

## M1 MD Declaration

Product : Onyx

Sub-project leader : Karl Wilhelm Tenbrüggen

Appendices : Checklist  
Opening points / Add. Requirements /  
Statements

**M1 is hereby declared for MD**


MD Subproject leader

23.02.06



MD Senior project leader mech.

23.02.06



## M1 MEP 7 Mechanics

		Completed on: Initials and Date
1	50 % CAD data ready and provided to suppliers.....	Done
2	Recycling concept is defined/updated .....	Done
3	Draft TTDs (Technical Terms of Delivery) in Revision Level 0, based on 50 % data for mechanical and electromechanical (product-specific) parts created and coordinated with suppliers and SCM (PT & QM2) as base for supplier's feasibility study, TTD available on supplier side.....	Done
4	Design-FMEA (Construction-FMEA) for mechanical and electromechanical parts has been performed, risk analysis/assessment is done.....	Done
5	PSQA-Plan (development-internal test and qualification plan for mechanical components and system) defined and documented and provided to PQA .....	Done, draft version available
6	Detailed Primavera project plan up to M3/S4 is available, showing dedicated resources by name and on department level for external consultants	Done
7	Kick-off meeting with PM and LPD held (Adjustment of documentation procedure and documentation responsibilities for variants) .....	Only one variant planned

## Opening points / Add. Requirements / Statements

minor:	Targets of the project are slightly endangered, less impact on costs, no impact on time schedule									Remaining RISK, after potential measures has been efficiently established!
high:	Targets of the project are endangered, impact on costs, small impact on time schedule									
serious:	Targets of the project are highly endangered, remarkable impact on costs and/or time schedule									
fatal:	Project may fail, costs completely out of range, schedule may slip up to several weeks									
		Assessment (M0-M1)				Re-Assessment				
last review	Topic	Impact	Probability	Potential Measures	Comment / Actions	What special measure must be done to reduce the risk ? What must be confirmed, to reduce the risk ?	Impact	Probability		
	Description of concern	minor, high, serious, fatal	0% - 100%	What to do to avoid an error?	What is done up to now?		minor, high, serious, fatal	0% - 100%		
14.02.2006	Sensor keypad for the 6 slider keys may not work as expected, no experience and no finished predevelopment available. No knowledge about impact from environmental tests (e.g. static load,...)	high	20%	Build up first mock-up with A1, FEM calculations to simulate the deforming of the displaylens, Tolerance analyze for support in Z-direction	Task force initiated to concentrate all activities under the lead of Dirk Hänsel	New concept planned with 2shot molding (soft component on top of the FSR-foil) to reduce actuation force. Softtool will be taped out in cw 9. Risk that some circle lines on the high glossy top surface are visible in the split line area of the two componen	high	20%		
14.02.2006	Semi-automatic-slider has only very short guiding length (10 mm) and design don't allows very easy guiding support in the housings	high	70%	Find the solutions to fix the slider in open and closed position by using the housing as well as the slider itself	Discussions with Hydra team and the potential supplier	see potential measures	high	60%		
14.02.2006	base keypad have to be glued from topside onto the MMI-Flex in Benq production (no ID) -> position of keypad to housing could be uneven. No additional hooking against pull off possible due to small design	fatal	20%	Tolerance analyze and check impact with production, check impact on environmental tests with B1 parts	Al:Waschowski need to be informed and try to evaluate.	see potential measures	fatal	10%		
14.02.2006	B2B connector of main flex and for MMI-Flex have to be mounted to PCB, less flexibility for position due to limited space on the PCB -> may be no automatic assembly concept possible	high	30%	Check more in detail with production, perform tolerance analyze	Firts discussion with production technology done	see potential measures	high	10%		
14.02.2006	solutions for light concept for slider illumination have to be worked out. End key should be single illuminated for phone start, no light of keypad should disturb the display illumination (and the other way round)	high	40%	Work on two shot moulding solution for separating keys by black material from each other and from the display. Fall back solution is that all 3 keys on the right side are illuminated together	Discussions with supplier started	feature was canceled and CPM is informed				
14.02.2006	base keypad illumination should be done with 6 LED's, the gap's between the keypad should be illuminated by a colored light	minor	40%	detail base keypad design, check space for LED's and build up B1 parts	Only some ideas available, have to be prepared in more detail and discussed with supplier	see potential measures	minor	20%		
14.02.2006	short distance (0,3 mm) between displaylens and display and thinn displaylens due to strong request from Design and CPM	high	80%	check impact on static load and drop test with B1 parts		see potential measures	high	80%		
14.02.2006	IML foil on top of displaylens will have an process related displacement of 0,2 0,3 mm -> optical defects, light from display and keypad could come through at the split line	minor	30%	create displaylens with two shot moulding -> black material at the split line to cover offset of foil (alternative additional black printing before IML process)	discussions with two potential supplier ongoing	new toolconcept which solves the problem is under discussion with Balda, fallback: additional printing on backside of Frontcover	minor	20%		
14.02.2006	Staticload test of double action switch could fail (Spec. Of Alps allows only 40N)					camera button with 2 shot molding and soft actuator, adding support ribs to avoid over pressing	minor	20%		