_load ,	V	4.775	5.225	5.0056363	0.0001507	5.0196097	0.0001191	OK
12004	vdd_supply_29v ,	V	4.775	5.225	5.0481211	0.000173	5.0464921	8.221E-05	OK
13001	vdd_ilim ,	A	-0.0387	-0.0158	-0.029781	1.861E-05	-0.0297722	3.857E-05	OK
13002	vdd_porvddh ,	V	4.02	4.38	4.2200036	2.703E-15	4.2410154	3.605E-15	Note 3
13003	vdd_porvddl ,	V	3.53	4.07	3.8297133	0.0016903	3.8610044	0.002377	Note 3



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Test#	Test name	Unit	Low limit	High Limit	TMT (Source tester)		An-Uflex (Target tester)		NOTE
					Mean	Std. Dev.	Mean	Std. Dev.	
14001	vcp_h35_0 ,	V	7.4	14.6	13.141757	0.0014758	13.168897	0.0025897	OK
14002	vcp_h35_1 ,	V	7.4	14.6	12.604552	0.001714	12.62612	0.0025452	OK
14003	vcp_l8_0 ,	V	5.845	6.655	6.333659	0.0015778	6.3335215	0.0019603	OK
14004	vcp_l8_1 ,	V	5.37	6.63	5.992829	0.0011011	5.9939451	0.0013542	OK
14005	vcp_l14_0 ,	V	10.25	14.75	12.310526	0.0011981	12.303553	0.0018198	OK
14006	vcp_l14_1 ,	V	10.25	14.75	11.992234	0.0013547	11.98663	0.0012606	OK
16001	s_Vlow_HW0 ,		0.035	0.665	0.4638839	0.000736	0.4515085	0.0002028	OK
16002	s_Vhigh_HW0 ,		0.335	0.965	0.5734375	6.06E-08	0.561479	0.0001962	OK
16003	s_HWhyst_HW0 ,		0.0812	0.1937	0.1095536	0.000736	0.1099705	0.000304	OK
16004	s_Vlow_HW1 ,		0.035	0.665	0.4640625	3.983E-08	0.452794	0.0002374	OK
16005	s_Vhigh_HW1 ,		0.335	0.965	0.5765625	6.124E-08	0.5637118	0.0002214	OK
16006	s_HWhyst_HW1 ,		0.0812	0.1937	0.1125	6.051E-08	0.1109178	0.0003242	OK
17001	s_ilim_sw_t_HW2,	A	-0.0435	-0.0165	-0.0327579	2.333E-05	-0.0325049	4.526E-05	OK
17002	s_ilim_sw_b_HW2,	A	0.0165	0.0435	0.0304219	2.629E-05	0.0300602	5.153E-05	OK
17003	s_ilim_sw_t_SWI,	A	-0.0435	-0.0165	-0.0332016	2.459E-05	-0.0329073	4.629E-05	OK
17004	s_ilim_sw_b_SWI,	A	0.0165	0.0435	0.0308661	2.786E-05	0.0304493	5.161E-05	OK
17005	s_Rt_on_t_HW2 ,	Ohm	2150	4850	3485.3398	12.103132	3490.1789	3.8019133	OK
17006	s_Rt_off_t_HW2 ,	Ohm	2150	4850	3104.9139	5.3999046	3074.4286	1.6621042	OK
