



# Test Report: GSM220B12

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220W AC-DC Reliable Green Medical Adaptor

## ■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Component Stress Test

## ■ SAFETY & E.M.C. TEST

Safety Test

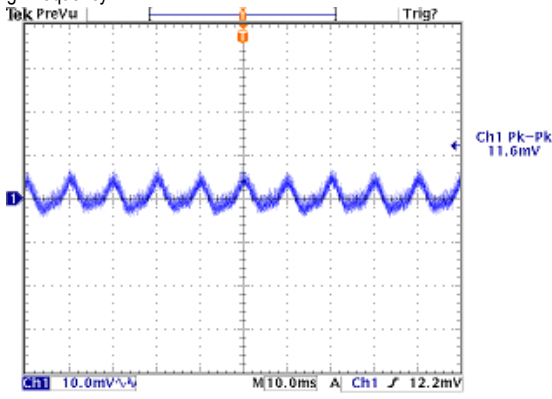
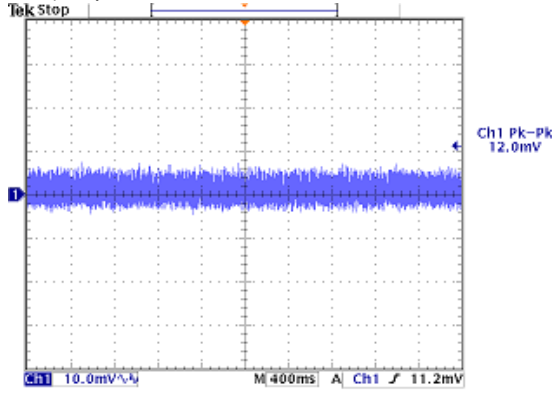
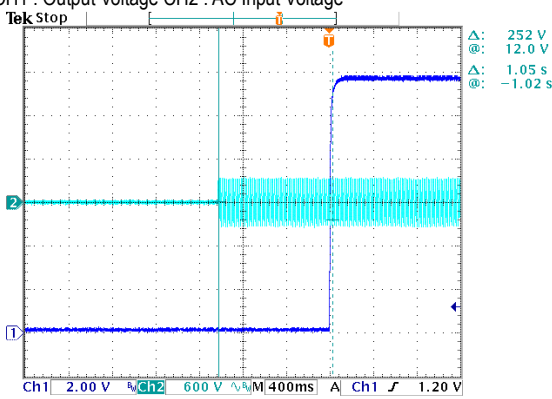
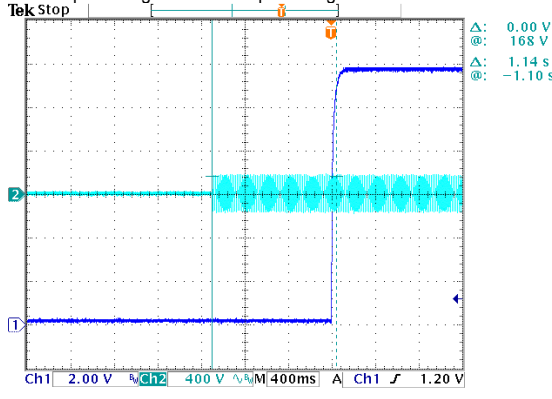
E.M.C. Test

