${ProductName}产品验收测试记录表(${ProductSeq})

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 序号 | 测试或检查项目 | 合格判据 | 实测值 | 结论 |
| 1 | 工作频率（MHz） | ${Yq\_Frange} | ${Frange} | ${Frange\_rs} |
| 2 | 射频输入功率（dBm） | ${Yq\_Pin} | ${Pin} | ${Pin\_rs} |
| 3 | 射频输入功率（dBm） | ${Yq\_Pout} | ${Pout} | ${Pout\_rs} |
| 4 | 增益波动（dB） | ${Yq\_GainWave} | ${GainWave} | ${GainWave\_rs} |
| 5 | 增益斜率（dB/MHz） | ${Yq\_GainWaveSlop} | ${GainWaveSlop} | ${GainWaveSlop\_rs} |
| 6 | 群时延波动（ns） | ${Yq\_Groupdelay} | ${Groupdelay} | ${Groupdelay\_rs} |
| 7 | AM/PM变换系数(°/dB) | ${Yq\_AP} | ${AP} | ${AP\_rs} |
| 8 | 三阶互调（dB） | ${Yq\_IM3} | ${IM3} | ${IM3\_rs} |
| 9 | 谐波（dB） | ${Yq\_Harmonic} | ${Harmonic} | ${Harmonic\_rs} |
| 10 | 杂波（dB） | ${Yq\_Grass} | ${Grass} | ${Grass\_rs} |
| 11 | 噪声系数（dB） | ${Yq\_NoiseRatio} | ${NoiseRatio} | ${NoiseRatio\_rs} |
| 12 | 输出噪声功率谱密度 | ${Yq\_NoiseDensity} | ${NoiseDensity} | ${NoiseDensity\_rs} |
| 13 | 输入驻波 | ${Yq\_SWR\_in} | ${SWR\_in} | ${SWR\_in\_rs} |
| 14 | 输出驻波 | ${Yq\_SWR\_out} | ${SWR\_out} | ${SWR\_out\_rs} |
| 15 | 遥控指令 | ${Yq\_Order} | ${Order} | ${Order\_rs} |
| 16 | 遥测电压（V） | ${Yq\_Uout} | ${Uout} | ${Uout\_rs} |
| 17 | 静态功耗（W） | ${Yq\_Pcost} | ${Pcost} | ${Pcost\_rs} |
| 18 | 动态功耗（W） | ${Yq\_Pcost1} | ${Pcost1} | ${Pcost1\_rs} |
| 19 | 关机功耗（W） | ${Yq\_Pcost2} | ${Pcost2} | ${Pcost2\_rs} |
| 20 | 浪涌电流（A） | ${Yq\_Ishock} | ${Ishock} | ${Ishock\_rs} |
| 21 | 欠压保护（V） | ${Yq\_U\_down} | ${U\_down} | ${U\_down\_rs} |
| 22 | 过压保护（V） | ${Yq\_U\_up} | ${U\_up} | ${U\_up\_rs} |

力学监测数据

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 振动方向 | 测试阶段 | 输入功率(dBm) | 输入频率(GHz) | 输出功率(dB) | 母线电流(A) | 功率遥测(V) | 电流遥测(V) |
| X | 试验前 | ${Pin\_lxjc} | ${Freq\_lxjc} | ${Pout\_lxjc\_X\_s} | ${I\_lxjc\_X\_s} | ${Pvot\_lxjc\_X\_s} | ${Ivot\_lxjc\_X\_s} |
| 试验中 | ${Pin\_lxjc} | ${Freq\_lxjc} | ${Pout\_lxjc\_X\_m} | ${I\_lxjc\_X\_m} | ${Pvot\_lxjc\_X\_m} | ${Ivot\_lxjc\_X\_m} |
| 试验后 | ${Pin\_lxjc} | ${Freq\_lxjc} | ${Pout\_lxjc\_X\_l} | ${I\_lxjc\_X\_l} | ${Pvot\_lxjc\_X\_l} | ${Ivot\_lxjc\_X\_l} |
| Y | 试验前 | ${Pin\_lxjc} | ${Freq\_lxjc} | ${Pout\_lxjc\_Y\_s} | ${I\_lxjc\_Y\_s} | ${Pvot\_lxjc\_Y\_s} | ${Ivot\_lxjc\_Y\_s} |
