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| Traveler Title | C100 Cavity Plasma Processing |
| Traveler Abstract | Plasma Processing of C100 Cavity  |
| Traveler ID | C100R-VTA-CAV-PLSM |
| Traveler Revision  | R1 |
| Traveler Author | H. Senevirathne |
| Traveler Date | 4-Dec-24 |
| NCR Informative Emails | areilly,fhumphry,michaelm,iresha,weinmann  |
| NCR Dispositioners | powers,drury,gciovati |
| D3 Emails | areilly,fhumphry,michaelm,powers,drury,gciovati |
| Approval Names | H. Senevirathne | G. Ciovati | T. Powers |  |
| Approval Signatures |  |  |  |  |
| Approval Dates |  |  |  |  |
| Approval Title | Author | Reviewer | 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. |
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| Revision Note |  |
| R1 | Initial release of this Traveler. |
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| **Step No.** | **Instructions** | **Data Input** |
| 1 | What is the location for plasma processing?Describe any relevant details about the set-up.  | [[PlasProcLocation]] {{TEST LAB,OTHER}} <<SELECT>>If Other is selected, fill in the location:[[PlasProcLocation\_Other]] <<COMMENT>>[[PlasProcLocationDetails]] <<COMMENT>> |
| Enter the SN(s). | [[CAVSN]] <<CAVSN>> |
| 2 | Record the planned recipe for plasma processing. Actual values will be recorded later. | **Round 1:**[[PPR1\_PlanProcGas]] {{Argon,Helium,Other}} <<SELECT>>[[PPR1\_PlanO2Percent]] <<FLOAT>> %[[PPR1\_PlanPressure]] <<FLOAT>> mTorr[[PPR1\_PlanMF]] <<FLOAT>> SCCM[[PPR1\_PlanComment]] <<COMMENT>>**Round 2:**[[PPR2\_PlanProcGas]] {{Argon,Helium,Other}} <<SELECT>>[[PPR2\_PlanO2Percent]] <<FLOAT>> %[[PPR2\_PlanPressure]] <<FLOAT>> mTorr[[PPR2\_PlanMF]] <<FLOAT>> SCCM[[PPR2\_PlanComment]] <<COMMENT>>**Additional Rounds / Other Information:**[[PP\_PlanAddInfo]] <<COMMENT>> |

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| **Step No.** | **Instructions** | **Data Input** |
| **Pre-Plasma Processing VTA Test Results** |
| 3 | Initial Cavity Performance Information. To provide a baseline measure of cryomodule performance prior to Plasma Processing. | [[Init\_VTATest\_TravelerName]] <<FLOAT>>[[TravelerNumber]] <<FLOAT>>[[Init\_VTATestComment]] <<COMMENT>> |

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|  | **Instructions** | **Data Inputs** |
|  | **Plasma Processing Round 1** |
|  | Plasma Processing Round 1 Technician | [[R1\_Tech1]] <<SRF>>[[R1\_Tech2]] <<SRF>>[[R1\_Tech3]] <<SRF>> |
| Record the processing gas, the average measured oxygen percentage, mass flow setpoint, measured mass flow, and measured pressure.Upload the RGA file and data file. Data file includes forward power (Pi), transmitted power (Pr) and reflected power (Pt).  | [[R1\_ProcGas]] {{Argon,Helium,Other}} <<SELECT>>[[R1\_O2Percent]] <<FLOAT>> %[[R1\_MassFlowSetpoint]] <<FLOAT>> SCCM[[R1\_MassFlowMeasured]] <<FLOAT>> SCCM[[R1\_PressureSetpoint]] <<FLOAT>> [[R1\_Comment]] <<COMMENT>>[[R1\_RGAFile]] <<FILEUPLOAD>>[[R1\_DataFile]] <<FILEUPLOAD>>[[R1\_SummaryFile]] <<FILEUPLOAD>> |
| **RF In HOM Port**  | [[R1C\_RFHOM]] {{A,B}} <<SELECT>> |
| **Phase Shifter ID**  | [[R1C\_PSID]] <<TEXT>> |
| **Phase Shifter Setting (number of steps)** | [[R1C\_NumSteps]] <<INTEGER>> |
| **Record cavity pair pressure before plasma processing**. | [[R1\_pressurebeforePP]] <<FLOAT>> |
| **Round 1 Start Time** | [[R1CCell7\_StartTime]] <<TIMESTAMP>>[[R1CCell6and5\_StartTime]] <<TIMESTAMP>>[[R1CCell4and3\_StartTime]] <<TIMESTAMP>>[[R1CCell2and1\_StartTime]] <<TIMESTAMP>> |
| **Round 1 End Time** | [[R1CCell7\_EndTime]] <<TIMESTAMP>>[[R1CCell6and5\_EndTime]] <<TIMESTAMP>>[[R1CCell4and3\_EndTime]] <<TIMESTAMP>>[[R1CCell2and1\_EndTime]] <<TIMESTAMP>> |
| **Record cavity pair pressure after plasma processing.** | [[R1\_pressureafterPP]] <<FLOAT>> |
| **Modes File**  | [[R1C\_Files]] <<FILEUPLOAD>> |
| **Amount of Removed Hydrocarbons (cm^3)** | [[R1C\_AMU18]] <<FLOAT>>[[R1C\_AMU28]] <<FLOAT>>[[R1C\_AMU44]] <<FLOAT>>[[R1C\_Other]] <<FLOAT>> |
| **Comments** | [[R1C\_Comment]] <<COMMENT>> |

