[Test Report Title]

Functionality Test

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| Date | YYYY/MM/DD |
| Doc. Number | XXXXXXXXXXX |
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| REV. | REV. | DESCRIPTION | DESCRIPTION | DESCRIPTION | DESCRIPTION | DESCRIPTION | DESCRIPTION | DESCRIPTION | DESCRIPTION | DESCRIPTION | DESCRIPTION | DESCRIPTION | DESCRIPTION | DESCRIPTION | DESCRIPTION | DATE | DATE | DATE | Engineer | Engineer |
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| Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. 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JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. 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JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. 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JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 | Table of Contents 1. DUT Images 4 2. Target Device Configuration and Environment 5 2.1 Table of Test Configuration 5 2.2 DUT Main Hardware Configuration 5 3. JBOD Functional Test 7 3.1 Redundant Power Module 7 3.2 System Fan 7 3.3 Expander 7 3.4 Burn-in Test 7 3.5 LED Function 7 3.6 Mute Button 8 3.7 Firmware Upgrade 8 3.8 Temperature Sensor 8 3.9 SES Lighting Signal 9 3.10 JBOD Remote 9 3.11 Shake Test 9 3.12 HDD Hot-swap 10 3.13 External 8644 Hot-swap 10 3.14 Expander hot-swap 10 3.15 AC/DC Power cycling 10 3.16 SAS Zoning 10 3.17 JBOD Cascade 11 3.18 Manually PWM 11 3.19 MPIO 11 3.20 DD command stress JBOD 11 3.21 diag\_drive\_led 12 3.22 sas\_standby\_timer 12 3.23 Check\_wide\_port on /off /standby 12 3.24 serial number and enclosure number 12 3.25 enclosure addr 12 3.26 sensor 12 3.27 AT Switch test: by power cord 13 3.28 AT Switch test: by front power SW 13 4. RAID Card Test 15 4.1 "RAID Card" with SAS 12G HDD Config 15 4.2 "RAID Card" with SAS 6G HDD Config 16 4.3 "RAID Card" with SATA 6G HDD Config 17 5. HBA Card Test 19 5.1 "HBA Card" with SAS 12G HDD Config 19 5.2 "HBA Card" with SAS 6G HDD Config 19 5.3 "HBA Card" with SATA 6G HDD Config 19 6. BMC Function Test 21 6.1 Feature (by RR6 code base) 21 6.2 Feature (by RR12 code base) 24 6.3 Redfish 26 7. Power Consumption Measurement 28 7.1 JBOD Power Consumption Measure for SAS HDD 28 8. Summary 29 |  |
| 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images | 1. DUT Images |  |
| 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment | 2. Target Device Configuration and Environment |  |
| 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration | 2.1 Table of Test Configuration |  |
| Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) | Host Configuration (2 Host to 1 JBOD) |  |
| Item | Item | Item | Item | Item | Item | Vender / Model | Vender / Model | Vender / Model | Vender / Model | Vender / Model | Vender / Model | Detail | Detail | Detail | Detail | Detail | Detail | Detail | Detail |  |
| Motherboard | Motherboard | Motherboard | Motherboard | Motherboard | Motherboard | Motherboard of the host | Motherboard of the host | Motherboard of the host | Motherboard of the host | Motherboard of the host | Motherboard of the host | Motherboard of the host | Motherboard of the host |  |  |  |  |  |  |  |
| Operation System1 | Operation System1 | Operation System1 | Operation System1 | Operation System1 | Operation System1 | Microsoft Windows | Microsoft Windows | Microsoft Windows | Microsoft Windows | Microsoft Windows | Microsoft Windows | Server 2016 Standard | Server 2016 Standard | Server 2016 Standard | Server 2016 Standard | Server 2016 Standard | Server 2016 Standard | Server 2016 Standard | Server 2016 Standard |  |
| Operation System2 | Operation System2 | Operation System2 | Operation System2 | Operation System2 | Operation System2 | CentOS7.4 x64 | CentOS7.4 x64 | CentOS7.4 x64 | CentOS7.4 x64 | CentOS7.4 x64 | CentOS7.4 x64 | 3.10.0-693.11.1.el7.x86\_64 | 3.10.0-693.11.1.el7.x86\_64 | 3.10.0-693.11.1.el7.x86\_64 | 3.10.0-693.11.1.el7.x86\_64 | 3.10.0-693.11.1.el7.x86\_64 | 3.10.0-693.11.1.el7.x86\_64 | 3.10.0-693.11.1.el7.x86\_64 | 3.10.0-693.11.1.el7.x86\_64 |  |
| CPU | CPU | CPU | CPU | CPU | CPU |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Memory | Memory | Memory | Memory | Memory | Memory |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Hard Disk Drive | Hard Disk Drive | Hard Disk Drive | Hard Disk Drive | Hard Disk Drive | Hard Disk Drive |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Web browser | Web browser | Web browser | Web browser | Web browser | Web browser |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration | RAID/HBA Card Configuration |  |
| Card | Card | Card | Vender / Model | Vender / Model | Vender / Model | Vender / Model | Firmware ver. | BIOS ver. | BIOS ver. | BIOS ver. | BIOS ver. | BIOS ver. | BIOS ver. | Driver ver. | Driver ver. | Driver ver. | Driver ver. | GUI ver. | GUI ver. |  |
| 12G RAID | 12G RAID | 12G RAID |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12G RAID | 12G RAID | 12G RAID |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12G HBA | 12G HBA | 12G HBA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 12G HBA | 12G HBA | 12G HBA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration | HDD Configuration |  |
| Vender / Model | Vender / Model | Vender / Model | Vender / Model | Vender / Model | Vender / Model | Vender / Model | Interface | Interface | Interface | Interface | Interface | Interface | Detail | Detail | Detail | Detail | Detail | Detail | Detail |  |
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| 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration | 2.2 DUT Main Hardware Configuration |  |
| Item | Item | Item | Item | Product Number | Product Number | Product Number | Product Number | Product Number | Product Number | Quantity | Quantity | Quantity | Detail | Detail | Detail | Detail | Detail | Detail | Detail |  |
| Backplane board | Backplane board | Backplane board | Backplane board |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Expander board | Expander board | Expander board | Expander board |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Power Module | Power Module | Power Module | Power Module |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SKU： | SKU： | SKU： | SKU： | SKU： | SKU： | SKU： | SKU： | SKU： | SKU： | SKU： | SKU： | SKU： | SKU： | SKU： | SKU： | SKU： | SKU： | SKU： | SKU： |  |
| Expander Firmware | Expander Firmware | Expander Firmware | Expander Firmware |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MFG | MFG | MFG | MFG |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BMC | BMC | BMC | BMC |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MCU | MCU | MCU | MCU |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CPLD | CPLD | CPLD | CPLD |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Item | Item | Item | Item | Vender/Product Number | Vender/Product Number | Vender/Product Number | Vender/Product Number | Vender/Product Number | Vender/Product Number | Vender/Product Number | Quantity | Quantity | Quantity | Quantity | Detail | Detail | Detail | Detail | Detail |  |
| External Expander Board (Hub Expander) | External Expander Board (Hub Expander) | External Expander Board (Hub Expander) | External Expander Board (Hub Expander) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Internal Expander  Board (24bay) (Edge Dual\_Expander) | Internal Expander  Board (24bay) (Edge Dual\_Expander) | Internal Expander  Board (24bay) (Edge Dual\_Expander) | Internal Expander  Board (24bay) (Edge Dual\_Expander) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Internal Expander  Board (30bay) (Edge Dual\_Expander) | Internal Expander  Board (30bay) (Edge Dual\_Expander) | Internal Expander  Board (30bay) (Edge Dual\_Expander) | Internal Expander  Board (30bay) (Edge Dual\_Expander) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Back Plane Board | Back Plane Board | Back Plane Board | Back Plane Board |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Bridge Board | Bridge Board | Bridge Board | Bridge Board |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| MCU Board | MCU Board | MCU Board | MCU Board |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

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| --- | --- | --- |
| 3. JBOD Functional Test | 3. JBOD Functional Test | 3. JBOD Functional Test |
| 3.1 Redundant Power Module | 3.1 Redundant Power Module | 3.1 Redundant Power Module |
| Test Procedure | Criteria | Result |
| Perform Hot-swap the power module and power cord ten times, and verify the functions be listed on right side. | Hot-swap PSU under 'power on' state, check fail LED, beeper, and console status that can work properly. |  |
| Perform Hot-swap the power module and power cord ten times, and verify the functions be listed on right side. | Power cord interrupt, check fail led, beeper, and console status that can work properly. |  |
| Perform Hot-swap the power module and power cord ten times, and verify the functions be listed on right side. | PSU status under GUI that can work properly. |  |
| Perform Hot-swap the power module and power cord ten times, and verify the functions be listed on right side. | PSU status under console that can work properly. |  |
| Perform Hot-swap the power module and power cord ten times, and verify the functions be listed on right side. | Mute button of PSU that can work properly. |  |
| 3.2 System Fan | 3.2 System Fan | 3.2 System Fan |