| 试验中 | ${Pin\_lxjc} | ${Freq\_lxjc} | ${Pout\_lxjc\_Y\_m} | ${I\_lxjc\_Y\_m} | ${Pvot\_lxjc\_Y\_m} | ${Ivot\_lxjc\_Y\_m} |
| 试验后 | ${Pin\_lxjc} | ${Freq\_lxjc} | ${Pout\_lxjc\_Y\_l} | ${I\_lxjc\_Y\_l} | ${Pvot\_lxjc\_Y\_l} | ${Ivot\_lxjc\_Y\_l} |
| Z | 试验前 | ${Pin\_lxjc} | ${Freq\_lxjc} | ${Pout\_lxjc\_Z\_s} | ${I\_lxjc\_Z\_s} | ${Pvot\_lxjc\_Z\_s} | ${Ivot\_lxjc\_Z\_s} |
| 试验中 | ${Pin\_lxjc} | ${Freq\_lxjc} | ${Pout\_lxjc\_Z\_m} | ${I\_lxjc\_Z\_m} | ${Pvot\_lxjc\_Z\_m} | ${Ivot\_lxjc\_Z\_m} |
| 试验后 | ${Pin\_lxjc} | ${Freq\_lxjc} | ${Pout\_lxjc\_Z\_l} | ${I\_lxjc\_Z\_l} | ${Pvot\_lxjc\_Z\_l} | ${Ivot\_lxjc\_Z\_l} |

${ProductName}环境试验过程指标比对(${ProductSeq})

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 测试项目 | 技术指标 | 初测 | 力学后 | 热真空 | | | 热循环 | | | 温循老炼 | | | 高温老炼 | | 终测 |
| 常温 | 高温 | 低温 | 常温 | 高温 | 低温 | 常温 | 高温 | 低温 | 常温 | 高温 |
| 1 | 工作频率  （MHz） | ${Yq\_Frange} | ${Frange\_c} | ${Frange\_lx} | ${Frange\_zk} | ${Frange\_zk\_h} | ${Frange\_zk\_l} | ${Frange\_wx} | ${Frange\_wx\_h} | ${Frange\_wx\_l} | ${Frange\_wxll} | ${Frange\_wxll\_h} | ${Frange\_wxll\_l} | ${Frange\_gwll} | ${Frange\_gwll\_h} | ${Frange} |
| 2 | 射频输入功率（dBm） | ${Yq\_Pin} | ${Pin\_c} | ${Pin\_lx} | ${Pin\_zk} | ${Pin\_zk\_h} | ${Pin\_zk\_l} | ${Pin\_wx} | ${Pin\_wx\_h} | ${Pin\_wx\_l} | ${Pin\_wxll} | ${Pin\_wxll\_h} | ${Pin\_wxll\_l} | ${Pin\_gwll} | ${Pin\_gwll\_h} | ${Pin} |
| 3 | 射频输出功率（dBm） | ${Yq\_Pout} | ${Pout\_c} | ${Pout\_lx} | ${Pout\_zk} | ${Pout\_zk\_h} | ${Pout\_zk\_l} | ${Pout\_wx} | ${Pout\_wx\_h} | ${Pout\_wx\_l} | ${Pout\_wxll} | ${Pout\_wxll\_h} | ${Pout\_wxll\_l} | ${Pout\_gwll} | ${Pout\_gwll\_h} | ${Pout} |
| 4 | 增益波动（dB）  （频率） | ${Yq\_GainWave} | ${GainWave\_c} | ${GainWave\_lx} | ${GainWave\_zk} | ${GainWave\_zk\_h} | ${GainWave\_zk\_l} | ${GainWave\_wx} | ${GainWave\_wx\_h} | ${GainWave\_wx\_l} | ${GainWave\_wxll} | ${GainWave\_wxll\_h} | ${GainWave\_wxll\_l} | ${GainWave\_gwll} | ${GainWave\_gwll\_h} | ${GainWave} |
| 5 | 增益斜率  （dB/MHz） | ${Yq\_GainWaveSlop} | ${GainWaveSlop\_c} | ${GainWaveSlop\_lx} | ${GainWaveSlop\_zk} | ${GainWaveSlop\_zk\_h} | ${GainWaveSlop\_zk\_l} | ${GainWaveSlop\_wx} | ${GainWaveSlop\_wx\_h} | ${GainWaveSlop\_wx\_l} | ${GainWaveSlop\_wxll} | ${GainWaveSlop\_wxll\_h} | ${GainWaveSlop\_wxll\_l} | ${GainWaveSlop\_gwll} | ${GainWaveSlop\_gwll\_h} | ${GainWaveSlop} |