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| **Step No** | **Instructions** | **Data Inputs** |
| **Plasma Processing Round 2** |
| 5 | Plasma Processing Round 2 Technician | [[R2\_Tech1]] <<SRF>>[[R2\_Tech2]] <<SRF>>[[R2\_Tech3]] <<SRF>> |
| Record the processing gas, the average measured oxygen percentage, mass flow setpoint, measured mass flow, and measured pressure.Upload the RGA file and data file. Data file includes forward power (Pi), transmitted power (Pr) and reflected power (Pt).  | [[R2\_ProcGas]] {{Argon,Helium,Other}} <<SELECT>>[[R2\_O2Percent]] <<FLOAT>> %[[R2\_MassFlowSetpoint]] <<FLOAT>> SCCM[[R2\_MassFlowMeasured]] <<FLOAT>> SCCM[[R2\_PressureSetpoint]] <<FLOAT>> [[R2\_GasComment]] <<COMMENT>>[[R2\_RGAFile]] <<FILEUPLOAD>>[[R2\_DataFile]] <<FILEUPLOAD>>[[R2\_SummaryFile]] <<FILEUPLOAD>> |
| **Record cavity pair pressure before plasma processing**. | [[R2\_pressurebeforePP]] <<FLOAT>> |
| **Round 2 Start Time** | [[R2CCell7\_StartTime]] <<TIMESTAMP>>[[R2CCell6and5\_StartTime]] <<TIMESTAMP>>[[R2CCell4and3\_StartTime]] <<TIMESTAMP>>[[R2CCell2and1\_StartTime]] <<TIMESTAMP>> |
| **Round 2 End Time** | [[R2CCell7\_EndTime]] <<TIMESTAMP>>[[R2CCell6and5\_EndTime]] <<TIMESTAMP>>[[R2CCell4and3\_EndTime]] <<TIMESTAMP>>[[R2CCell2and1\_EndTime]] <<TIMESTAMP>> |
| **Record cavity pair pressure after plasma processing.** | [[R2\_pressureafterPP]] <<FLOAT>> |
| **Amount of Removed Hydrocarbons (cm^3)** | [[R2C\_AMU18]] <<FLOAT>>[[R2C\_AMU28]] <<FLOAT>>[[R2C\_AMU44]] <<FLOAT>>[[R2C\_Other]] <<FLOAT>> |
| **Comments** | [[R2C\_Comment]] <<COMMENT>> |

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| **Step No.** | **Instructions** | **Data Input** |
| **Post-Plasma Processing VTA Test Results**  |
| 6 | Final VTA Performance Information. To provide a measure of performance after Plasma Processing. | [[Final\_VTATest]] [[TravelerName]] <<FLOAT>> [[TravelerNumber]] <<FLOAT>>[[Final\_VTATestComment]] <<COMMENT>> |