| Test Procedure | Criteria | Result |
| Perform the fan function, and verify the functions be listed on right side. | Remove the fan ten times, check fail led, GUI, and console status that can work properly. |  |
| Perform the fan function, and verify the functions be listed on right side. | Fan status under GUI that can work properly. |  |
| Perform the fan function, and verify the functions be listed on right side. | Fan status under console that can work properly. |  |
| Perform the fan function, and verify the functions be listed on right side. | For Smart Fan feature, if temperature upgrade, the rotational speed of fan was increased (depend on spec.) that can work properly. |  |
| 3.3 Expander | 3.3 Expander | 3.3 Expander |
| Test Procedure | Criteria | Result |
| Check channel of expander that function is ok or not. | Check PHY state and negotiated link speed; confirm the PHY contents with actual HDD configuration are correct. |  |
| Check channel of expander that function is ok or not. | Up connector is correct with substrate type. |  |
| Check channel of expander that function is ok or not. | Down connectors were correct with table type. |  |
| 3.4 Burn-in Test | 3.4 Burn-in Test | 3.4 Burn-in Test |
| Test Procedure | Criteria | Result |
| Using performance assessment tool let JBOD status was maintain full loading on 12 hours. | Adjust conf. to 100% read (in Iometer); the function can work properly after burn-in test. |  |
| Using performance assessment tool let JBOD status was maintain full loading on 12 hours. | Adjust conf. to 100% write (in Iometer); the function can work properly after burn-in test. |  |
| 3.5 LED Function | 3.5 LED Function | 3.5 LED Function |
| Test Procedure | Criteria | Result |
| Check the function of UUT's LED by visual inspection. | Power LED blue, support enclosure ID that can display as spec. defined. |  |
| Check the function of UUT's LED by visual inspection. | PSU alarm LED that can display as spec. defined. |  |
| Check the function of UUT's LED by visual inspection. | Temperature LED Red, that can display as spec. defined. |  |
| Check the function of UUT's LED by visual inspection. | FAN failed LED Red that can display as spec. defined. |  |
| Check the function of UUT's LED by visual inspection. | HDD failed LED that can display as spec. defined. |  |
| Check the function of UUT's LED by visual inspection. | HDD accessed LED that can display as spec. defined. |  |
| Check the function of UUT's LED by visual inspection. | System Fail LED Red, that can display as spec. defined. |  |
| 3.6 Mute Button | 3.6 Mute Button | 3.6 Mute Button |
| Test Procedure | Criteria | Result |
| When the warning sound was activated, press the mute button to stop the warning sound. | Hot swap the power module ten times (Redundant) and warning sound can be stopped by mute button. |  |
| When the warning sound was activated, press the mute button to stop the warning sound. | Hot swap the fan module ten times, and warning sound can be stopped by mute button. |  |
| When the warning sound was activated, press the mute button to stop the warning sound. | Temperature was detected over default alarm value (over 55 degrees centigrade), and warning sound can be stopped by mute button. |  |
| 3.7 Firmware Upgrade | 3.7 Firmware Upgrade | 3.7 Firmware Upgrade |
| Test Procedure | Criteria | Result |
| Upgrade the firmware, then check the upgrade is successful or not. | Upgrade via debug port, it can be done successfully. |  |
| Upgrade the firmware, then check the upgrade is successful or not. | Upgrade via console port, it can be done successfully. |  |
| Upgrade the firmware, then check the upgrade is successful or not. | Upgrade via in-band, it can be done successfully. |  |
| 3.8 Temperature Sensor | 3.8 Temperature Sensor | 3.8 Temperature Sensor |
| Test Procedure | Criteria | Result |
| When temperature sensor ≧ designated degree, the GUI will pop-up warning message, then check the sensor statuses (w/ fan speed) from the RS232 console that are showing normally or not. | T1, T2, warning, Alarm value configuration setting, that statuses are showing normally. |  |
| When temperature sensor ≧ designated degree, the GUI will pop-up warning message, then check the sensor statuses (w/ fan speed) from the RS232 console that are showing normally or not. | Temperature detected status under GUI that statuses are showing normally. |  |
| When temperature sensor ≧ designated degree, the GUI will pop-up warning message, then check the sensor statuses (w/ fan speed) from the RS232 console that are showing normally or not. | Temperature detected status under HyperTerminal that statuses are showing normally. |  |
| When temperature sensor ≧ designated degree, the GUI will pop-up warning message, then check the sensor statuses (w/ fan speed) from the RS232 console that are showing normally or not. | Break through alarm value, then the fail led will light up, that statuses are showing normally. |  |
| When temperature sensor ≧ designated degree, the GUI will pop-up warning message, then check the sensor statuses (w/ fan speed) from the RS232 console that are showing normally or not. | Break through alarm value, RPM of fan is the highest, that statuses are showing normally. |  |
| 3.9 SES Lighting Signal | 3.9 SES Lighting Signal | 3.9 SES Lighting Signal |
| Test Procedure | Criteria | Result |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request OK |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request RSVD device |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request hot spare |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request consistency check |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request in critical array |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request in failed array |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request rebuild/ remap |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request rebuild/ remap aborted |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request active |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request do not remove |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request device missing indication |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request insert |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request removal |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request identify |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request fault indication |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request device off |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request Canister |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request Power supply off |  |
| To verify SES lighting signal, using sg3\_utils tool to check lighting mode of each status is correct or not. | Request PRD fail |  |
| 3.10 JBOD Remote | 3.10 JBOD Remote | 3.10 JBOD Remote |
| Test Procedure | Criteria | Result |
| Execute some commands or packages to operate UUT. | Use sg\_utils to shutdown UUT under Linux that function can work properly. |  |
| Under HyperTerminal, use command to power on JOBD | Remote JBOD power on that function can work properly. |  |
| Under HyperTerminal, use command to power off JOBD | Remote JBOD power off, that function can work properly. |  |
| 3.11 Shake Test | 3.11 Shake Test | 3.11 Shake Test |
| Test Procedure | Criteria | Result |
| Power up the enclosure and use SAS Cable to plug in backplane connector, then shake SAS Cable with connector gently by hand, and check the PHY status is normally or not. | Bend the SFF-8644 cable that the PHY status is showing normally. |  |
| Power up the enclosure and use SAS Cable to plug in backplane connector, then shake SAS Cable with connector gently by hand, and check the PHY status is normally or not. | Shaking cable around the SFF-8644 junction that the PHY status is showing normally. |  |
| 3.12 HDD Hot-swap | 3.12 HDD Hot-swap | 3.12 HDD Hot-swap |
| Test Procedure | Criteria | Result |
| Perform hot-swap HDD ten times under operating of JBOD. | Plug-in HDD that JBOD function can work properly. |  |
| Perform hot-swap HDD ten times under operating of JBOD. | Remove HDD that JBOD function can work properly. |  |
| 3.13 External 8644 Hot-swap | 3.13 External 8644 Hot-swap | 3.13 External 8644 Hot-swap |
| Test Procedure | Criteria | Result |
| Perform external 8644 hot-swap ten times under operating of JBOD. | Plug-in external 8644 that JBOD function can work properly. |  |
| Perform external 8644 hot-swap ten times under operating of JBOD. | Remove external 8644 that JBOD function can work properly. |  |
| 3.14 Expander hot-swap | 3.14 Expander hot-swap | 3.14 Expander hot-swap |
| Test Procedure | Criteria | Result |
| Perform expander hot-swap ten times under operating of JBOD. | Plug-in Expander that JBOD function can work properly. |  |
| Perform expander hot-swap ten times under operating of JBOD. | Remove Expander that JBOD function can work properly. |  |
| 3.15 AC/DC Power cycling | 3.15 AC/DC Power cycling | 3.15 AC/DC Power cycling |
| Test Procedure | Criteria | Result |
| Perform JBOD power cycling for ten times | Power on/off by AC power core (plug-in/removed), that JBOD function can work properly. |  |
| Perform JBOD power cycling for ten times | Power on/off by power button, that JBOD function can work properly. |  |
| 3.16 SAS Zoning | 3.16 SAS Zoning | 3.16 SAS Zoning |