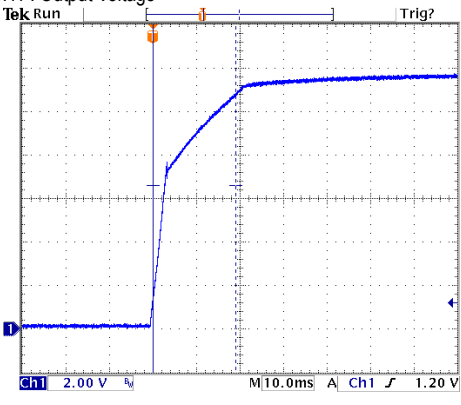
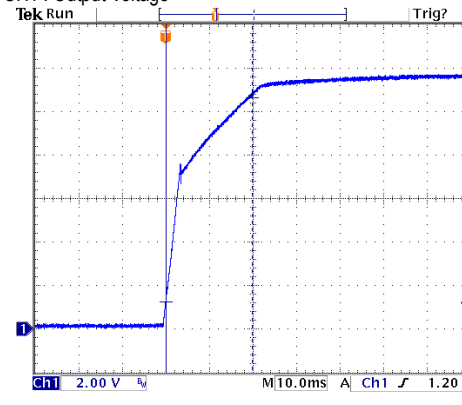
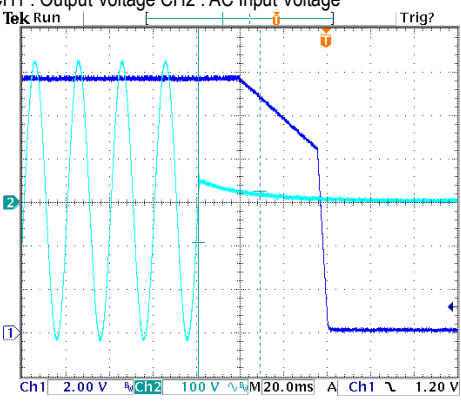
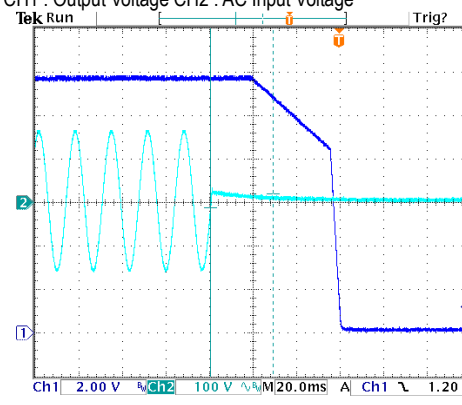
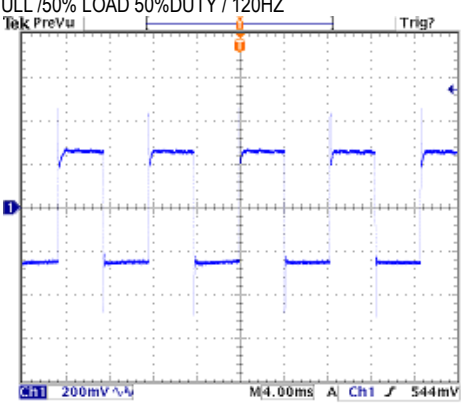
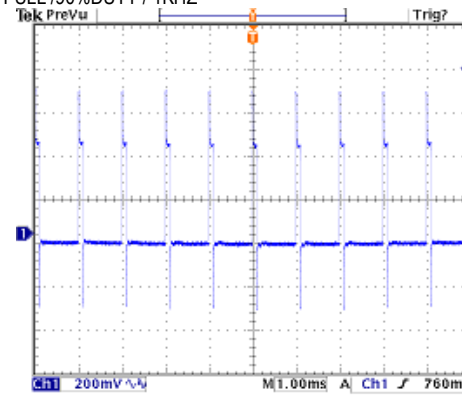
## ■ RELIABILITY TEST

