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| Traveler Title | VTA RF (Cavity) Test Plan  |
| Traveler Abstract | Test Plan / Request for testing of cavities in the Vertical Test Area (VTA) |
| Traveler ID | VTA-CAV-TSTP …. Should cover also activities in D1 and D2, not only CAV… |
| Traveler Revision  | R1 |
| Traveler Author | K. DAVIS |
| Traveler Date | 31-Jul-23 |
| NCR Informative Emails | STIRBET,AREILLY |
| NCR Dispositioners | JTKENT,POWEN,KDAVIS |
| D3 Emails | STIRBET,AREILLY,JTKENT,POWEN,KDAVIS |
| Approval Names | K. DAVIS | J. KENT | P. OWEN | A. REILLY |
| Approval Signatures |  |  |  |  |
| Approval Dates |  |  |  |  |
| Approval Title | Author | Reviewer | SME | Project Manager |

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| References | List and Hyperlink all documents related to this traveler. This includes, but is not limited to: safety (THAs, SOPs, etc), drawings, procedures, and facility related documents. |
| [VTA SOP](https://jlabdoc.jlab.org/docushare/dsweb/Get/Document-48111/A-09-001-SOP-21542%5B1%5D.pdf) NEEDS TO BE LINKED TO MOST RECENT | C75-PR-CPR-VTRF-R4-1 | C100R-PR-VTA-CAV-VTRF-R2 | L2HE-PR-VTA-CAV-VTRF-R1 | NB3SN-CP-C75-CPR-VTRF-R1 |
| Theory and practice of cavity RF test systems | CP-STP-CAV-VTRF-OST-R1 | L2HE-PR-VTA-CAV-AMMS |  |  |

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| Revision Note |  |
| R1 | Initial release of this Traveler. |

1. Test Plans collections?!
2. Insert at PI reuest if multiple same cavity same dewar RF qualification tests.
3. Insert at VTA operator section [[TestAborted]]<<YESNO>> If NO is selected fill up data for successful test(s). If YES is selected fill up the reason (cable, cold leak test or other) For “other”option provide a Comment box.

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| **To Be Completed by Primary Investigatoir (Submission)** |
| **Test PLAN** |
| *Select the Project Abbreviation / Charge Code from list.* [[PROJSN]] <<PROJSN>>*If project code not found enter NEW code in the text box below.*[[ProjName]] <<TEXT>> | [[PrincipalInvestigator]] <<SRF>>[[automate name of PI to session username]] <<NOTE>> | Description of Test:(e.g. Q vs E test of 5-cell CEBAF cavity at 1497 MHz and up to 100W incident power)[[TestDescription]] <<COMMENT>> (e.g. **VTA cavity qualification tests conform procedure see procedure links on the first page**…..)**TEST PLAN COLLECTION? Once a TP is approved, associate a TP No then refer to this of a VTA test request?** Instead of [[CavType]] {{Ea/AU,Ep/Ea,Bp/Ea}} <<SELECT>>[[SqrtRoverQ= display this value here after Cavity Type is selected above.]] <<NOTE>>[Cavity Type SpreadSheet](file:///%5C%5Cjlabgrp%5Cgroup%5Casd%5Cwww%5Cpansophy%5Chtml%5Ctravelersit%5Cdocfiles%5CSTP%5Clink%20to%20spreadsheet%20here) **probably we should consider Cavity Pi mode**  |