| Test Procedure | Criteria | Result |
| Applying SAS Zoning function to segment HDD group, and obtain benefit of dual host that could connect the same JBOD simultaneously. | Group8 and Group9 were run independently. |  |
| Applying SAS Zoning function to segment HDD group, and obtain benefit of dual host that could connect the same JBOD simultaneously. | Group1 can detect Group8 and Group9. |  |
| Applying SAS Zoning function to segment HDD group, and obtain benefit of dual host that could connect the same JBOD simultaneously. | All HDD of Group8 could build RAID and run Iometer properly. |  |
| Applying SAS Zoning function to segment HDD group, and obtain benefit of dual host that could connect the same JBOD simultaneously. | And all HDD of Group9 could build RAID and run Iometer properly. |  |
| 3.17 JBOD Cascade | 3.17 JBOD Cascade | 3.17 JBOD Cascade |
| Test Procedure | Criteria | Result |
| Cascade two 12G JBOD, check substrate table and perform Diameter for 12 hrs. | Check substrate table and Diameter for 12 hrs. without error. |  |
| 3.18 Manually PWM | 3.18 Manually PWM | 3.18 Manually PWM |
| Test Procedure | Criteria | Result |
| Under OS terminal, set up manual PWM function. | Check PWM % can be changed and FAN rpm will speed up or low down by manual setting that can work properly. |  |
| 3.19 MPIO | 3.19 MPIO | 3.19 MPIO |
| Test Procedure | Criteria | Result |
| While using MPIO feature which was one of Windows Server OS functions, if MPIO was enabled under OS, then check UUT mechanism supports this test item and is workable or not. | Single HBA card (at least 2 wide ports) was set upon motherboard, one piece of wide port cable connected primary expander board, another cable was connected secondary expander board. Enable MPIO feature, dual expander boards were worked properly at the same time. If one of cables was extracted and inserted into another wide port on same expander board, dual expander boards must still work properly. (It needs to wait for few minutes until MPIO was recovered.) |  |
| While using MPIO feature which was one of Windows Server OS functions, if MPIO was enabled under OS, then check UUT mechanism supports this test item and is workable or not. | Dual HBA cards were set upon the same motherboard, one piece of wide port cable connected primary expander board, another cable was connected secondary expander board. Enable MPIO feature, dual expander boards were worked properly at the same time. If one of cables was extracted and inserted into nearby wide port on same expander board, dual expander boards must still work properly. (It needs to wait for few minutes until MPIO was recovered.) |  |
| 3.20 DD command stress JBOD | 3.20 DD command stress JBOD | 3.20 DD command stress JBOD |
| Test Procedure | Criteria | Result |
| Under Linux, use DD command to stress HDD | Stress JBOD without any CDB or error. |  |
| 3.21 diag\_drive\_led | 3.21 diag\_drive\_led | 3.21 diag\_drive\_led |
| Test Procedure | Criteria | Result |
| Key in "diag\_drive\_led" command under console, then enter diag mode to check LED indicator. | The "diag\_drive\_led" function can work properly. |  |
| 3.22 sas\_standby\_timer | 3.22 sas\_standby\_timer | 3.22 sas\_standby\_timer |
| Test Procedure | Criteria | Result |
| Key in "sas\_standby\_timer" command under console, and wait for a little time, then check current is diminished. | The power saving function can work properly. |  |
| 3.23 Check\_wide\_port on /off /standby | 3.23 Check\_wide\_port on /off /standby | 3.23 Check\_wide\_port on /off /standby |
| Test Procedure | Criteria | Result |
| Key in "Check\_wide\_port" command under console, and wait for a little time, then check current is diminished. | The power saving function can work properly. |  |
| 3.24 serial number and enclosure number | 3.24 serial number and enclosure number | 3.24 serial number and enclosure number |
| Test Procedure | Criteria | Result |
| Key in "serial\_number xxx-xxxxxxxxxxxxxx xxx-xxxxxxxxxxxxxx" (x is number), and key in "serial\_number" to check function under console. | The function of CLI serial number and enclosure number can work properly. |  |
| 3.25 enclosure addr | 3.25 enclosure addr | 3.25 enclosure addr |
| Test Procedure | Criteria | Result |
| Key in "enclosure\_addr xxxxxxxxxxxxxxx" (x is number), and key in "enclosure addr" to check function under console. | The function of CLI enclosure addr function can work properly. |  |
| 3.26 sensor | 3.26 sensor | 3.26 sensor |
| Test Procedure | Criteria | Result |
| Key in "sensor" and check sensor items can be listed | The function of CLI sensor can work properly. |  |
| 3.27 AT Switch test: by power cord | 3.27 AT Switch test: by power cord | 3.27 AT Switch test: by power cord |
| Test Procedure | Criteria | Result |
| Key in "power\_setting keep\_on" command under console, and AC power off by power cord removed, then wait 10 seconds to re-plug power cord to check JBOD can auto power on. | The function of "power\_setting keep\_on” can work properly. |  |
| Key in "power\_setting keep\_off" command under console, and AC power off by power cord removed, then wait 10 seconds to re-plug power cord to check JBOD cannot auto power on. | The function of "power\_setting keep\_off" can work properly. |  |
| Key in "power\_setting keep\_last\_state" command under console, and AC power off by power cord removed, then wait 10 seconds to re-plug power cord to check JBOD can auto power on. | The function of "power\_setting keep\_last\_state" can work properly. |  |
| 3.28 AT Switch test: by front power SW | 3.28 AT Switch test: by front power SW | 3.28 AT Switch test: by front power SW |
| Test Procedure | Criteria | Result |
| Key in "power\_setting keep\_on" command under console, DC power off by front power SW, then unplug power cord and wait 10 seconds to re-plug power cord to check JBOD can auto power on. | The function of "power\_setting keep\_on" can work properly. |  |
| Key in "power\_setting keep\_off" command under console, DC power off by front power SW, then unplug power cord and wait 10 seconds to re-plug power cord to check JBOD cannot auto power on. | The function of "power\_setting keep\_off" can work properly. |  |
| Key in "power\_setting keep\_last\_state" command under console, AC power off by power cord, then wait 10 seconds to re-plug power cord to check JBOD can auto power on. | The function of "power\_setting keep\_last\_state" can work properly. |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 4. RAID Card Test | 4. RAID Card Test | 4. RAID Card Test | 4. RAID Card Test | 4. RAID Card Test |
| RAID Card | "RAID Card" | Driver |  |  |
| Power Housing |  |  |  |  |
| Power Module |  |  |  |  |
| 4.1 "RAID Card" with SAS 12G HDD Config | 4.1 "RAID Card" with SAS 12G HDD Config | 4.1 "RAID Card" with SAS 12G HDD Config | 4.1 "RAID Card" with SAS 12G HDD Config | 4.1 "RAID Card" with SAS 12G HDD Config |
| SAS 12G configuration | SAS 12G configuration | SAS 12G configuration | SAS 12G configuration | SAS 12G configuration |
| RAID Function | Test Procedure | Criteria | Criteria | Result |
| "RAID Card" | Create a RAID 0 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 1 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 5 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 6 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 00 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 10 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 50 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 60 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 0 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 1 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 5 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 6 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 00 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 10 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 50 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 60 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Rebuild a RAID 1 volume | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 5 volume | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 6 volume | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 10 volume | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 50 volume | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 60 volume | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 0 volume | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 1 volume | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 5 volume | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 6 volume | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 00 volume | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 10 volume | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 50 volume | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 60 volume | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Failover function (Primary Hub EXP) | Plug in/unplug Cable is working properly | Plug in/unplug Cable is working properly |  |
| "RAID Card" | Failover function (Secondary Hub EXP) | Plug in/unplug Cable is working properly | Plug in/unplug Cable is working properly |  |
| "RAID Card" | S.M.A.R.T. status verify | Check SMART error HDD if warning/alarm work properly | Check SMART error HDD if warning/alarm work properly |  |