ENVIRONMENT TEST

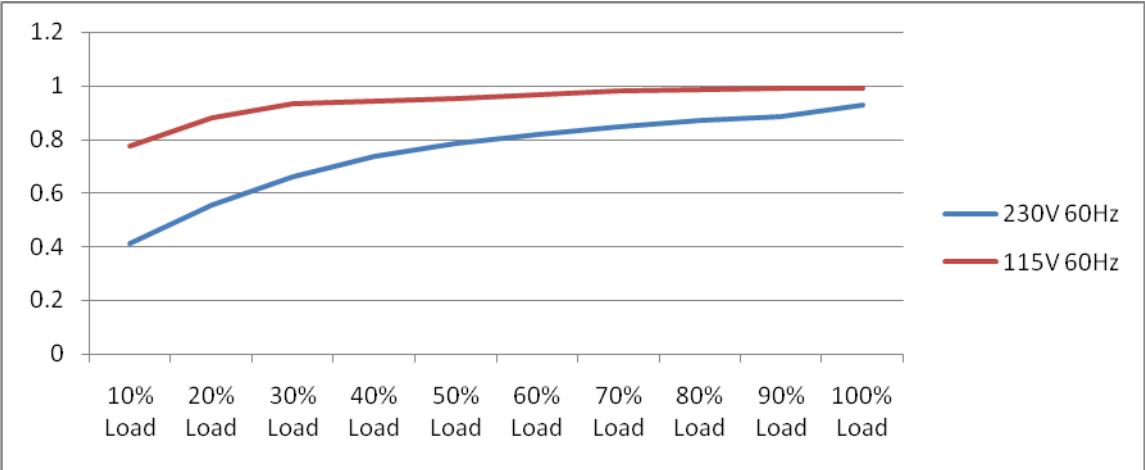
## DESIGN VERIFY TEST

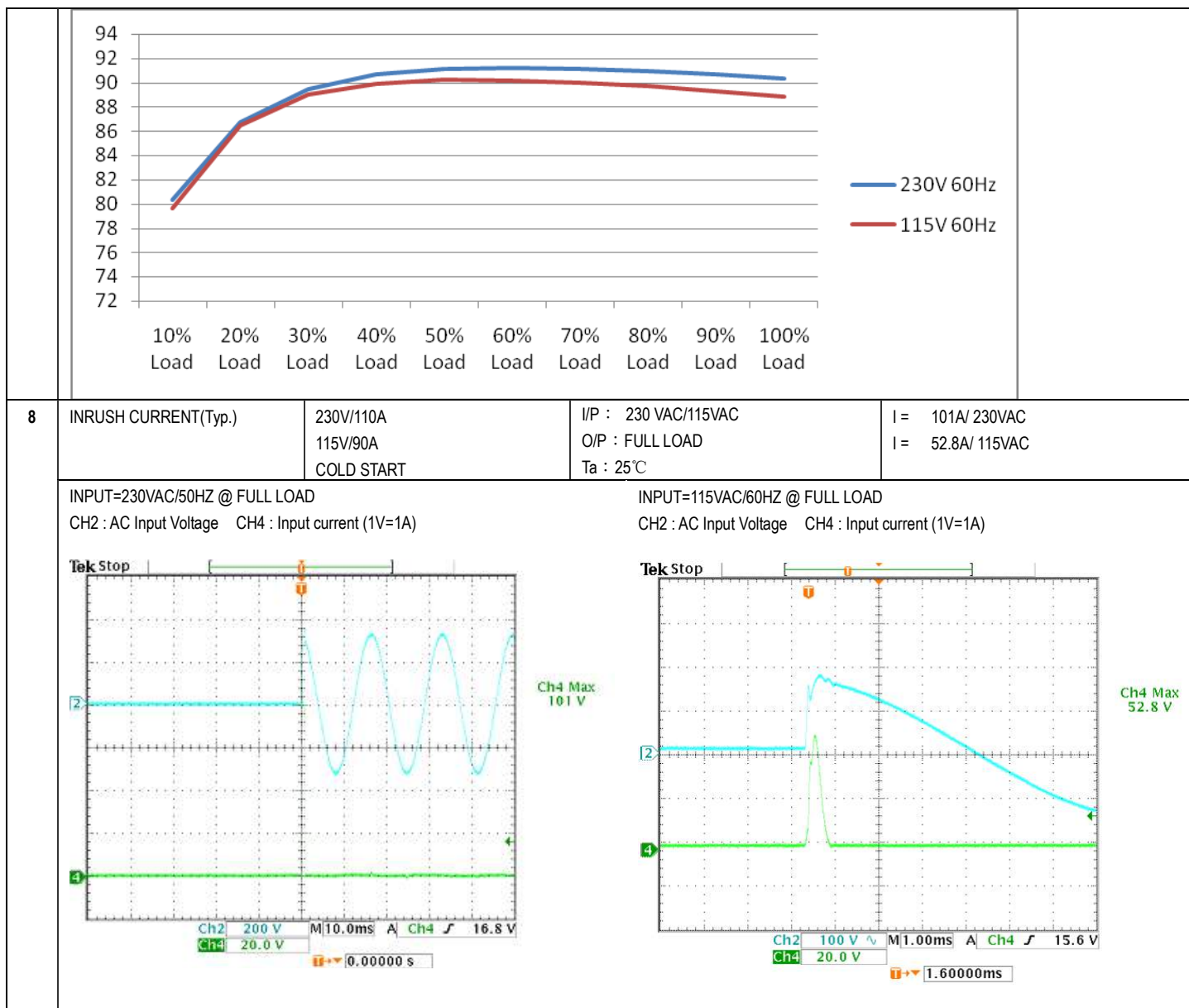
### OUTPUT FUNCTION TEST

| NO                                                                                                                                                                                                                                                                                                                                                                                              | TEST ITEM                        | SPECIFICATION                  | TEST CONDITION                                                 | RESULT                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------|----------------------------------------------------------------|------------------------------------|
| 1                                                                                                                                                                                                                                                                                                                                                                                               | OUTPUT VOLTAGE(Max)<br>TOLERANCE | V1: -5%~ 5%                    | I/P: 100VAC /264VAC<br>O/P:FULL/ MIN. LOAD<br>Ta:25°C          | V1: -1.86 %~2.45 %                 |
| 2                                                                                                                                                                                                                                                                                                                                                                                               | LINE REGULATION (Max)            | V1: -1%~ 1%                    | I/P: 100VAC~ 264VAC<br>O/P:FULL LOAD<br>Ta:25°C                | V1: 0 %~0 %                        |
| 3                                                                                                                                                                                                                                                                                                                                                                                               | LOAD REGULATION(Max)             | V1: -5%~ 5%                    | I/P: 230VAC<br>O/P:FULL ~MIN LOAD<br>Ta:25°C                   | V1: -1.86 %~2.45 %                 |
| 4                                                                                                                                                                                                                                                                                                                                                                                               | OVER/UNDERSHOOT TEST             | < $\pm 5\%$                    | I/P: 230VAC<br>O/P:FULL LOAD<br>Ta:25°C                        | < $\pm 5\%$                        |
| 5                                                                                                                                                                                                                                                                                                                                                                                               | RIPPLE & NOISE(Max)              | V1: 80mVp-p                    | I/P:230VAC<br>O/P:FULL LOAD<br>Ta:25°C                         | V1: 12 mVp-p                       |
| <div> <div> <p>high frequency :</p>  </div> <div> <p>low frequency :</p>  </div> </div>                                                                                                                                    |                                  |                                |                                                                |                                    |