| *Select the Cavity Serial Number / Cavity Name from list*[[CAVSN]] <<CAVSN>>*If Serial Number not found enter NEW Serial Number in the text box below.*[[CavName]] <<TEXT>> | [[RequestDate]] <<TIMESTAMP>>(Date of Request)[[autofill date with today date]] <<NOTE>> |
| [[CavType]] {{Ea/AU,Ep/Ea,Bp/Ea}} <<SELECT>>[[SqrtRoverQ= display this value here after Cavity Type is selected above.]] <<NOTE>>[Cavity Type SpreadSheet](file:///%5C%5Cjlabgrp%5Cgroup%5Casd%5Cwww%5Cpansophy%5Chtml%5Ctravelersit%5Cdocfiles%5CSTP%5Clink%20to%20spreadsheet%20here) | [[RequestedTestDate]] <<TIMESTAMP>>(Requested Date FOR Test) |
| [[VTATestD1]] <<COMMENT>>[[DescriptionOfCryoTestD1]] <<FILEUPLOAD>> | [[RequestedTestDateD1]] <<TIMESTAMP>> | [[VTATestD2]] <<COMMENT>>[[[DescriptionOfCryoTestD2]]<<FILEUPLOAD>> | [[RequestedTestDateD2]] <<TIMESTAMP>> |
| **TEST Information - provided by PI** |
| **SAFETY AND WORK CONTROL DOCUMENTATION**Upload Documentation NOT referenced on Title Page of this traveler (i.e. Page 0) | [[WorkControlDocuments]] <<FILEUPLOAD>> |
| **DEWAR REQUEST**[[PreferredDewar]] {{1,2,3,4,5,6,7,8}} <<RADIO>>[[SpecifyCavityNO]]{{Single,Pair,Three}}<<Select>>If Principle Investigator is unfamiliar with the facility, then the Test Coordinator can recommend a Dewar. | If Test in dewar 1 or 2, explain why test won’t generate prompt radiation:[[PromptRadiationComment]] <<COMMENT>> |
| **RELIEF VALVE VERIFICATION**Is each vacuum space on the test stand protected by a properly sized, cryogenically rated, non-isolable relief valve?[[ReliefValve]] <<YESNO>> | List location and rating for each relief valve:[[ReliefValveComment]] <<COMMENT>> |
| **NEUTRON RADIATION VERIFICATION:** Does this test have the potential to generate neutron radiation? [[NeutronRadiation]] <<YESNO>> | If Yes, attach a detailed analysis **(ILC 9-cell cavities are covered by VTA SOP, there sould be something similar for C75, C100 and L2HE)**.[[NeutronRadiationAnalysis]] <<FILEUPLOAD>>[[NeutronRadiationComment]] <<COMMENT>> |
| **TEST PARAMETERS**[[TemperaturRequirement]] <<FLOAT>> (float)[[MinLHeLevel]] <<FLOAT>> (float) | [[SpecialConsiderations]] <<COMMENT>> |
| **ADDITIONAL REQUIREMENTS**[[PreferedRFSystem]]{{PRoductionSystem1, ProductionSystem2,R&D}}<<Select>>*Specify if successive RF tests will be done on the same cavity in the same Dewar*[[SuccessiveRFTests?]]<<YES/NO>>[[DewarTemperature(s)]]{{Single, Multiple}}<<Select>>[[DewarMagnetics]]{{Choice1,Choice2,Choice3}}<<Select>>[[OSTdata]]<<YESNO>> *(Instrumentation for collecting Oscillating Superleak Transducer data)*[[HOMdata]]<<YESNO>>*If YES is selected connect/ check cables*[[AMMSneeded]]<<YESNO>>*(RF setup for Anti-Mode Mixing Control)*[[OtherRequirements]]<<COMMENT>> |  |
| **TEST Request Submission** |
| [[SubmitRequest]] <<YESNO>>*A YES will email the request to the VTA Facility Manager* | EMAIL: The VTA Facility Manager[[VTAFacilityManager]] {{kdavis,JKENT,bookwalt,DANNY?}} <<EMAIL>>[[VTAFacilityManager]] {{VTA Test Plan Submitted}} <<EMAILSUBJ>>[[only email if SubmitRequest is Yes]] <<NOTE>> |