| 6 | 群时延波动  （ns） | ${Yq\_Groupdelay} | ${Groupdelay\_c} | ${Groupdelay\_lx} | ${Groupdelay\_zk} | ${Groupdelay\_zk\_h} | ${Groupdelay\_zk\_l} | ${Groupdelay\_wx} | ${Groupdelay\_wx\_h} | ${Groupdelay\_wx\_l} | ${Groupdelay\_wxll} | ${Groupdelay\_wxll\_h} | ${Groupdelay\_wxll\_l} | ${Groupdelay\_gwll} | ${Groupdelay\_gwll\_h} | ${Groupdelay} |
| 7 | AM/PM变换系数（°/dB） | ${Yq\_AP} | ${AP\_c} | ${AP\_lx} | ${AP\_zk} | ${AP\_zk\_h} | ${AP\_zk\_l} | ${AP\_wx} | ${AP\_wx\_h} | ${AP\_wx\_l} | ${AP\_wxll} | ${AP\_wxll\_h} | ${AP\_wxll\_l} | ${AP\_gwll} | ${AP\_gwll\_h} | ${AP} |
| 8 | 三阶互调  （dB） | ${Yq\_IM3} | ${IM3\_c} | ${IM3\_lx} | ${IM3\_zk} | ${IM3\_zk\_h} | ${IM3\_zk\_l} | ${IM3\_wx} | ${IM3\_wx\_h} | ${IM3\_wx\_l} | ${IM3\_wxll} | ${IM3\_wxll\_h} | ${IM3\_wxll\_l} | ${IM3\_gwll} | ${IM3\_gwll\_h} | ${IM3} |
| 9 | 谐波（dB） | ${Yq\_Harmonic} | ${Harmonic\_c} | ${Harmonic\_lx} | ${Harmonic\_zk} | ${Harmonic\_zk\_h} | ${Harmonic\_zk\_l} | ${Harmonic\_wx} | ${Harmonic\_wx\_h} | ${Harmonic\_wx\_l} | ${Harmonic\_wxll} | ${Harmonic\_wxll\_h} | ${Harmonic\_wxll\_l} | ${Harmonic\_gwll} | ${Harmonic\_gwll\_h} | ${Harmonic} |
| 10 | 杂波（dB） | ${Yq\_Grass} | ${Grass\_c} | ${Grass\_lx} | ${Grass\_zk} | ${Grass\_zk\_h} | ${Grass\_zk\_l} | ${Grass\_wx} | ${Grass\_wx\_h} | ${Grass\_wx\_l} | ${Grass\_wxll} | ${Grass\_wxll\_h} | ${Grass\_wxll\_l} | ${Grass\_gwll} | ${Grass\_gwll\_h} | ${Grass} |
| 11 | 噪声系数  （dB） | ${Yq\_NoiseRatio} | ${NoiseRatio\_c} | ${NoiseRatio\_lx} | ${NoiseRatio\_zk} | ${NoiseRatio\_zk\_h} | ${NoiseRatio\_zk\_l} | ${NoiseRatio\_wx} | ${NoiseRatio\_wx\_h} | ${NoiseRatio\_wx\_l} | ${NoiseRatio\_wxll} | ${NoiseRatio\_wxll\_h} | ${NoiseRatio\_wxll\_l} | ${NoiseRatio\_gwll} | ${NoiseRatio\_gwll\_h} | ${NoiseRatio} |
| 12 | 输出噪声功率谱密度  （dBm/Hz） | ${Yq\_NoiseDensity} | ${NoiseDensity\_c} | ${NoiseDensity\_lx} | ${NoiseDensity\_zk} | ${NoiseDensity\_zk\_h} | ${NoiseDensity\_zk\_l} | ${NoiseDensity\_wx} | ${NoiseDensity\_wx\_h} | ${NoiseDensity\_wx\_l} | ${NoiseDensity\_wxll} | ${NoiseDensity\_wxll\_h} | ${NoiseDensity\_wxll\_l} | ${NoiseDensity\_gwll} | ${NoiseDensity\_gwll\_h} | ${NoiseDensity} |