| 6                                                                                                                                                                                                                                                                                                                                                                                               | SET UP TIME(Max)                 | 230VAC/2000ms<br>115VAC/2000ms | I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C | 230VAC/ 1048 ms<br>115VAC/ 1144 ms |
| <div> <div> <p>INPUT=230VAC/50HZ @ FULL LOAD</p> <p>CH1 : Output Voltage CH2 : AC Input Voltage</p>  </div> <div> <p>INPUT=115VAC/60HZ @ FULL LOAD</p> <p>CH1 : Output Voltage CH2 : AC Input Voltage</p>  </div> </div> |                                  |                                |                                                                |                                    |
| 7                                                                                                                                                                                                                                                                                                                                                                                               | RISE TIME (Max)                  | 230VAC/50ms<br>115VAC/50ms     | I/P : 230 VAC<br>I/P : 115 VAC                                 | 230VAC/ 19 ms<br>115VAC/ 19.8 ms   |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |                                                                                                |                                   |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------------------------------------------------------------------------|-----------------------------------|
|   |                                                                                                                                                                                                                                                                                                                                                                                                                    |                            | O/P : FULL LOAD<br>Ta : 25°C                                                                   |                                   |
|   | <div> <div> INPUT=230VAC/50HZ @ FULL LOAD<br/>CH1 : Output Voltage </div> <div>  </div> </div> <div> <div> INPUT=115VAC/60HZ @ FULL LOAD<br/>CH1 : Output Voltage </div> <div>  </div> </div>                                                   |                            |                                                                                                |                                   |
| 8 | HOLD UP TIME (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                | 230VAC/24ms<br>115VAC/24ms | I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25°C                                 | 230VAC/ 28.4 ms<br>115VAC/ 28.8ms |
|   | <div> <div> INPUT=230VAC/50HZ @ FULL LOAD<br/>CH1 : Output Voltage CH2 : AC Input Voltage </div> <div>  </div> </div> <div> <div> INPUT=115VAC/60HZ @ FULL LOAD<br/>CH1 : Output Voltage CH2 : AC Input Voltage </div> <div>  </div> </div> |                            |                                                                                                |                                   |
| 9 | DYNAMIC LOAD                                                                                                                                                                                                                                                                                                                                                                                                       | V1: 1200mVp-p              | I/P: 230VAC<br>O/P:<br>(1)FULL /50% LOAD 50%DUTY / 120HZ<br>(2)FULL /90%DUTY / 1KHZ<br>Ta:25°C | 964 mVp-p<br>1020mVp-p            |
|   | <div> <div> FULL /50% LOAD 50%DUTY / 120HZ </div> <div>  </div> </div> <div> <div> FULL /90%DUTY / 1KHZ </div> <div>  </div> </div>                                                                                                         |                            |                                                                                                |                                   |