| 4.2 "RAID Card" with SAS 6G HDD Config | 4.2 "RAID Card" with SAS 6G HDD Config | 4.2 "RAID Card" with SAS 6G HDD Config | 4.2 "RAID Card" with SAS 6G HDD Config | 4.2 "RAID Card" with SAS 6G HDD Config |
| SAS 6G configuration | SAS 6G configuration | SAS 6G configuration | SAS 6G configuration | SAS 6G configuration |
| RAID Function | Test Procedure | Criteria | Criteria | Result |
| "RAID Card" | Create a RAID 0 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 1 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 5 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 6 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 00 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 10 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 50 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 60 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 0 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 1 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 5 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 6 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 00 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 10 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 50 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 60 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Rebuild a RAID 1 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 5 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 6 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 10 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 50 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 60 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 0 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 1 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 5 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 6 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 00 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 10 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 50 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 60 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Failover function (Primary Hub EXP) | Plug in/unplug Cable is working properly | Plug in/unplug Cable is working properly |  |
| "RAID Card" | Failover function (Secondary Hub EXP) | Plug in/unplug Cable is working properly | Plug in/unplug Cable is working properly |  |
| "RAID Card" | S.M.A.R.T. status verify | Check SMART error HDD if warning/alarm work properly | Check SMART error HDD if warning/alarm work properly |  |
| "RAID Card" | S.M.A.R.T. status verify | Check SMART error HDD if warning/alarm work properly | Check SMART error HDD if warning/alarm work properly |  |
| 4.3 "RAID Card" with SATA 6G HDD Config | 4.3 "RAID Card" with SATA 6G HDD Config | 4.3 "RAID Card" with SATA 6G HDD Config | 4.3 "RAID Card" with SATA 6G HDD Config | 4.3 "RAID Card" with SATA 6G HDD Config |
| SATA 6G configuration | SATA 6G configuration | SATA 6G configuration | SATA 6G configuration | SATA 6G configuration |
| RAID Function | Test Procedure | Criteria | Criteria | Result |
| "RAID Card" | Create a RAID 0 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 1 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 5 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 6 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 00 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 10 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 50 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Create a RAID 60 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 0 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 1 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 5 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 6 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 00 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 10 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 50 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Remove a RAID 60 volume | The RAID function can work properly. | The RAID function can work properly. |  |
| "RAID Card" | Rebuild a RAID 1 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 5 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 6 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 10 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 50 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Rebuild a RAID 60 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 0 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 1 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 5 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 6 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 00 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 10 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 50 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Full initialization a RAID 60 volume | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | The RAID function can work properly.  Check Item: GUI: 1. Fan Status 2. Temp Status  CLI:(read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| "RAID Card" | Failover function (Primary Hub EXP) | Plug in/unplug Cable is working properly | Plug in/unplug Cable is working properly |  |
| "RAID Card" | Failover function (Secondary Hub EXP) | Plug in/unplug Cable is working properly | Plug in/unplug Cable is working properly |  |
| "RAID Card" | S.M.A.R.T. status verify | Check SMART error HDD if warning/alarm work properly | Check SMART error HDD if warning/alarm work properly |  |
| "RAID Card" | S.M.A.R.T. status verify | Check SMART error HDD if warning/alarm work properly | Check SMART error HDD if warning/alarm work properly |  |

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| 5. HBA Card Test | 5. HBA Card Test | 5. HBA Card Test | 5. HBA Card Test | 5. HBA Card Test |
| HBA Card | Driver |  |  |  |
| Power Housing |  |  |  |  |
| Power Module |  |  |  |  |
| 5.1 "HBA Card" with SAS 12G HDD Config | 5.1 "HBA Card" with SAS 12G HDD Config | 5.1 "HBA Card" with SAS 12G HDD Config | 5.1 "HBA Card" with SAS 12G HDD Config | 5.1 "HBA Card" with SAS 12G HDD Config |
| SAS 12G configuration | SAS 12G configuration | SAS 12G configuration | SAS 12G configuration | SAS 12G configuration |
| HBA Function | Test Procedure | Criteria | Criteria | Result |
| "HBA Card" | Perform "HBA Card" BIOS utility to verify HDD information. | All hard drives can be detected by "HBA Card" BIOS utility. | All hard drives can be detected by "HBA Card" BIOS utility. |  |
| "HBA Card" | Perform Disk management of OS to verify HDD information. | All hard drives can be detected by OS Disk management. | All hard drives can be detected by OS Disk management. |  |
| "HBA Card" | After stress test verify enclosure information. | Check Item: (CLI read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | Check Item: (CLI read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| 5.2 "HBA Card" with SAS 6G HDD Config | 5.2 "HBA Card" with SAS 6G HDD Config | 5.2 "HBA Card" with SAS 6G HDD Config | 5.2 "HBA Card" with SAS 6G HDD Config | 5.2 "HBA Card" with SAS 6G HDD Config |
| SAS 6G configuration | SAS 6G configuration | SAS 6G configuration | SAS 6G configuration | SAS 6G configuration |
| HBA Function | Test Procedure | Criteria | Criteria | Result |
| "HBA Card" | Perform "HBA Card" BIOS utility to verify HDD information. | All hard drives can be detected by "HBA Card" BIOS utility. | All hard drives can be detected by "HBA Card" BIOS utility. |  |
| "HBA Card" | Perform Disk management of OS to verify HDD information. | All hard drives can be detected by OS Disk management. | All hard drives can be detected by OS Disk management. |  |
| "HBA Card" | After stress test verify enclosure information. | Check Item: (CLI read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | Check Item: (CLI read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |
| 5.3 "HBA Card" with SATA 6G HDD Config | 5.3 "HBA Card" with SATA 6G HDD Config | 5.3 "HBA Card" with SATA 6G HDD Config | 5.3 "HBA Card" with SATA 6G HDD Config | 5.3 "HBA Card" with SATA 6G HDD Config |
| SATA 6G configuration | SATA 6G configuration | SATA 6G configuration | SATA 6G configuration | SATA 6G configuration |
| HBA Function | Test Procedure | Criteria | Criteria | Result |
| "HBA Card" | Perform "HBA Card" BIOS utility to verify HDD information. | All hard drives can be detected by "HBA Card" BIOS utility. | All hard drives can be detected by "HBA Card" BIOS utility. |  |
| "HBA Card" | Perform Disk management of OS to verify HDD information. | All hard drives can be detected by OS Disk management. | All hard drives can be detected by OS Disk management. |  |
| "HBA Card" | After stress test verify enclosure information. | Check Item: (CLI read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 | Check Item: (CLI read) 1. sg\_ses --page=0x2 2. sg\_ses --page=0x7 |  |

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| 6. BMC Function Test | 6. BMC Function Test | 6. BMC Function Test |
| Item | Vendor / Model | Detail |
| Web Browser |  |  |
| Web Browser |  |  |

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| --- | --- | --- |
| 6.1 Feature (by RR6 code base) | 6.1 Feature (by RR6 code base) | 6.1 Feature (by RR6 code base) |
| NO. | Test Items | Result |
| 1 | BMC WEB UI Login function check / mis-operation check |  |
| 2 | Forgot Password function check / mis-operation check |  |
| 3 | Device Information check (FW name/version) |  |