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| **To Be Completed by VTA Facility Manager (Review)** |
| **REVIEW** |
| [[VTATestReviewCoord]] {{KDAVIS,JKENT,DANNY?}} <<SELECT>>[[VTATestReviewDate]] <<TIMESTAMP>>[[auto fill review coord name to session username and autofill today date]] <<NOTE>> | [[TPReviewComments]] <<COMMENT>> |
| **RETURN** | **APPROVE** |
| [[TPStatus]] {{RETURN,APPROVE}} <<RADIO>>[[TPReturnedComments]] <<COMMENT>> | [[TPStatus2]] <<RADIO>>[[TPApprovedComments]] <<COMMENT>>[[Rename TPStatus2 to TPStatus to link up with previously set radio]] <<NOTE>> |
| *IF Test Plan is Returned, then an email of the request will be sent to the Primary Investigator* [[TPReturnEmail]] {{PrincipalInvestigator}} <<EMAIL>>[[TPReturnEmail]] {{VTA Test Plan Returned}} <<EMAILSUBJ>>[[Only email Principal Investigator if the TPReturned box is checked; substitute name in data file]] <<NOTE>> | [[TestCoordinator]] {{JKENT,tgoodman,POWEN}} <<SELECT>>*IF Test Plan is Approved, then an email of the request will be sent to the VTA Test Coordinators* [[TPApprovedEmail]] {{JKENT,tgoodmand,PrincipalInvestigator,bookwalt }} <<EMAIL>>[[TPApprovedEmail]] {{VTA Test Plan Approved}} <<EMAILSUBJ>>[[Only email if the TPApproved box is checked; substitute name in data file]] <<NOTE>>**Generate / associate a TP identification e.g. TestPlanC100R\_ddmmmyyy** |

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| **To Be Completed by VTA Test Coordinator (Finalize)** |
| testplan finalization /// REQUEST for a VTA test BASED on a specific Test Plan |
| Test Project:[[ TestProject]]{{SRF projects list}}<<tSelect>>The recommended dewar:[[RecommendedTestDewar]] {{1,2,3,4,5,6,7,8}} <<RADIO>>[[ExpectedTestDate]] <<TIMESTAMP>>*Select the Cavity Serial Number / Cavity Name from list*[[CAVSN]] <<CAVSN>>*If Serial Number not found enter NEW Serial Number in the text box below.*[[CavName]] <<TEXT>> | [[TestComments]] <<COMMENT>> |
| TESTplan activation |
| [[VTATPActive]] <<YESNO>>[[VTATPActiveCoord]] {{JKENT,tgoodman,POWEN, KDAVIS }} <<SELECT>>[[VTATPActiveDate]] <<TIMESTAMP>> | EMAIL: The VTA Facility Manager[[VTATPActive]] {{kdavis,JKENT,POWEN,tgoodman}} <<EMAIL>>[[VTATPActive]] {{VTA Test Plan is Active}} <<EMAILSUBJ>> |
|  | [[VTATestCoord]] {{JKENT}} <<HOLDPOINT>> |
| **VTA OPERATOR**  |
| [[VTATestSummarySingleCAV]] <<COMMENT>>[[TestDewar]] {{3,4,5,6,7,8}} <<SELECT>> | *Select the Cavity Serial Number / Cavity Name from list*[[CAVSN]] <<CAVSN>>*If Serial Number not found enter NEW Serial Number in the text box below.*[[CavName]] <<TEXT>> | [[VTA test date]] <<TIMESTAMP>> | [[VTAoperator]] {{VTA Operators list}} <<SELECT>> | [[VTATestLimit]] {{Admin,Quench,Radiation}} <<SELECT>>[[ReasonAbortedTest]]{{Cables,ColdLEak,}}<< |
| [Emax]] <<FLOAT>> (MV/m) | [[FEonset]] <<FLOAT>> (MV/m) | [[Radmax]] <<FLOAT>> (mR/h) | [[NeutronAlarm]] <<YESNO>>*If YES is selected inform sent emails* |