## INPUT FUNCTION TEST

| NO                                                                                              | TEST ITEM             | SPECIFICATION               | TEST CONDITION                                                                                                                                                      | RESULT                                |
|-------------------------------------------------------------------------------------------------|-----------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| 1                                                                                               | INPUT VOLTAGE RANGE   | 80VAC~264VAC                | I/P:TESTING<br>O/P:FULL LOAD<br>Ta:25℃                                                                                                                              | 73V~264V                              |
|                                                                                                 |                       |                             | I/P:<br>LOW-LINE-3V=97 V<br>HIGH-LINE+15%=300 V<br>O/P:FULL/MIN LOAD<br>(PLEASE CHECK DERATING CURVE)<br>ON: 30 Sec OFF: 30 Sec 10MIN<br>( POWER ON/OFF NO DAMAGE ) | TEST:OK                               |
| 2                                                                                               | INPUT FREQUENCY RANGE | 47HZ ~63 HZ<br>NO DAMAGE    | I/P:100 VAC ~264 VAC<br>O/P:FULL~MIN LOAD<br>Ta:25℃                                                                                                                 | TEST: OK                              |
| 3                                                                                               | INPUT CURRENT (Typ.)  | 230V/ 2A<br>115V/ 4A        | I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25℃                                                                                                       | I = 0.87A/ 230VAC<br>I =1.68A/ 115VAC |
| 4                                                                                               | LEAKAGE CURRENT       | <0.1 mA / 264 VAC           | I/P : 264 VAC<br>O/P : Min LOAD<br>Ta : 25℃                                                                                                                         | L-FG : 0.0763 mA<br>N-FG : 0.0763 mA  |
| 5                                                                                               | NO LOAD CONSUMPTION   | < 0.15W                     | I/P : 115VAC<br>I/P : 230VAC<br>O/P : NO LOAD<br>Ta : 25℃                                                                                                           | < 0.074 W<br>< 0.1001 W               |
| 6                                                                                               | POWER FACTOR (Typ.)   | 0.91/ 230VAC<br>0.98/115VAC | I/P : 230 VAC<br>I/P : 115 VAC<br>O/P : FULL LOAD<br>Ta : 25℃                                                                                                       | PF=0.942/230VAC<br>PF=0.992/115VAC    |
| P.F vs LOAD                                                                                     |                       |                             |                                                                                                                                                                     |                                       |
| <div></div> |                       |                             |                                                                                                                                                                     |                                       |
| 7                                                                                               | EFFICIENCY(Typ.)      | 90%                         | I/P:230 VAC<br>O/P:FULL LOAD<br>Ta:25℃                                                                                                                              | 90.20%                                |
| EFFICIENCY vs LOAD                                                                              |                       |                             |                                                                                                                                                                     |                                       |