| 4 | Network Information check |  |
| 5 | Basic IOL connection check |  |
| 6 | Basic SOL connection check |  |
| 7 | Check sensors name accuracy |  |
| 8 | Check webpage logo(AIC) |  |
| 10 | FRU data Accuracy check |  |
| 12 | Hard Disk Manager: SAS-12G HDD Config, 30 times power on/off by primary BMC |  |
| 13 | Hard Disk Manager: SAS-12G HDD Config, 30 times power on/off by secondary BMC |  |
| 14 | Hard Disk Manager: SAS - 6G HDD Config, 30 times power on/off by primary BMC |  |
| 15 | Hard Disk Manager: SAS - 6G HDD Config, 30 times power on/off by secondary BMC |  |
| 16 | Hard Disk Manager: SATA-6G HDD Config, 10 times power on/off by primary BMC |  |
| 17 | Hard Disk Manager LED are Green status |  |
| 18 | Hard Disk Manager LED are Gray status |  |
| 19 | Hard Disk Manager LED are red status |  |
| 20 | Hard Disk Manager LED are blue status |  |
| 21 | BMC Card Fail LED be turn on by Fan\_0 |  |
| 22 | BMC Card Fail LED be turn off by Fan\_0 |  |
| 23 | BMC Card Fail LED be turn on by Fan\_1 |  |
| 24 | BMC Card Fail LED be turn off by Fan\_1 |  |
| 25 | BMC Card Fail LED be turn on by Temp0 |  |
| 26 | BMC Card Fail LED be turn off by Temp0 |  |
| 27 | BMC Card Fail LED be turn on by Temp1 |  |
| 28 | BMC Card Fail LED be turn off by Temp1 |  |
| 29 | BMC Card Fail LED be turn on by PSU1temp |  |
| 30 | BMC Card Fail LED be turn off by PSU1temp |  |
| 31 | BMC Card Fail LED be turn on by PSU2temp |  |
| 32 | BMC Card Fail LED be turn on by PSUt2emp |  |
| 33 | Fan\_0 sensor reading / Abnormal check |  |
| 34 | Fan\_1 sensor reading / Abnormal check |  |
| 35 | Temp0 sensor reading / Abnormal check |  |
| 36 | Temp1 sensor reading / Abnormal check |  |
| 37 | PSU1\_status sensor reading / Abnormal check |  |
| 38 | PSU2\_status sensor reading / Abnormal check |  |
| 39 | PS\_Watt sensor reading / Abnormal check |  |
| 40 | PSU1\_temp sensor reading / Abnormal check |  |
| 41 | PSU2\_temp sensor reading / Abnormal check |  |
| 42 | Watchdog1 sensor reading / Abnormal check |  |
| 43 | BMC SEL event log be record by Fan\_0 |  |
| 44 | BMC SEL event log be record by Fan\_1 |  |
| 46 | BMC SEL event log be record by Temp0 |  |
| 46 | BMC SEL event log be record by Temp1 |  |
| 47 | BMC SEL event log be record by PSU1\_status |  |
| 48 | BMC SEL event log be record by PSU2\_status |  |
| 49 | BMC SEL event log be record by PSUtemp1 |  |
| 50 | BMC SEL event log be record by PSUtemp2 |  |
| 51 | PS1\_Fan Fail SDR value |  |
| 52 | PS1\_Un-Present SDR value |  |
| 53 | PS2\_Fan Fail SDR value |  |
| 54 | PS2\_Un-Present SDR value |  |
| 55 | PS1\_Fan event check |  |
| 56 | PS1\_Present event check |  |
| 57 | PS2\_Fan event check |  |
| 58 | PS2\_Present event check |  |
| 59 | PS1\_Fan Power Fault LED(ON) (Red & Buzzer) |  |
| 60 | PS1\_Fan Power Fault LED(OFF) |  |
| 61 | PS2\_Fan Power Fault LED(ON) (Red & Buzzer) |  |
| 62 | PS2\_Fan Power Fault LED(OFF) |  |
| 63 | PS1\_ Present Fault LED(ON) (Red & Buzzer) |  |
| 64 | PS1\_ Present Fault LED(OFF) |  |
| 65 | PS2\_ Present Fault LED(ON) (Red & Buzzer) |  |
| 66 | PS2\_ Present Fault LED(OFF) |  |
| 67 | Fan0 Fail 30 times event check |  |
| 68 | Fan1 Fail 30 times event check |  |
| 69 | Check Temp0 threshold 30 times and event check |  |
| 70 | Check Temp1 threshold 30 times and event check |  |
| 71 | PS1\_Fan Fail 30 times event check |  |
| 72 | PS2\_Fan Fail 30 times event check |  |
| 73 | PS1\_Present Fail 30 times event check |  |
| 74 | PS2\_Present Fail 30 times event check |  |
| 75 | DNS function check |  |
| 76 | BMC Network setting check |  |
| 77 | Network Link check |  |
| 78 | NTP setting check |  |
| 79 | PEF Management function check |  |
| 80 | SMTP setting check |  |
| 81 | Schedule setting check |  |
| 82 | User Add/Remove/Modify setting check |  |
| 83 | Master BMC DC power Cycling and check HDD quantities for 30 times |  |
| 84 | Secondary BMC DC power Cycling and check HDD quantities for 30 times |  |
| 85 | Master BMC Reset Expander and check HDD quantities for 30 times |  |
| 86 | Secondary BMC Reset Expander and check HDD quantities for 30 times |  |
| 87 | Master BMC Power on storage and check HDD quantities for 30 times |  |
| 88 | Secondary BMC Power on storage and check HDD quantities for 30 times |  |
| 89 | Master BMC Power off storage and check HDD quantities for 30 times |  |
| 90 | Secondary BMC Power off storage and check HDD quantities for 30 times |  |
| 91 | JAVA SOL Function check |  |
| 92 | Print function check |  |
| 93 | Logout function check |  |
| 94 | Refresh function check |  |
| 95 | User login name check / Abnormal check |  |
| 96 | Help function check |  |
| 97 | BMC Firmware update function check / Abnormal check |  |
| 98 | Expander Firmware update function check / Abnormal check |  |
| 99 | Protocol Configuration function check |  |
| 100 | Master Hub card hot plug test 30 times |  |
| 101 | Secondary Hub card hot plug test 30 times |  |
| 102 | Remote Control > ZONE Settings function check |  |
| 103 | Expander update foolproof function on web / Abnormal check |  |
| 104 | HDD status page did refresh after the operation |  |
| 105 | Preserve configuration function check / Abnormal check |  |
| 106 | Event log contains of BMC DHCP/Static IPv4 |  |

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| 6.2 Feature (by RR12 code base) | 6.2 Feature (by RR12 code base) | 6.2 Feature (by RR12 code base) |
| NO. | Test Items | Result |
| 6.2.1 Login Page function check | 6.2.1 Login Page function check | 6.2.1 Login Page function check |
| 1 | BMC WEB UI Login function check / mis-operation check |  |
| 2 | Forgot Password function check / mis-operation check |  |
| 3 | Check webpage logo (AIC) |  |
| 6.2.2 Dashboard function check | 6.2.2 Dashboard function check | 6.2.2 Dashboard function check |
| 4 | Login US English |  |
| 5 | Login China-中文(简体) |  |
| 6 | Login China-中文(正體) |  |
| 7 | BMC Firmware Information |  |
| 8 | Shrink edge |  |
| 9 | Display the messages received |  |
| 10 | Display the notification received |  |
| 11 | Language |  |
| 12 | Sync |  |
| 13 | Refresh |  |
| 14 | Profile |  |
| 15 | Sign out |  |
| 16 | Help Button |  |
| 14 | Profile |  |
| 15 | Sign out |  |
| 16 | Help Button |  |
| 6.2.3 Sensor function check | 6.2.3 Sensor function check | 6.2.3 Sensor function check |
| 17 | Critical Sensors |  |
| 18 | Discrete Sensor States |  |
| 19 | Normal Sensors |  |
| 20 | Help Button |  |
| 6.2.4 FRU & PSU info check | 6.2.4 FRU & PSU info check | 6.2.4 FRU & PSU info check |
| 21 | FRU info check |  |
| 22 | Help Button |  |
| 23 | FRU info check |  |
| 24 | Help Button |  |
| 6.2.5 Logs & Reports function check | 6.2.5 Logs & Reports function check | 6.2.5 Logs & Reports function check |
| 25 | IPMI Event log |  |
| 26 | Audit log |  |
| 27 | Help Button |  |
| 6.2.6 Setting function check | 6.2.6 Setting function check | 6.2.6 Setting function check |
| 28 | Data & Time |  |
| 29 | Log Setting |  |
| 30 | Network Settings |  |
| 31 | Platform Event Filter |  |
| 32 | Services |  |
| 33 | SMTP Setting |  |
| 34 | System Firewall |  |
| 35 | User Management |  |
| 36 | Power Restore Policy |  |
| 37 | Help Button |  |
| 6.2.8 Remote Control function check | 6.2.8 Remote Control function check | 6.2.8 Remote Control function check |
| 38 | Serial Over LAN |  |
| 39 | Help Button |  |
| 6.2.9 Chassis Identify function check | 6.2.9 Chassis Identify function check | 6.2.9 Chassis Identify function check |
| 40 | Chassis Identify Off |  |
| 41 | Chassis Identify On |  |
| 42 | Help Button |  |
| 6.2.10 HDD Management function check | 6.2.10 HDD Management function check | 6.2.10 HDD Management function check |
| 43 | HDD Power On |  |
| 44 | HDD Power Off |  |
| 45 | HDD Status is Normal, Color is Green |  |
| 46 | HDD Status is Abnormal, Color is Red |  |
| 47 | HDD Status is Not support, Color is Orange |  |
| 48 | HDD Status is Absence, Color is Gray |  |
| 49 | HDD Status is Presence/power off, Color is Light Blue |  |
| 50 | HDD Status is Bad HDD, Color is Purple |  |
| 51 | Help Button |  |
| 6.2.11 Power Control function check | 6.2.11 Power Control function check | 6.2.11 Power Control function check |
| 53 | Power Off |  |
| 54 | Power On |  |
| 55 | Power Cycle |  |
| 56 | Hard Reset |  |
| 57 | Help Button |  |
| 6.2.12 Maintenance function check | 6.2.12 Maintenance function check | 6.2.12 Maintenance function check |
| 58 | Backup Configuration |  |
| 59 | Firmware Image Location |  |
| 60 | BMC Firmware Information |  |
| 61 | BMC Firmware Update |  |
| 62 | Preserve Configuration |  |
| 63 | Restore Configuration |  |
| 64 | Restore Factory Defaults |  |
| 65 | System Administrator |  |
| 66 | Expander Update |  |
| 67 | CPLD Firmware Update |  |
| 68 | BMC Reset |  |
| 69 | Sign Out |  |
| 70 | Help Button |  |
| 6.2.13 Expander BMC Console | 6.2.13 Expander BMC Console | 6.2.13 Expander BMC Console |
| 71 | BMC Console function check |  |

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| 6.3 Redfish | 6.3 Redfish | 6.3 Redfish | 6.3 Redfish | 6.3 Redfish |
| Item | Item | Vender / Model | Detail | Detail |
| RESTful interface | RESTful interface | Postman | v8.6.1 | v8.6.1 |
| NO. | Test Items | Test Items | Test Items | Result |
| NO. | NO. | Test Items | Result | Result |
| 6.3.1 AccountService | 6.3.1 AccountService | 6.3.1 AccountService | 6.3.1 AccountService | 6.3.1 AccountService |
| 1 | [PATCH] Change Password | [PATCH] Change Password | [PATCH] Change Password |  |
