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| Step | Description | Requirements | Expected Result | Test Methode / Objective Evidence |
| 1 | Design verification Ref Test Rail: 58751 | 5581\_002, 5581\_003, 5581\_006, 5581-013, 5581-016, 5581\_020, 5581\_021, 5581\_022, 5581\_024, 5581\_025, 5581\_026, 5581\_028, 5581\_029, 5581\_030, 5581\_032, 5581\_039 | Enclosure dimensions shall be 101x80x52mm +/- 1 mm PCB shall fit in 30-0202 R4a POD RF cover. All plastic components shall comply with UL94 V-0 standard.  The HPC shall weight between 430 and 500 g. DC power connector sustain at least 260 cycles The HPC shall include only two PCBs. Power supply shall provide 5.0V ± 5% @ 3A The HPC power management shall be rated for at least 1kA surges between line and neutral on the AC input. HPC design shall integrate a female barrel connector 2 mm DC power plug. Connector shall mate with 11 mm length, 2.1mm ID x 5.5mm OD, P1J male plug. HPC design shall include different power cord types per country requirements. Power supply cords shall be rated at least for 125V – 1A. Power supply cords shall be rated at least for 250V – 1A. The HPC USB-C connector shall be rated for at least 5Gbit/s bandwidth. The HPC USB type B connector shall be rated for at least 5Gbit/s bandwidth. HPC USB host cable length shall be between 1-2m long. HPC USB host cable shall be rated for at least 5Gbit/s bandwidth. HPC shall have power light indicator on the enclosure side. Power supply shall be rated for class II as per IEC 60601-1-11. | Inspection / Design verification |
| 2 | Test for IP30 ingress protection Ref Test Rail: 58746 | 5581\_001 | The test shall demonstrate that it is impossible to insert the test rod inside the enclosure. | Inspection / Test confirmation |
| 3 | Handpiece cradle is safe for the handpiece Ref Test Rail: 58748 | 5581\_007 | The patient jacket break point shall be equal to or greater than the calculated value in precondition. | Inspection / record compression force |
| 4 | Operating temperature Ref Test Rail: 58749 | 5581\_008 | The temperature inside the HPC shall be equal to or lower than 75°C. | Inspection / Record temperature |
| 5 | USB-C retention force (pull test) Ref Test Rail: 58750 | 5581\_009 | All recorded values should be greater than 8N (approx. 1.8 lbf). | Inspection / Record the pull force measured |
| 6 | Test for non-marking rest surface Ref Test Rail: 58752 | 5581\_011 | The rubber shall leave a permanent mark on the tested surface. | Inspection / Picture of test surface |
| 7 | Sustain lateral force before movement can be initiated Ref Test Rail: 58753 | 5581\_011 | The measured force required to initiate lateral movement push force shall be equal to or greater than 1 lbf (4.45 N). | Inspection / Record force |
| 8 | AC voltage and frequency operating range test Ref Test Rail: 58754 | 5581\_019 | Output voltage shall be between 4.75 V and 5.25 V inclusively. Output voltage shall be between 4.75 V and 5.25 V inclusively. Output voltage shall be between 4.75 V and 5.25 V inclusively. Output voltage shall be between 4.75 V and 5.25 V inclusively. | Inspection / Measured USB 5V output voltage |
| 9 | PCB identification label Ref Test Rail: 58755 | 5581\_031 | The label shall be visible and readable. | Inspection / Picture |
| 10 | USB Stress test no cable movement Ref Test Rail: 58756 | 5581\_033 | Each USB test stream (60s each) USB stress test should detect less than or equal to 7 drop frame[1] or 0 disconnection. | Inspection / Record drop frame and disconnect event |
| 11 | USB Stress test with cables movements Ref Test Rail: 58757 | 5581\_034 | Each USB test stream (60s each) USB stress test should detect less than or equal to 50 drop frame or 0 disconnection.  Note the HP Connector and HP3 S/N. | Inspection / Record drop frame and disconnect event |
| 12 | Overvoltage protection output voltage Ref Test Rail: 58762 | 5581\_022 | The protection circuit should cut off the voltage output when the input voltage is greater than 5.9 V +/- 0.3 V. The handpiece connector should not be power ON when the voltage is outside the threshold. | Inspection / Document the results |
| 13 | HP detection for any cable plug order Ref Test Rail: 58777 | 5581\_035 | For every cable connection order the system detect the Handpiece as "Virtuo Vivo Intraoral Scanner" ![](index.php?/attachments/get/29109) | Inspection / Detection of HP |
| 14 | USB performance speed test Ref Test Rail: 58959 | 5581\_027 | All tested sample shall give a report for both read and write a data rate above 2500 Mb/s. | Inspection / Record average Read / Write data rate |