## PROTECTION FUNCTION TEST

| NO | TEST ITEM                   | SPECIFICATION                          | TEST CONDITION                                                       | RESULT                                                                                                                                           |
|----|-----------------------------|----------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | OVER LOAD PROTECTION        | 105%~ 135%                             | I/P: 264VAC<br>I/P: 230VAC<br>I/P: 100VAC<br>O/P: TESTING<br>Ta:25°C | 107.6%/ 264VAC<br>107.6%/ 230VAC<br>107.4%/100VAC<br>PROTECTION TYPE : Hiccup<br>mode,recovers automatically after fault<br>condition is removed |
| 2  | OVER VOLTAGE PROTECTION     | 12.6V~16.2V                            | I/P: 264VAC<br>I/P: 230VAC<br>I/P: 90VAC<br>O/P: MIN LOAD<br>Ta:25°C | 13.8V/ 264VAC<br>13.9V/ 230VAC<br>13.9V/ 90VAC<br>PROTECTION TYPE : Shut down o/p<br>voltage,re-power on to recover                              |
| 3  | OVER TEMPERATURE PROTECTION | Protection type :                      | I/P: 264VAC<br>I/P: 90VAC<br>O/P: FULL LOAD                          | O.T.P. Active<br>Protection type : Shut down o/p<br>voltage,recovers automatically after<br>temperature goes down                                |
| 4  | SHORT PROTECTION            | SHORT EVERY OUTPUT<br>1 HOUR NO DAMAGE | I/P: 264VAC<br>I/P: 90VAC<br>O/P: FULL LOAD<br>Ta:25°C               | NO DAMAGE<br>PROTECTION TYPE : Hiccup<br>mode,recovers automatically after fault<br>condition is removed                                         |

## COMPONENT STRESS TEST

| NO | TEST ITEM                                                     | SPECIFICATION               | TEST CONDITION                                                                                                                                                                                                 | RESULT                                               |
|----|---------------------------------------------------------------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| 1  | PWM Transistor<br>( D to S) or (C to E) <b>Peak Voltage</b>   | Q5 Rated<br>: 18A/ 600V     | I/P: High-Line +3V =267V<br>AC ON/OFF<br>VDS:<br>O/P: (1) Full Load<br>(2) Output Short<br>(3) Full Load Continue<br>Ta:25°C                                                                                   | VDS:<br>(1) 480V<br>(2) 494V<br>(3) 436V             |
| 2  | P.F.C Transistor<br>( D to S) or (C to E) <b>Peak Voltage</b> | Q1 Rated<br>: 15.8 A/ 600 V | I/P: High-Line +3V =267V<br>AC ON/OFF<br>VDS:<br>O/P: (1) Full Load<br>(2) Output Short<br>(3) Full Load Continue<br>Ta:25°C                                                                                   | VDS:<br>(1) 560V<br>(2) 558V<br>(3) 470V             |
| 3  | P.F.C DIODE                                                   | D2 Rated<br>: 15 A/ 600 V   | I/P: High-Line +3V =267 V<br>AC ON/OFF<br>O/P: (1) Full Load<br>(2) Output Short<br>(3) Dynamic Load Full Load/<br>Min. Load 90%Duty/5KHz<br>(4) Dynamic Load 100% Load/<br>Min. Load 50%Duty/120Hz<br>Ta:25°C | (1) 440V<br>(2) 442V<br>(3) 442V<br>(4) 440V         |
| 4  | Diode <b>Peak Voltage</b>                                     | Q101 Rated<br>: 120 A/ 40V  | I/P: High-Line +3V =267 V<br>AC ON/OFF<br>VDS:<br>O/P: (1) Full Load<br>(2) Output Short<br>(3) Full Load Continue                                                                                             | Q101:<br>VDS:<br>(1) 28.3V<br>(2) 10.5V<br>(3) 28.1V |