| 2 | [GET] Account 1 instance | [GET] Account 1 instance | [GET] Account 1 instance |  |
| 6.3.2 Chassis | 6.3.2 Chassis | 6.3.2 Chassis | 6.3.2 Chassis | 6.3.2 Chassis |
| 3 | [GET] Chassis collection | [GET] Chassis collection | [GET] Chassis collection |  |
| 4 | [GET] Chassis self | [GET] Chassis self | [GET] Chassis self |  |
| 5 | [GET] Sensor Reading | [GET] Sensor Reading | [GET] Sensor Reading |  |
| 6 | [GET] Sensor Power | [GET] Sensor Power | [GET] Sensor Power |  |
| 7 | [POST] Chassis Power On | [POST] Chassis Power On | [POST] Chassis Power On |  |
| 8 | [PATCH] Blink ID LED | [PATCH] Blink ID LED | [PATCH] Blink ID LED |  |
| 6.3.3 Chassis/Expander | 6.3.3 Chassis/Expander | 6.3.3 Chassis/Expander | 6.3.3 Chassis/Expander | 6.3.3 Chassis/Expander |
| 9 | [GET] Expander Instance | [GET] Expander Instance | [GET] Expander Instance |  |
| 10 | [POST] HDD Control | [POST] HDD Control | [POST] HDD Control |  |
| 11 | [GET] HDD Control ActionInfo | [GET] HDD Control ActionInfo | [GET] HDD Control ActionInfo |  |
| 6.3.4 Systems | 6.3.4 Systems | 6.3.4 Systems | 6.3.4 Systems | 6.3.4 Systems |
| 12 | [GET] System Self | [GET] System Self | [GET] System Self |  |
| 13 | [POST] System Power On | [POST] System Power On | [POST] System Power On |  |
| 14 | [POST] System Power Off | [POST] System Power Off | [POST] System Power Off |  |
| 15 | [PATCH] Blink ID LED | [PATCH] Blink ID LED | [PATCH] Blink ID LED |  |
| 16 | [PATCH] Power restore policy | [PATCH] Power restore policy | [PATCH] Power restore policy |  |
| 6.3.5 Managers | 6.3.5 Managers | 6.3.5 Managers | 6.3.5 Managers | 6.3.5 Managers |
| 17 | [GET] Managers Self | [GET] Managers Self | [GET] Managers Self |  |
| 18 | [GET] Managers LogServices | [GET] Managers LogServices | [GET] Managers LogServices |  |
| 19 | [GET] LogServices SEL | [GET] LogServices SEL | [GET] LogServices SEL |  |
| 20 | [GET] SEL Entries | [GET] SEL Entries | [GET] SEL Entries |  |
| 21 | [GET] Managers Serial Interfaces | [GET] Managers Serial Interfaces | [GET] Managers Serial Interfaces |  |
| 22 | [GET] Managers Network Protocol | [GET] Managers Network Protocol | [GET] Managers Network Protocol |  |
| 23 | [GET] Managers Ethernet Interfaces | [GET] Managers Ethernet Interfaces | [GET] Managers Ethernet Interfaces |  |
| 6.3.6 JsonSchemas | 6.3.6 JsonSchemas | 6.3.6 JsonSchemas | 6.3.6 JsonSchemas | 6.3.6 JsonSchemas |
| 24 | [GET] Json Schema | [GET] Json Schema | [GET] Json Schema |  |
| 6.3.7 UpdateService | 6.3.7 UpdateService | 6.3.7 UpdateService | 6.3.7 UpdateService | 6.3.7 UpdateService |
| 25 | [POST] Simple Update BMC Fw via HTTP | [POST] Simple Update BMC Fw via HTTP | [POST] Simple Update BMC Fw via HTTP |  |
| 26 | [POST] Upload BMC Firmware | [POST] Upload BMC Firmware | [POST] Upload BMC Firmware |  |
| 27 | [POST] BMC Fw Update with Full type | [POST] BMC Fw Update with Full type | [POST] BMC Fw Update with Full type |  |
| 28 | [GET] BMC Fw Update ActionInfo | [GET] BMC Fw Update ActionInfo | [GET] BMC Fw Update ActionInfo |  |

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| --- | --- | --- |
| 7. Power Consumption Measurement | 7. Power Consumption Measurement | 7. Power Consumption Measurement |
| Power Housing |  |  |
| Power Module |  |  |
| AC Input (V/f/A) | 100-127V, 50/60HZ, 10.0A | 100-127V, 50/60HZ, 10.0A |
| DC Output (V/A) | +12.0V---66.7A +12Vsb---3.0A | +12.0V---66.7A +12Vsb---3.0A |
| Total Output Power (max.) |  |  |
| Test Equipment | DC Source | DC Source |
| Stress Tools | IOMeter Configurations: Random Read/Write: Test Time: xx minute Transfer Request Size(Bytes): Outstanding I/O: | IOMeter Configurations: Random Read/Write: Test Time: xx minute Transfer Request Size(Bytes): Outstanding I/O: |
| 7.1 JBOD Power Consumption Measure for SAS HDD | 7.1 JBOD Power Consumption Measure for SAS HDD | 7.1 JBOD Power Consumption Measure for SAS HDD |
| Test Mode | PSU Module of Q'ty | W (Watt) |
| Boot Up Mode (Max.) | Module\*2 | 961.4 |
| Boot Up Mode (Max.) | Module\*1(L) | 954.8 |
| Boot Up Mode (Max.) | Module\*1(R) | 873.4 |
| Idle Mode | Module\*2 | 776.6 |
| Idle Mode | Module\*1(L) | 770 |
| Idle Mode | Module\*1(R) | 772.2 |
| Full Loading Mode: Iometer(Read 100%) | Module\*2 | 941.6 |
| Full Loading Mode: Iometer(Read 100%) | Module\*1(L) | 946 |
| Full Loading Mode: Iometer(Read 100%) | Module\*1(R) | 948.2 |
| Full Loading Mode: Iometer(Write 100%) | Module\*2 | 858 |
| Full Loading Mode: Iometer(Write 100%) | Module\*1(L) | 858 |
| Full Loading Mode: Iometer(Write 100%) | Module\*1(R) | 855.8 |
| Without HDD/SSD Devices | Module\*2 | 281.6 |
| Without HDD/SSD Devices | Module\*1(L) | 275 |
| Without HDD/SSD Devices | Module\*1(R) | 275 |

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| --- | --- | --- |
| 8. Summary | 8. Summary | 8. Summary |
| Item | Descriptions | Result |
| Redundant Power Module | Hot-swap PSU under 'power on' state, check fail LED, beeper, and console status that can work properly. |  |
| Redundant Power Module | Power cord interrupt, check fail led, beeper, and console status that can work properly. |  |
| Redundant Power Module | PSU status under GUI that can work properly. |  |
| Redundant Power Module | PSU status under console that can work properly. |  |
| System Fan | Remove the fan ten times, check fail led, GUI, and console status that can work properly. |  |
| System Fan | Fan status under GUI that can work properly. |  |
| System Fan | Fan status under console that can work properly. |  |
| System Fan | For Smart Fan feature, if temperature upgrade, the rotational speed of fan was increased (depend on spec.) that can work properly. |  |
| Expander | Check PHY state and negotiated link speed; confirm the PHY contents with actual HDD configuration are correct. |  |
| Expander | Up connector is correct with substrate type. |  |
| Expander | Down connectors were correct with table type. |  |
| Burn-in Test | Adjust conf. to 100% read (in Iometer); the function can work properly after burn-in test. |  |
| Burn-in Test | Adjust conf. to 100% write (in Iometer); the function can work properly after burn-in test. |  |
| LED Function | Power LED blue, support enclosure ID that can display as spec. defined. |  |
| LED Function | PSU alarm LED that can display as spec. defined. |  |
| LED Function | Temperature LED Red, that can display as spec. defined. |  |
| LED Function | FAN failed LED Red that can display as spec. defined. |  |
| LED Function | HDD failed LED that can display as spec. defined. |  |
| LED Function | HDD accessed LED that can display as spec. defined. |  |
| LED Function | System Fail LED Red, that can display as spec. defined. |  |
| Mute Button | Hot swap the power module ten times (Redundant) and warning sound can be stopped by mute button. |  |
| Mute Button | Hot swap the fan module ten times, and warning sound can be stopped by mute button. |  |
| Mute Button | Temperature was detected over default alarm value (over 55 degrees centigrade), and warning sound can be stopped by mute button. |  |
| Firmware Upgrade | Upgrade via debug port, it can be done successfully. |  |
| Firmware Upgrade | Upgrade via console port, it can be done successfully. |  |
| Temperature Sensor | T1, T2, warning, Alarm value configuration setting, that statuses are showing normally. |  |
| Temperature Sensor | Temperature detected status under GUI that statuses are showing normally. |  |
| Temperature Sensor | Temperature detected status under HyperTerminal that statuses are showing normally. |  |
| Temperature Sensor | Break through alarm value, then the fail led will light up, that statuses are showing normally. |  |
| Temperature Sensor | Break through alarm value, RPM of fan is the highest, that statuses are showing normally. |  |
| SES Lighting Signal | Request OK |  |
| SES Lighting Signal | Request RSVD device |  |
| SES Lighting Signal | Request hot spare |  |
| SES Lighting Signal | Request consistency check |  |
| SES Lighting Signal | Request in critical array |  |
| SES Lighting Signal | Request in failed array |  |
| SES Lighting Signal | Request rebuild/ remap |  |
| SES Lighting Signal | Request rebuild/ remap aborted |  |
| SES Lighting Signal | Request active |  |
| SES Lighting Signal | Request do not remove |  |
| SES Lighting Signal | Request device missing indication |  |
| SES Lighting Signal | Request insert |  |
| SES Lighting Signal | Request removal |  |
| SES Lighting Signal | Request identify |  |
| SES Lighting Signal | Request fault indication |  |
| SES Lighting Signal | Request device off |  |
| SES Lighting Signal | Request Canister |  |
| SES Lighting Signal | Request Power supply off |  |
| SES Lighting Signal | Request PRD fail |  |
| JBOD Remote | Use sg\_utils to shutdown UUT under Linux that function can work properly. |  |
| JBOD Remote | Remote JBOD power on that function can work properly. |  |
| JBOD Remote | Remote JBOD power off, that function can work properly. |  |
| Shake Test | Bend the SFF-8644 cable that the PHY status is showing normally. |  |
| Shake Test | Shaking cable around the SFF-8644 junction that the PHY status is showing normally. |  |
| HDD Hot-swap | Plug-in HDD that JBOD function can work properly. |  |
| HDD Hot-swap | Remove HDD that JBOD function can work properly. |  |
| External 8644 Hot-swap | Plug-in external 8644 that JBOD function can work properly. |  |
| External 8644 Hot-swap | Remove external 8644 that JBOD function can work properly. |  |