| [[VTATestSummaryPairCAV]] <<COMMENT>>[[TestDewar]] {{3,4,5,6,7,8}} <<SELECT>> | ***Bottom Cavity****: Select the Cavity Serial Number / Cavity Name from list*[[CAVSN]] <<CAVSN>> | [[Bottom VTA test date]] | [[VTAoperator]] {{VTA Operators list}} <<SELECT>> | [[VTATestLimit]] {{Admin,Quench,Radiation}} <<SELECT>>[[ReasonAbortedTest]]{{Cables,ColdLEak,}}<< |
| [[BottomEmax]] <<FLOAT>> (MV/m) | [[BottomFEonset]] <<FLOAT>> (MV/m) | [[BottomRadmax]] <<FLOAT>> (mR/h) | [[BottomNeutronAlarm]] <<YESNO>>*If YES is selected inform sent emails*. |
| ***TOP Cavity****: Select the Cavity Serial Number / Cavity Name from list*[[CAVSN]] <<CAVSN>> | [[TopVTA test date]] <<TIMESTAMP>> | [[VTAoperator]] {{VTA Operators list}} <<SELECT>> | [[VTATestLimit]] {{Admin,Quench,Radiation}} <<SELECT>>[[ReasonAbortedTest]]{{PSS,Cables,ColdLEak,}}<< |
| [[TopEmax]] <<FLOAT>> (MV/m) | [[TopFEonset]] <<FLOAT>> (MV/m) | [[TopRadmax]] <<FLOAT>> (mR/h) | [[TopNeutronAlarm]] <<YESNO>>*If YES is selected inform sent emails* |
| [[VTATestSummaryThreeCAVs]] <<COMMENT>>Select test Dewar[[TestDewar]] {{3,4,5,6,7,8}} <<SELECT>>*Done only in D5.*[[TestAborted]]<<YESNO>> | ***Position1****: Select the Cavity Serial Number / Cavity Name from list*[[CAVSN]] <<CAVSN>> | [[Pos1VTA test date]] <<TIMESTAMP>> | [[VTAoperator]] {{VTA Operators list}} <<SELECT>> | [[VTATestLimit]] {{Admin,Quench,Radiation}} <<SELECT>>[[ReasonAbortedTest]]{{PSS,Cables,ColdLEak,}}<<Select>> |  |
| [{Pos1Emax]] <<FLOAT>> (MV/m) | [[Pos1FEonset]] <<FLOAT>> (MV/m) | [[Pos1Radmax]] <<FLOAT>> (mR/h) | [[Pos1NeutronAlarm]] <<YESNO>>*If YES is selected inform sent emails*. |
| ***Position2****: Select the Cavity Serial Number / Cavity Name from list*[[CAVSN]] <<CAVSN>> | [[Pos2VTA test date]] <<TIMESTAMP>> | [[VTAoperator]] {{VTA Operators list}} <<SELECT>> | [[Pos2VTATestLimit]] {{Admin,Quench,Radiation}} <<SELECT>>[[ReasonAbortedTest]]{{PSS,Cables,ColdLEak,}}<< |  |
| [[Pos2Emax]] <<FLOAT>> (MV/m) | [[Pos2FEonset]] <<FLOAT>> (MV/m) | [[Pos2Radmax]] <<FLOAT>> (mR/h) | [[Pos2NeutronAlarm]] <<YESNO>>*If YES is selected inform sent emails* |
| ***Position3****: Select the Cavity Serial Number / Cavity Name from list*[[CAVSN]] <<CAVSN>> | [[Pos3VTA test date]] <<TIMESTAMP>> | [[Pos3VTAoperator]] {{VTA Operators list}} <<SELECT>> | [[Pos3VTATestLimit]] {{Admin,Quench,Radiation}} <<SELECT>>[[ReasonAbortedTest]]{{PSS,Cables,ColdLEak,}}<< |  |
| [[Pos3Emax]] <<FLOAT>> (MV/m) | [[Pos3FEonset]] <<FLOAT>> (MV/m) | [[Pos3Radmax]] <<FLOAT>> (mR/h) | [[Pos3NeutronAlarm]] <<YESNO>>*If YES is selected inform sent emails* |
| [[VTATestSummaryD1]] <<COMMENT>> | [[VTATestSummaryD2]] <<COMMENT>> |
| **NEUTRON GENERATION DURING VTA CAVITY QUALIFICATION TESTS** |
|  [[NeutronGenerated]] <<YESNO>>*Inform / sent emails is YES is selected* | [[VTAFacilityManager]] {{kdavis,jkent,powens, tgoodman,hamlette}} <<EMAIL>>[[VTAFacilityManager]] {{Dewar, CaVSN, NeutronGenerated,VTA test date}} <<EMAILSUBJ>> |
| **CLOSE TESTPLAN** |  |  |