| 14 | 输入驻波 | ${Yq\_SWR\_in} | ${SWR\_in\_c} | ${SWR\_in\_lx} | ${SWR\_in\_zk} | ${SWR\_in\_zk\_h} | ${SWR\_in\_zk\_l} | ${SWR\_in\_wx} | ${SWR\_in\_wx\_h} | ${SWR\_in\_wx\_l} | ${SWR\_in\_wxll} | ${SWR\_in\_wxll\_h} | ${SWR\_in\_wxll\_l} | ${SWR\_in\_gwll} | ${SWR\_in\_gwll\_h} | ${SWR\_in} |
| 15 | 输出驻波 | ${Yq\_SWR\_out} | ${SWR\_out\_c} | ${SWR\_out\_lx} | ${SWR\_out\_zk} | ${SWR\_out\_zk\_h} | ${SWR\_out\_zk\_l} | ${SWR\_out\_wx} | ${SWR\_out\_wx\_h} | ${SWR\_out\_wx\_l} | ${SWR\_out\_wxll} | ${SWR\_out\_wxll\_h} | ${SWR\_out\_wxll\_l} | ${SWR\_out\_gwll} | ${SWR\_out\_gwll\_h} | ${SWR\_out} |
| 16 | 遥控指令 | ${Yq\_Order} | ${Order\_c} | ${Order\_lx} | ${Order\_zk} | ${Order\_zk\_h} | ${Order\_zk\_l} | ${Order\_wx} | ${Order\_wx\_h} | ${Order\_wx\_l} | ${Order\_wxll} | ${Order\_wxll\_h} | ${Order\_wxll\_l} | ${Order\_gwll} | ${Order\_gwll\_h} | ${Order} |
| 17 | 遥测电压（V） | ${Yq\_Uout} | ${Uout\_c} | ${Uout\_lx} | ${Uout\_zk} | ${Uout\_zk\_h} | ${Uout\_zk\_l} | ${Uout\_wx} | ${Uout\_wx\_h} | ${Uout\_wx\_l} | ${Uout\_wxll} | ${Uout\_wxll\_h} | ${Uout\_wxll\_l} | ${Uout\_gwll} | ${Uout\_gwll\_h} | ${Uout} |
| 18 | 静态功耗（W） | ${Yq\_Pcost} | ${Pcost\_c} | ${Pcost\_lx} | ${Pcost\_zk} | ${Pcost\_zk\_h} | ${Pcost\_zk\_l} | ${Pcost\_wx} | ${Pcost\_wx\_h} | ${Pcost\_wx\_l} | ${Pcost\_wxll} | ${Pcost\_wxll\_h} | ${Pcost\_wxll\_l} | ${Pcost\_gwll} | ${Pcost\_gwll\_h} | ${Pcost} |
| 19 | 动态功耗  （W） | ${Yq\_Pcost1} | ${Pcost1\_c} | ${Pcost1\_lx} | ${Pcost1\_zk} | ${Pcost1\_zk\_h} | ${Pcost1\_zk\_l} | ${Pcost1\_wx} | ${Pcost1\_wx\_h} | ${Pcost1\_wx\_l} | ${Pcost1\_wxll} | ${Pcost1\_wxll\_h} | ${Pcost1\_wxll\_l} | ${Pcost1\_gwll} | ${Pcost1\_gwll\_h} | ${Pcost1} |
| 20 | 关机功耗  （W） | ${Yq\_Pcost2} | ${Pcost2\_c} | ${Pcost2\_lx} | ${Pcost2\_zk} | ${Pcost2\_zk\_h} | ${Pcost2\_zk\_l} | ${Pcost2\_wx} | ${Pcost2\_wx\_h} | ${Pcost2\_wx\_l} | ${Pcost2\_wxll} | ${Pcost2\_wxll\_h} | ${Pcost2\_wxll\_l} | ${Pcost2\_gwll} | ${Pcost2\_gwll\_h} | ${Pcost2} |