| Expander hot-swap | Plug-in Expander that JBOD function can work properly. |  |
| Expander hot-swap | Remove Expander that JBOD function can work properly. |  |
| AC/DC Power cycling | Power on/off by AC power core (plug-in/removed), that JBOD function can work properly. |  |
| AC/DC Power cycling | Power on/off by power button, that JBOD function can work properly. |  |
| SAS Zoning | Group8 and Group9 were run independently. |  |
| SAS Zoning | Group1 can detect Group8 and Group9. |  |
| SAS Zoning | All HDD of Group8 could build RAID and run Iometer properly. |  |
| SAS Zoning | And all HDD of Group9 could build RAID and run Iometer properly. |  |
| JBOD Cascade | Check substrate table and Diameter for 12 hrs. without error. |  |
| Manually PWM | Check PWM % can be changed and FAN rpm will speed up or low down by manual setting that can work properly. |  |
| MPIO | Single HBA Card |  |
| MPIO | Dual HBA Card |  |
| DD command stress JBOD | Stress JBOD without any CDB or error. |  |
| diag\_drive\_led | The "diag\_drive\_led" function can work properly. |  |
| sas\_standby\_timer | The power saving function can work properly. |  |
| Check\_wide\_port on /off /standby | The power saving function can work properly. |  |
| serial number and enclosure number | The function of CLI serial number and enclosure number can work properly. |  |
| enclosure addr | The function of CLI enclosure addr function can work properly. |  |
| sensor | The function of CLI sensor can work properly. |  |
| AT Switch test : by power cord | The function of "power\_setting keep\_on" can work properly. |  |
| AT Switch test : by power cord | The function of "power\_setting keep\_off" can work properly. |  |
| AT Switch test : by power cord | The function of "power\_setting keep\_last\_state" can work properly. |  |
| AT Switch test : by front power SW | The function of "power\_setting keep\_on" can work properly. |  |
| AT Switch test : by front power SW | The function of "power\_setting keep\_off" can work properly. |  |
| AT Switch test : by front power SW | The function of "power\_setting keep\_last\_state" can work properly. |  |
| RAID Card Test | "RAID Card" with SAS 12G HDD Config |  |
| RAID Card Test | "RAID Card" with SAS 6G HDD Config |  |
| RAID Card Test | "RAID Card" with SATA 6G HDD Config |  |
| HBA Card Test | "HBA Card" with SAS 12G HDD Config |  |
| HBA Card Test | "HBA Card" with SAS 6G HDD Config |  |
| HBA Card Test | "HBA Card" with SATA 6G HDD Config |  |
| BMC Feature (by RR6 code base) | BMC WEB UI Login function check / mis-operation check |  |
| BMC Feature (by RR6 code base) | Forgot Password function check / mis-operation check |  |
| BMC Feature (by RR6 code base) | Device Information check (FW name/version) |  |
| BMC Feature (by RR6 code base) | Network Information check |  |
| BMC Feature (by RR6 code base) | Basic IOL connection check |  |
| BMC Feature (by RR6 code base) | Basic SOL connection check |  |
| BMC Feature (by RR6 code base) | Check sensors name accuracy |  |
| BMC Feature (by RR6 code base) | Check webpage logo(AIC) |  |
| BMC Feature (by RR6 code base) | FRU data Accuracy check |  |
| BMC Feature (by RR6 code base) | Hard Disk Manager: |  |
| BMC Feature (by RR6 code base) | SAS-12G HDD Config, 30 times power on/off by primary BMC |  |
| BMC Feature (by RR6 code base) | Hard Disk Manager: |  |
| BMC Feature (by RR6 code base) | SAS-12G HDD Config, 30 times power on/off by secondary BMC |  |
| BMC Feature (by RR6 code base) | Hard Disk Manager: |  |
| BMC Feature (by RR6 code base) | SAS - 6G HDD Config, 30 times power on/off by primary BMC |  |
| BMC Feature (by RR6 code base) | Hard Disk Manager: |  |
| BMC Feature (by RR6 code base) | SAS - 6G HDD Config, 30 times power on/off by secondary BMC |  |
| BMC Feature (by RR6 code base) | Hard Disk Manager: |  |
| BMC Feature (by RR6 code base) | SATA-6G HDD Config, 10 times power on/off by primary BMC |  |
| BMC Feature (by RR6 code base) | Hard Disk Manager LED are Green status |  |
| BMC Feature (by RR6 code base) | Hard Disk Manager LED are Gray status |  |
| BMC Feature (by RR6 code base) | Hard Disk Manager LED are red status |  |
| BMC Feature (by RR6 code base) | Hard Disk Manager LED are blue status |  |
| BMC Feature (by RR6 code base) | BMC Card Fail LED be turn on by Fan\_0 |  |
| BMC Feature (by RR6 code base) | BMC Card Fail LED be turn off by Fan\_0 |  |
| BMC Feature (by RR6 code base) | BMC Card Fail LED be turn on by Fan\_1 |  |
| BMC Feature (by RR6 code base) | BMC Card Fail LED be turn off by Fan\_1 |  |
| BMC Feature (by RR6 code base) | BMC Card Fail LED be turn on by Temp0 |  |
| BMC Feature (by RR6 code base) | BMC Card Fail LED be turn off by Temp0 |  |
| BMC Feature (by RR6 code base) | BMC Card Fail LED be turn on by Temp1 |  |
| BMC Feature (by RR6 code base) | BMC Card Fail LED be turn off by Temp1 |  |
| BMC Feature (by RR6 code base) | BMC Card Fail LED be turn on by PSU1temp |  |
| BMC Feature (by RR6 code base) | BMC Card Fail LED be turn off by PSU1temp |  |
| BMC Feature (by RR6 code base) | BMC Card Fail LED be turn on by PSU2temp |  |
| BMC Feature (by RR6 code base) | BMC Card Fail LED be turn on by PSUt2emp |  |
| BMC Feature (by RR6 code base) | Fan\_0 sensor reading / Abnormal check |  |
| BMC Feature (by RR6 code base) | Fan\_1 sensor reading / Abnormal check |  |
| BMC Feature (by RR6 code base) | Temp0 sensor reading / Abnormal check |  |
| BMC Feature (by RR6 code base) | Temp1 sensor reading / Abnormal check |  |
| BMC Feature (by RR6 code base) | PSU1\_status sensor reading / Abnormal check |  |
| BMC Feature (by RR6 code base) | PSU2\_status sensor reading / Abnormal check |  |
| BMC Feature (by RR6 code base) | PS\_Watt sensor reading / Abnormal check |  |
| BMC Feature (by RR6 code base) | PSU1\_temp sensor reading / Abnormal check |  |
| BMC Feature (by RR6 code base) | PSU2\_temp sensor reading / Abnormal check |  |
| BMC Feature (by RR6 code base) | Watchdog1 sensor reading / Abnormal check |  |
| BMC Feature (by RR6 code base) | BMC SEL event log be record by Fan\_0 |  |
| BMC Feature (by RR6 code base) | BMC SEL event log be record by Fan\_1 |  |
| BMC Feature (by RR6 code base) | BMC SEL event log be record by Temp0 |  |
| BMC Feature (by RR6 code base) | BMC SEL event log be record by Temp1 |  |
| BMC Feature (by RR6 code base) | BMC SEL event log be record by PSU1\_status |  |
| BMC Feature (by RR6 code base) | BMC SEL event log be record by PSU2\_status |  |
| BMC Feature (by RR6 code base) | BMC SEL event log be record by PSUtemp1 |  |
| BMC Feature (by RR6 code base) | BMC SEL event log be record by PSUtemp2 |  |
| BMC Feature (by RR6 code base) | PS1\_Fan Fail SDR value |  |
| BMC Feature (by RR6 code base) | PS1\_Un-Present SDR value |  |
| BMC Feature (by RR6 code base) | PS2\_Fan Fail SDR value |  |
| BMC Feature (by RR6 code base) | PS2\_Un-Present SDR value |  |
| BMC Feature (by RR6 code base) | PS1\_Fan event check |  |
| BMC Feature (by RR6 code base) | PS1\_Present event check |  |
| BMC Feature (by RR6 code base) | PS2\_Fan event check |  |
| BMC Feature (by RR6 code base) | PS2\_Present event check |  |
| BMC Feature (by RR6 code base) | PS1\_Fan Power Fault LED(ON) (Red & Buzzer) |  |
| BMC Feature (by RR6 code base) | PS1\_Fan Power Fault LED(OFF) |  |
| BMC Feature (by RR6 code base) | PS2\_Fan Power Fault LED(ON) (Red & Buzzer) |  |
| BMC Feature (by RR6 code base) | PS2\_Fan Power Fault LED(OFF) |  |
| BMC Feature (by RR6 code base) | PS1\_ Present Fault LED(ON) (Red & Buzzer) |  |
| BMC Feature (by RR6 code base) | PS1\_ Present Fault LED(OFF) |  |
| BMC Feature (by RR6 code base) | PS2\_ Present Fault LED(ON) (Red & Buzzer) |  |
| BMC Feature (by RR6 code base) | PS2\_ Present Fault LED(OFF) |  |
| BMC Feature (by RR6 code base) | Fan0 Fail 30 times event check |  |
| BMC Feature (by RR6 code base) | Fan1 Fail 30 times event check |  |
| BMC Feature (by RR6 code base) | Check Temp0 threshold 30 times and event check |  |
| BMC Feature (by RR6 code base) | Check Temp1 threshold 30 times and event check |  |
| BMC Feature (by RR6 code base) | PS1\_Fan Fail 30 times event check |  |
| BMC Feature (by RR6 code base) | PS2\_Fan Fail 30 times event check |  |
| BMC Feature (by RR6 code base) | PS1\_Present Fail 30 times event check |  |
| BMC Feature (by RR6 code base) | PS2\_Present Fail 30 times event check |  |
| BMC Feature (by RR6 code base) | DNS function check |  |
| BMC Feature (by RR6 code base) | BMC Network setting check |  |
| BMC Feature (by RR6 code base) | Network Link check |  |
| BMC Feature (by RR6 code base) | NTP setting check |  |
| BMC Feature (by RR6 code base) | PEF Management function check |  |
| BMC Feature (by RR6 code base) | SMTP setting check |  |
| BMC Feature (by RR6 code base) | Schedule setting check |  |
| BMC Feature (by RR6 code base) | User Add/Remove/Modify setting check |  |
| BMC Feature (by RR6 code base) | Master BMC DC power Cycling and check HDD quantities for 30 times |  |
| BMC Feature (by RR6 code base) | Secondary BMC DC power Cycling and check HDD quantities for 30 times |  |
| BMC Feature (by RR6 code base) | Master BMC Reset Expander and check HDD quantities for 30 times |  |
| BMC Feature (by RR6 code base) | Secondary BMC Reset Expander and check HDD quantities for 30 times |  |
| BMC Feature (by RR6 code base) | Master BMC Power on storage and check HDD quantities for 30 times |  |