17008	s_Rt_on_b_HW2 ,	Ohm	2150	4850	3401.5102	1.3070791	3498.681	2.459709	OK
17009	s_Rt_off_b_HW2 ,	Ohm	2150	4850	3036.0633	1.7746369	2944.1625	1.3574421	OK
17011	s_Rt_on_t_SWI ,	Ohm	2150	4850	3510.253	4.5838256	3515.6586	1.6447111	OK
17012	s_Rt_off_t_SWI ,	Ohm	2150	4850	3111.6073	2.5390158	3090.967	1.2289509	OK
17014	s_Rt_on_b_SWI ,	Ohm	2150	4850	3424.2933	2.2892782	3499.0116	1.6732729	OK
17015	s_Rt_off_b_SWI ,	Ohm	2150	4850	3055.3856	2.054975	2976.7241	1.2737741	OK
18002	s_Vlow ,		0.035	0.665	0.4520117	4.037E-08	0.4522637	0.0002251	OK
18003	s_Vhigh ,		0.335	0.965	0.5501445	0.0004021	0.5555015	0.000198	OK
18004	s_HWhyst ,		0.0812	0.1937	0.0981328	0.0004021	0.1032378	0.0003148	OK
19001	s_imsl_n_mxp ,	A	0.0005	0.0021	0.0014916	1.275E-06	0.0014907	2.369E-06	OK
19002	s_imsl_n_mxn ,	A	0.0005	0.0021	0.0015139	1.323E-06	0.001513	2.453E-06	OK
19003	s_imsl_n_myp ,	A	0.0005	0.0021	0.0015235	1.266E-06	0.0015235	2.441E-06	OK
19004	s_imsl_n_myn ,	A	0.0005	0.0021	0.0015369	1.268E-06	0.0015363	2.391E-06	OK
19005	s_imsl_n_avg ,	A	0.0005	0.0021	0.0015165	1.27E-06	0.0015159	2.413E-06	OK
19006	s_imsl_n_mtch ,	pct	-8.5	18.5	2.9509723	0.0148889	2.9697773	0.0077563	OK
19007	s_imsl_slp_mxp ,	A	8E-05	0.001	0.0008115	5.826E-07	0.0007792	2.795E-07	OK
19008	s_imsl_slp_mxn ,	A	8E-05	0.001	0.000797	5.728E-07	0.0007676	2.824E-07	OK
19009	s_imsl_slp_myp ,	A	8E-05	0.001	0.000796	5.551E-07	0.0007677	3.048E-07	OK
19010	s_imsl_slp_myn ,	A	8E-05	0.001	0.0007973	5.388E-07	0.0007702	3.147E-07	OK
19011	s_imsl_slp_avg ,	A	8E-05	0.001	0.0008005	5.595E-07	0.0007712	2.949E-07	OK
30001	s_R_RT_MXP ,	%	-31	21	-2.2888801	0.3858443	1.588E-07	9.941E-10	Note 4
30002	s_R_RT_MXN ,	%	-31	21	-3.0375424	0.3443385	1.549E-07	5.827E-09	Note 4
30003	s_R_RT_MYP ,	%	-31	21	-0.4703034	0.5217315	1.457E-07	2.177E-09	Note 4
30004	s_R_RT_MYN ,	%	-31	21	-3.6774108	0.443956	1.457E-07	8.599E-10	Note 4
30005	s_R_FT_MXP ,	%	-21	21	-4.5040426	0.4400926	1.444E-07	1.264E-09	Note 4
30006	s_R_FT_MXN ,	%	-21	21	0.2513842	0.4304378	1.294E-07	1.643E-09	Note 4