| 21 | 浪涌电流（A） | ${Yq\_Ishock} | ${Ishock\_c} | ${Ishock\_lx} | ${Ishock\_zk} | ${Ishock\_zk\_h} | ${Ishock\_zk\_l} | ${Ishock\_wx} | ${Ishock\_wx\_h} | ${Ishock\_wx\_l} | ${Ishock\_wxll} | ${Ishock\_wxll\_h} | ${Ishock\_wxll\_l} | ${Ishock\_gwll} | ${Ishock\_gwll\_h} | ${Ishock} |
| 22 | 欠压保护  （V） | ${Yq\_U\_down} | ${U\_down\_c} | ${U\_down\_lx} | ${U\_down\_zk} | ${U\_down\_zk\_h} | ${U\_down\_zk\_l} | ${U\_down\_wx} | ${U\_down\_wx\_h} | ${U\_down\_wx\_l} | ${U\_down\_wxll} | ${U\_down\_wxll\_h} | ${U\_down\_wxll\_l} | ${U\_down\_gwll} | ${U\_down\_gwll\_h} | ${U\_down} |
| 23 | 过压保护  （V） | ${Yq\_U\_up} | ${U\_up\_c} | ${U\_up\_lx} | ${U\_up\_zk} | ${U\_up\_zk\_h} | ${U\_up\_zk\_l} | ${U\_up\_wx} | ${U\_up\_wx\_h} | ${U\_up\_wx\_l} | ${U\_up\_wxll} | ${U\_up\_wxll\_h} | ${U\_up\_wxll\_l} | ${U\_up\_gwll} | ${U\_up\_gwll\_h} | ${U\_up} |

产品数据一致性对比

${ProductName}测试结果指标比对

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 测试或检查项目 | 合格判据 | ${ProductSeq}测试结果 | ${ProductSeq\_1}测试结果 | ${ProductSeq\_2}测试结果 | ${ProductSeq\_3}测试结果 | ${ProductSeq\_4}测试结果 | ${ProductSeq\_5}测试结果 | 一致性 |
| 1 | 工作频率（MHz） | ${Yq\_Frange} | ${Yq\_Frange\_1} | ${Yq\_Frange\_2} | ${Yq\_Frange\_3} | ${Yq\_Frange\_4} | ${Yq\_Frange\_5} | ${Yq\_Frange\_6} |  |
| 2 | 射频输入功率（dBm） | ${Yq\_Pin} | ${Yq\_Pin\_1} | ${Yq\_Pin\_2} | ${Yq\_Pin\_3} | ${Yq\_Pin\_4} | ${Yq\_Pin\_5} | ${Yq\_Pin\_6} |  |
| 3 | 射频输入功率（dBm） | ${Yq\_Pout} | ${Yq\_Pout\_1} | ${Yq\_Pout\_2} | ${Yq\_Pout\_3} | ${Yq\_Pout\_4} | ${Yq\_Pout\_5} | ${Yq\_Pout\_6} |  |
| 4 | 增益波动（dB） | ${Yq\_GainWave} | ${Yq\_GainWave\_1} | ${Yq\_GainWave\_2} | ${Yq\_GainWave\_3} | ${Yq\_GainWave\_4} | ${Yq\_GainWave\_5} | ${Yq\_GainWave\_6} |  |
| 5 | 增益斜率（dB/MHz） | ${Yq\_GainWaveSlop} | ${Yq\_GainWaveSlop\_1} | ${Yq\_GainWaveSlop\_2} | ${Yq\_GainWaveSlop\_3} | ${Yq\_GainWaveSlop\_4} | ${Yq\_GainWaveSlop\_5} | ${Yq\_GainWaveSlop\_6} |  |
| 6 | 群时延波动（ns） | ${Yq\_Groupdelay} | ${Yq\_Groupdelay\_1} | ${Yq\_Groupdelay\_2} | ${Yq\_Groupdelay\_3} | ${Yq\_Groupdelay\_4} | ${Yq\_Groupdelay\_5} | ${Yq\_Groupdelay\_6} |  |
| 7 | AM/PM变换系数(°/dB) | ${Yq\_AP} | ${Yq\_AP\_1} | ${Yq\_AP\_2} | ${Yq\_AP\_3} | ${Yq\_AP\_4} | ${Yq\_AP\_5} | ${Yq\_AP\_6} |  |
| 8 | 三阶互调（dB） | ${Yq\_IM3} | ${Yq\_IM3\_1} | ${Yq\_IM3\_2} | ${Yq\_IM3\_3} | ${Yq\_IM3\_4} | ${Yq\_IM3\_5} | ${Yq\_IM3\_6} |  |