| BMC Feature (by RR6 code base) | Secondary BMC Power on storage and check HDD quantities for 30 times |  |
| BMC Feature (by RR6 code base) | Master BMC Power off storage and check HDD quantities for 30 times |  |
| BMC Feature (by RR6 code base) | Secondary BMC Power off storage and check HDD quantities for 30 times |  |
| BMC Feature (by RR6 code base) | JAVA SOL Function check |  |
| BMC Feature (by RR6 code base) | Print function check |  |
| BMC Feature (by RR6 code base) | Logout function check |  |
| BMC Feature (by RR6 code base) | Refresh function check |  |
| BMC Feature (by RR6 code base) | User login name check / Abnormal check |  |
| BMC Feature (by RR6 code base) | Help function check |  |
| BMC Feature (by RR6 code base) | BMC Firmware update function check / Abnormal check |  |
| BMC Feature (by RR6 code base) | Expander Firmware update function check / Abnormal check |  |
| BMC Feature (by RR6 code base) | Protocol Configuration function check |  |
| BMC Feature (by RR6 code base) | Master Hub card hot plug test 30 times |  |
| BMC Feature (by RR6 code base) | Secondary Hub card hot plug test 30 times |  |
| BMC Feature (by RR6 code base) | Remote Control > ZONE Settings function check |  |
| BMC Feature (by RR6 code base) | Expander update foolproof function on web / Abnormal check |  |
| BMC Feature (by RR6 code base) | HDD status page did refresh after the operation |  |
| BMC Feature (by RR6 code base) | Preserve configuration function check / Abnormal check |  |
| BMC Feature (by RR6 code base) | Event log contains of BMC DHCP/Static IPv4 |  |
| BMC Feature (by RR6 code base) | BMC WEB UI Login function check / mis-operation check |  |
| BMC Feature (by RR12 code base) | Login Page function check | Login Page function check |
| BMC Feature (by RR12 code base) | BMC WEB UI Login function check / mis-operation check |  |
| BMC Feature (by RR12 code base) | Forgot Password function check / mis-operation check |  |
| BMC Feature (by RR12 code base) | Check webpage logo (AIC) |  |
| BMC Feature (by RR12 code base) | Dashboard function check | Dashboard function check |
| BMC Feature (by RR12 code base) | Login US English |  |
| BMC Feature (by RR12 code base) | Login China-中文(简体) |  |
| BMC Feature (by RR12 code base) | Login China-中文(正體) |  |
| BMC Feature (by RR12 code base) | BMC Firmware Information |  |
| BMC Feature (by RR12 code base) | Shrink edge |  |
| BMC Feature (by RR12 code base) | Display the messages received |  |
| BMC Feature (by RR12 code base) | Display the notification received |  |
| BMC Feature (by RR12 code base) | Language |  |
| BMC Feature (by RR12 code base) | Sync |  |
| BMC Feature (by RR12 code base) | Refresh |  |
| BMC Feature (by RR12 code base) | Profile |  |
| BMC Feature (by RR12 code base) | Sign out |  |
| BMC Feature (by RR12 code base) | Help Button |  |
| BMC Feature (by RR12 code base) | Sensor function check | Sensor function check |
| BMC Feature (by RR12 code base) | Critical Sensors |  |
| BMC Feature (by RR12 code base) | Discrete Sensor States |  |
| BMC Feature (by RR12 code base) | Normal Sensors |  |
| BMC Feature (by RR12 code base) | Help Button |  |
| BMC Feature (by RR12 code base) | FRU & PSU info check | FRU & PSU info check |
| BMC Feature (by RR12 code base) | FRU info check |  |
| BMC Feature (by RR12 code base) | Help Button |  |
| BMC Feature (by RR12 code base) | FRU info check |  |
| BMC Feature (by RR12 code base) | Help Button |  |
| BMC Feature (by RR12 code base) | Logs & Reports function check | Logs & Reports function check |
| BMC Feature (by RR12 code base) | IPMI Event log |  |
| BMC Feature (by RR12 code base) | Audit log |  |
| BMC Feature (by RR12 code base) | Help Button |  |
| BMC Feature (by RR12 code base) | Setting function check | Setting function check |
| BMC Feature (by RR12 code base) | Data & Time |  |
| BMC Feature (by RR12 code base) | Log Setting |  |
| BMC Feature (by RR12 code base) | Network Settings |  |
| BMC Feature (by RR12 code base) | Platform Event Filter |  |
| BMC Feature (by RR12 code base) | Services |  |
| BMC Feature (by RR12 code base) | SMTP Setting |  |
| BMC Feature (by RR12 code base) | System Firewall |  |
| BMC Feature (by RR12 code base) | User Management |  |
| BMC Feature (by RR12 code base) | Power Restore Policy |  |
| BMC Feature (by RR12 code base) | Help Button |  |
| BMC Feature (by RR12 code base) | Remote Control function check | Remote Control function check |
| BMC Feature (by RR12 code base) | Serial Over LAN |  |
| BMC Feature (by RR12 code base) | Help Button |  |
| BMC Feature (by RR12 code base) | Chassis Identify function check | Chassis Identify function check |
| BMC Feature (by RR12 code base) | Chassis Identify Off |  |
| BMC Feature (by RR12 code base) | Chassis Identify On |  |
| BMC Feature (by RR12 code base) | Help Button |  |
| BMC Feature (by RR12 code base) | HDD Management function check | HDD Management function check |
| BMC Feature (by RR12 code base) | HDD Power On |  |
| BMC Feature (by RR12 code base) | HDD Power Off |  |
| BMC Feature (by RR12 code base) | HDD Status is Normal, Color is Green |  |
| BMC Feature (by RR12 code base) | HDD Status is Abnormal, Color is Red |  |
| BMC Feature (by RR12 code base) | HDD Status is Not support, Color is Orange |  |
| BMC Feature (by RR12 code base) | HDD Status is Absence, Color is Gray |  |
| BMC Feature (by RR12 code base) | HDD Status is Presence/power off, Color is Light Blue |  |
| BMC Feature (by RR12 code base) | HDD Status is Bad HDD, Color is Purple |  |
| BMC Feature (by RR12 code base) | Help Button |  |
| BMC Feature (by RR12 code base) | Power Control function check | Power Control function check |
| BMC Feature (by RR12 code base) | Power Off |  |
| BMC Feature (by RR12 code base) | Power On |  |
| BMC Feature (by RR12 code base) | Power Cycle |  |
| BMC Feature (by RR12 code base) | Hard Reset |  |
| BMC Feature (by RR12 code base) | Help Button |  |
| BMC Feature (by RR12 code base) | Maintenance function check | Maintenance function check |
| BMC Feature (by RR12 code base) | Backup Configuration |  |
| BMC Feature (by RR12 code base) | Firmware Image Location |  |
| BMC Feature (by RR12 code base) | BMC Firmware Information |  |
| BMC Feature (by RR12 code base) | BMC Firmware Update |  |
| BMC Feature (by RR12 code base) | Preserve Configuration |  |
| BMC Feature (by RR12 code base) | Restore Configuration |  |
| BMC Feature (by RR12 code base) | Restore Factory Defaults |  |
| BMC Feature (by RR12 code base) | System Administrator |  |
| BMC Feature (by RR12 code base) | Expander Update |  |
| BMC Feature (by RR12 code base) | CPLD Firmware Update |  |
| BMC Feature (by RR12 code base) | BMC Reset |  |
| BMC Feature (by RR12 code base) | Sign Out |  |
| BMC Feature (by RR12 code base) | Help Button |  |
| BMC Feature (by RR12 code base) | Expander BMC Console | Expander BMC Console |
| BMC Feature (by RR12 code base) | BMC Console function check |  |
| BMC Feature (by Redfish code base) | AccountService | AccountService |
| BMC Feature (by Redfish code base) | [PATCH] Change Password |  |
| BMC Feature (by Redfish code base) | [GET] Account 1 instance |  |
| BMC Feature (by Redfish code base) | Chassis | Chassis |
| BMC Feature (by Redfish code base) | [GET] Chassis collection |  |
| BMC Feature (by Redfish code base) | [GET] Chassis self |  |
| BMC Feature (by Redfish code base) | [GET] Sensor Reading |  |
| BMC Feature (by Redfish code base) | [GET] Sensor Power |  |
| BMC Feature (by Redfish code base) | [POST] Chassis Power On |  |
| BMC Feature (by Redfish code base) | [PATCH] Blink ID LED |  |
| BMC Feature (by Redfish code base) | Chassis/Expander | Chassis/Expander |
| BMC Feature (by Redfish code base) | [GET] Expander Instance |  |
| BMC Feature (by Redfish code base) | [POST] HDD Control |  |
| BMC Feature (by Redfish code base) | [GET] HDD Control ActionInfo |  |
| BMC Feature (by Redfish code base) | Systems | Systems |
| BMC Feature (by Redfish code base) | [GET] System Self |  |
| BMC Feature (by Redfish code base) | [POST] System Power On |  |
| BMC Feature (by Redfish code base) | [POST] System Power Off |  |
| BMC Feature (by Redfish code base) | [PATCH] Blink ID LED |  |
| BMC Feature (by Redfish code base) | [PATCH] Power restore policy |  |
| BMC Feature (by Redfish code base) | Managers | Managers |
| BMC Feature (by Redfish code base) | [GET] Managers Self |  |
| BMC Feature (by Redfish code base) | [GET] Managers LogServices |  |
| BMC Feature (by Redfish code base) | [GET] LogServices SEL |  |
| BMC Feature (by Redfish code base) | [GET] SEL Entries |  |
| BMC Feature (by Redfish code base) | [GET] Managers Serial Interfaces |  |
| BMC Feature (by Redfish code base) | [GET] Managers Network Protocol |  |
| BMC Feature (by Redfish code base) | [GET] Managers Ethernet Interfaces |  |
| BMC Feature (by Redfish code base) | JsonSchemas | JsonSchemas |
| BMC Feature (by Redfish code base) | [GET] Json Schema |  |
| BMC Feature (by Redfish code base) | UpdateService | UpdateService |
| BMC Feature (by Redfish code base) | [POST] Simple Update BMC Fw via HTTP |  |
| BMC Feature (by Redfish code base) | [POST] Upload BMC Firmware |  |
| BMC Feature (by Redfish code base) | [POST] BMC Fw Update with Full type |  |
| BMC Feature (by Redfish code base) | [GET] BMC Fw Update ActionInfo |  |
| Power Consumption | Refer to “Power Consumption Measurement” section | -- |