

M1 EA Declaration

Product: Onyx

Part-Project Leader: Dieter Sütthoff

Remarks:

- This is a "Pre M1" declaration. That means M1 will become valid when SW department declare there Onyx M1 on time and when SW department will fulfil the deliveries defined in the HW to SW requirements list.
- Fulfill of all antenna FBT requirements not expected. If the current battery cover interlocking suggestion from MD will be implement, than the Antenna performance will decrease. (For details see checklist point 3. below).
- In case when mobile lies in desktop shell, significant loss of antenna performance possible. Demanded design roles in desktop shell could not be implemented because of space reason.

M1 is hereby declared for EA

EA Part-Project Leader

Dieter Sütthoff

24.02.2006



EA Line Manager

Thomas Hermanns

24.02.2006



M1 Implementation Release

EMC/Antenna

		<p>Completed on: Initials and Date 24.02.2006 Dieter Sütthoff</p>
1	Test plan for the system coordinated between the affected partners	<p>Done.</p> <p>Additional external EMC resources are planned during B1+/B2 (2 month with one engineer and one chamber at IMST)</p>
2	EMC concept coordinated for the product/system	<p>Done.</p> <p>The 3 mega pixel camera should be completely shielded. This is not possible due to limited space inside antenna volume. Degradation of receiver sensitivity during active 3 mega pixel camera expected.</p> <p>Self interferer during active display, due to unknown results of the actual display and rotation of display by 180° (LCD controller in the north). Risk for time schedule, if additional countermeasures have to be implemented.</p>
3	Antenna defined precisely, manufacturer defined	<p>Done.</p> <p>ONYX uses an integrated PIFA-antenna. Manufacturer will be Lumberg.</p> <p>Expected Values for antenna performance: GSM 900: 26,5 dBm - 27,0 dBm (FBT: 28 dBm) GSM 1800: 24,5 dBm - 25,0 dBm (FBT: 25 dBm) GSM 1900: 23,5 dBm - 24,0 dBm (FBT: 25 dBm) UMTS: 15,0 dBm - 15,5 dBm (FBT: 17 dBm)</p> <p>In comparison to M0 estimation the antenna performance increases 0,5 dB in both GSM 1800 and in GSM 1900 bands, and at least 1,0 dB in UMTS band.</p> <p>This Antenna performance values were measured without the currently by MD department suggested battery cover interlocking solution (reduction antenna size on two arms next to battery). If this solution will be implemented, than the Antenna performance will decrease.</p> <p>No exceeding of legal head SAR values expected. SAR body worn scenario class a (0 mm distance @ 2 Tx) not possible.</p> <p>10 m free space radio range possible with current Bluetooth antenna concept.</p>
4	EMC SW defined with SW	<p>This is a "Pre M1" declaration. That means M1 will become valid when SW department declare there Onyx M1 on time and when SW department will fulfil the deliveries defined in the HW to SW requirements list.</p>
5	Technical Terms of Delivery (TTD) of customized components and modules created and reviewed. Exceptions latest signed by S3 HW defined	<p>TTD for (UMTS/GSM/BT) antennas exists as draft form</p>

6	A1 tape out completed.....	Done
7	Test plan (Master Actions Plan) according to product functionality accessories available including AD EA worksplit.....	Done
8	Product concept validation has taken place for all areas (electronics, mechanics, optics, acoustics etc.) incl. worst case considerations	Done
9	Production test requirements and needs for reference samples defined and agreed with production (PT)	Delivery of two reference samples to production (PT) was discussed and agreed. Possibility for using RF-connect in 3T test with hole in antenna will be decided during B1. Alternative solutions will discuss in follow up meeting.
10	Hardware FMEAs done. Measures (e.g. RDP project) agreed with PQA	Done
11	Detailed Primavera project plan up to M3/S4 is available, showing dedicated resources by name and on department level for external consultants	Prima Vera complete project plan is still in Work. EA Detail plan done. With status from Primavera planning workshop on 21st February, 2006 all EA activities was in time.
12	Complete project plan reviewed and agreed.....	Done With Onyx project plan, development time is significant reduced compared to earlier projects. This could have influence to EMC quality and this lead to risk on time to market.
13	Status of product relevant pre-/component developments reviewed. Risk analysis done and measures agreed, if targets are not reached	No pre/component development in ONYX
14	Accessories to be fully supported by product are defined and agreed with Accessory Devices	Done In case when mobile lies in desktop shell, significant loss of antenna performance possible. Demanded design roles in desktop shell could not be implemented because of space reason. A field test under real condition should be done by QM.
15	Product technical specification reviewed	Done
16	Time schedule for provision of devices for conformity assessment and certification agreed with System Test.....	Done for FCC and R&TTE APAC not considered yet, will be implemented via later CR.
17	PSQA plan built up and provided to PQA	Done