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Test#	Test name	Unit	Low limit	High Limit	TMT (Source tester)		An-Uflex (Target tester)		NOTE
					Mean	Std. Dev.	Mean	Std. Dev.	
30007	s_R_FT_MYP ,	%	-21	21	-1.6796009	0.6273415	1.369E-07	4.826E-09	Note 4
30008	s_R_FT_MYN ,	%	-21	21	-2.9154262	0.5098852	1.373E-07	1.113E-09	Note 4
30009	s_R_RB_MXP_100 ,	%	-34	11	-14.407069	0.5074444	1.573E-07	1.268E-09	Note 4
30010	s_R_RB_MXN_100 ,	%	-34	11	-16.953718	0.3776451	1.662E-07	5.796E-09	Note 4
30011	s_R_RB_MYP_100 ,	%	-34	11	-18.473192	0.4598567	1.625E-07	4.963E-09	Note 4
30012	s_R_RB_MYN_100 ,	%	-34	11	-16.175771	0.3790165	1.614E-07	5.888E-09	Note 4
30013	s_R_FB_MXP_100 ,	%	-33	27	1.8490894	0.3727009	1.611E-07	2.043E-09	Note 4
30014	s_R_FB_MXN_100 ,	%	-33	27	1.5824965	0.3251892	1.726E-07	1.047E-09	Note 4
30015	s_R_FB_MYP_100 ,	%	-33	27	2.0370593	0.3991014	1.527E-07	1.152E-09	Note 4
30016	s_R_FB_MYN_100 ,	%	-33	27	4.3545433	0.3499675	1.51E-07	1.006E-09	Note 4
30017	s_R_RB_MXP_200 ,	%	-29	20	-7.9256356	0.5974795	1.472E-07	1.009E-09	Note 4
30018	s_R_RB_MXN_200 ,	%	-29	20	-10.430842	0.3749417	1.529E-07	4.968E-09	Note 4
30019	s_R_RB_MYP_200 ,	%	-29	20	-13.318565	0.4350655	1.501E-07	9.56E-10	Note 4
30020	s_R_RB_MYN_200 ,	%	-29	20	-11.086735	0.5476552	1.466E-07	1.478E-09	Note 4
30021	s_R_FB_MXP_200 ,	%	-53	50	3.7304112	0.4699402	1.515E-07	1.006E-09	Note 4
30022	s_R_FB_MXN_200 ,	%	-53	50	2.1798129	0.4887294	1.719E-07	1.089E-09	Note 4
30023	s_R_FB_MYP_200 ,	%	-53	50	3.9815846	0.3967052	1.528E-07	1.215E-09	Note 4
30024	s_R_FB_MYN_200 ,	%	-53	50	6.6949204	0.4388532	1.429E-07	2.98E-09	Note 4
30025	s_R_RB_MXP_400 ,	%	-27	18	-3.7781721	0.5080317	1.342E-07	5.243E-09	Note 4
30026	s_R_RB_MXN_400 ,	%	-27	18	-5.5704538	0.4697835	1.409E-07	1.496E-09	Note 4
30027	s_R_RB_MYP_400 ,	%	-27	18	-9.1424613	0.4835325	1.431E-07	3.037E-09	Note 4
30028	s_R_RB_MYN_400 ,	%	-27	18	-7.3589882	0.5312801	1.309E-07	4.581E-09	Note 4
30029	s_R_FB_MXP_400 ,	%	-26	31	5.628811	0.5245788	1.455E-07	1.127E-09	Note 4
30030	s_R_FB_MXN_400 ,	%	-26	31	3.7339221	0.3250953	1.65E-07	9.468E-10	Note 4
30031	s_R_FB_MYP_400 ,	%	-26	31	5.8985303	0.4777541	1.561E-07	9.854E-10	Note 4
30032	s_R_FB_MYN_400 ,	%	-26	31	8.9551609	0.2939614	1.387E-07	1.105E-09	Note 4
30033	s_R_RB_MXP_800 ,	%	-27	20	-2.2591534	0.5026298	1.306E-07	5.358E-09	Note 4
30034	s_R_RB_MXN_800 ,	%	-27	20	-3.6648496	0.5314916	1.234E-07	1.204E-09	Note 4
30035	s_R_RB_MYP_800 ,	%	-27	20	-6.6589201	0.5248845	1.29E-07	2.285E-09	Note 4
30036	s_R_RB_MYN_800 ,	%	-27	20	-5.8095727	0.5573399	1.229E-07	1.503E-09	Note 4
30037	s_R_FB_MXP_800 ,	%	-22	35	9.0520771	0.355458	1.461E-07	4.584E-09	Note 4
30038	s_R_FB_MXN_800 ,	%	-22	35	6.4510101	0.4387608	1.48E-07	1.229E-09	Note 4
30039	s_R_FB_MYP_800 ,	%	-22	35	8.8088254	0.4539666	1.4E-07	1.205E-09	Note 4
30040	s_R_FB_MYN_800 ,	%	-22	35	12.402405	0.5328859	1.338E-07	1.181E-09	Note 4

Notes:

Note 1 = Better values measured on u-Flex vs TMT (based on bench data). U-Flex measures more accurate values.

Note 2a = Different test methods and test conditions (threshold voltage values for time stamps) between uFlex and TMT. Good correlation is not possible. Similar values on U-Flex vs TMT but the test method used on U-Flex takes advantage of the increased U-Flex capabilities compared to TMT.

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Note 2b = The test method on U-Flex takes advantage of the U-Flex capabilities with signal capture and post-processing. Sample rate of the capture signal is 1MHz --> resolution of the method is 1us. Similar values on U-Flex vs TMT.

Note 3 = On TMT, a binary search is used for the threshold determination, on U-Flex a voltage ramp is used = different test methods explain the mis-correlation.

Note 4 = Different types of measurements between TMT and U-Flex : On TMT a ratio of the slope timings is logged due to test HW sensitivity ; For U-Flex, the absolute values in seconds are logged. No correlation is possible between the two test platforms due to the different nature of the logged results.