| 9 | 谐波（dB） | ${Yq\_Harmonic} | ${Yq\_Harmonic\_1} | ${Yq\_Harmonic\_2} | ${Yq\_Harmonic\_3} | ${Yq\_Harmonic\_4} | ${Yq\_Harmonic\_5} | ${Yq\_Harmonic\_6} |  |
| 10 | 杂波（dB） | ${Yq\_Grass} | ${Yq\_Grass\_1} | ${Yq\_Grass\_2} | ${Yq\_Grass\_3} | ${Yq\_Grass\_4} | ${Yq\_Grass\_5} | ${Yq\_Grass\_6} |  |
| 11 | 噪声系数（dB） | ${Yq\_NoiseRatio} | ${Yq\_NoiseRatio\_1} | ${Yq\_NoiseRatio\_2} | ${Yq\_NoiseRatio\_3} | ${Yq\_NoiseRatio\_4} | ${Yq\_NoiseRatio\_5} | ${Yq\_NoiseRatio\_6} |  |
| 12 | 输出噪声功率谱密度 | ${Yq\_NoiseDensity} | ${Yq\_NoiseDensity\_1} | ${Yq\_NoiseDensity\_2} | ${Yq\_NoiseDensity\_3} | ${Yq\_NoiseDensity\_4} | ${Yq\_NoiseDensity\_5} | ${Yq\_NoiseDensity\_6} |  |
| 13 | 输入驻波 | ${Yq\_SWR\_in} | ${Yq\_SWR\_in\_1} | ${Yq\_SWR\_in\_2} | ${Yq\_SWR\_in\_3} | ${Yq\_SWR\_in\_4} | ${Yq\_SWR\_in\_5} | ${Yq\_SWR\_in\_6} |  |
| 14 | 输出驻波 | ${Yq\_SWR\_out} | ${Yq\_SWR\_out\_1} | ${Yq\_SWR\_out\_2} | ${Yq\_SWR\_out\_3} | ${Yq\_SWR\_out\_4} | ${Yq\_SWR\_out\_5} | ${Yq\_SWR\_out\_6} |  |
| 15 | 遥控指令 | ${Yq\_Order} | ${Yq\_Order\_1} | ${Yq\_Order\_2} | ${Yq\_Order\_3} | ${Yq\_Order\_4} | ${Yq\_Order\_5} | ${Yq\_Order\_6} |  |
| 16 | 遥测电压（V） | ${Yq\_Uout} | ${Yq\_Uout\_1} | ${Yq\_Uout\_2} | ${Yq\_Uout\_3} | ${Yq\_Uout\_4} | ${Yq\_Uout\_5} | ${Yq\_Uout\_6} |  |
| 17 | 静态功耗（W） | ${Yq\_Pcost} | ${Yq\_Pcost\_1} | ${Yq\_Pcost\_2} | ${Yq\_Pcost\_3} | ${Yq\_Pcost\_4} | ${Yq\_Pcost\_5} | ${Yq\_Pcost\_6} |  |
| 18 | 动态功耗（W） | ${Yq\_Pcost1} | ${Yq\_Pcost1\_1} | ${Yq\_Pcost1\_2} | ${Yq\_Pcost1\_3} | ${Yq\_Pcost1\_4} | ${Yq\_Pcost1\_5} | ${Yq\_Pcost1\_6} |  |
| 19 | 关机功耗（W） | ${Yq\_Pcost2} | ${Yq\_Pcost2\_1} | ${Yq\_Pcost2\_2} | ${Yq\_Pcost2\_3} | ${Yq\_Pcost2\_4} | ${Yq\_Pcost2\_5} | ${Yq\_Pcost2\_6} |  |
| 20 | 浪涌电流（A） | ${Yq\_Ishock} | ${Yq\_Ishock\_1} | ${Yq\_Ishock\_2} | ${Yq\_Ishock\_3} | ${Yq\_Ishock\_4} | ${Yq\_Ishock\_5} | ${Yq\_Ishock\_6} |  |
| 21 | 欠压保护（V） | ${Yq\_U\_down} | ${Yq\_U\_down\_1} | ${Yq\_U\_down\_2} | ${Yq\_U\_down\_3} | ${Yq\_U\_down\_4} | ${Yq\_U\_down\_5} | ${Yq\_U\_down\_6} |  |
| 22 | 过压保护（V） | ${Yq\_U\_up} | ${Yq\_U\_up\_1} | ${Yq\_U\_up\_2} | ${Yq\_U\_up\_3} | ${Yq\_U\_up\_4} | ${Yq\_U\_up\_5} | ${Yq\_U\_up\_6} |  |