|   |                         |                                           |                                                                                                                                      |                                                  |
|---|-------------------------|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
|   |                         |                                           | Ta:25°C                                                                                                                              |                                                  |
| 5 | Input Capacitor Voltage | C5 Rated:<br>: 220 $\mu$ /450 V<br>105 °C | I/P:High-Line +3V =267 V<br>O/P: (1)Full Load input on/off<br>(2) Min load input on /Off<br>(3)Full Load /Min load Change<br>Ta:25°C | (1) 428V<br>(2) 430V<br>(3) 418V                 |
| 6 | Control IC Voltage Test | PWM IC U1 Rated<br>: 38V<br>-0.4 V(MIN.)  | I/P:High-Line +3V =267 V<br>AC ON/OFF<br>O/P(1)FULL LOAD<br>(2) Output Short<br>(3)O.L.P<br>(4)O.V.P.<br>Ta:25°C                     | (1) 26.2V<br>(2) 20.1V<br>(3) 20.1V<br>(4) 28.6V |

### SAFETY TEST

| NO | TEST ITEM            | SPECIFICATION                | TEST CONDITION                   | RESULT                               |
|----|----------------------|------------------------------|----------------------------------|--------------------------------------|
| 1  | WITHSTAND VOLTAGE    | I/P-O/P: 4KVAC/min           | I/P-O/P: 4.4 KVAC/min<br>Ta:25°C | I/P-O/P: 1.939mA<br>NO DAMAGE        |
| 2  | ISOLATION RESISTANCE | I/P-O/P:500VDC>100M $\Omega$ | I/P-O/P: 600 VDC<br>Ta:25°C      | I/P-O/P: 9999M $\Omega$<br>NO DAMAGE |

### E.M.C TEST

| NO | TEST ITEM                                   | SPECIFICATION                                 | TEST CONDITION                                           | RESULT                        |
|----|---------------------------------------------|-----------------------------------------------|----------------------------------------------------------|-------------------------------|
| 1  | HARMONIC                                    | EN61000-3-2<br>CLASS A                        | I/P:230VAC/50HZ<br>O/P:FULL LOAD<br>Ta:25°C              | PASS                          |
| 2  | CONDUCTION                                  | EN55011<br>CLASS B                            | I/P : 230 VAC (50HZ)<br>O/P : FULL/50% LOAD<br>Ta : 25°C | PASS<br>Test by certified Lab |
| 3  | RADIATION                                   | EN55011<br>CLASS B                            | I/P : 230 VAC (50HZ)<br>O/P : FULL LOAD<br>Ta : 25°C     | PASS<br>Test by certified Lab |
| 4  | E.S.D                                       | EN61000-4-2<br><br>AIR : 15KV / Contact : 8KV | I/P : 230 VAC/50HZ<br>O/P : FULL LOAD<br>Ta : 25°C       | CRITERIA A                    |
| 5  | E.F.T                                       | EN61000-4-4<br><br>INPUT : 2KV                | I/P : 230 VAC/50HZ<br>O/P : FULL LOAD<br>Ta : 25°C       | CRITERIA A                    |
| 6  | SURGE                                       | IEC61000-4-5<br><br>L-N : 1KV                 | I/P : 230 VAC/50HZ<br>O/P : FULL LOAD<br>Ta : 25°C       | CRITERIA A                    |
| 7  | Test by certified Lab & Test Report Prepare |                                               |                                                          |                               |

## RELIABILITY TEST

### ENVIRONMENT TEST

| NO | TEST ITEM                                                         | SPECIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | TEST CONDITION                                                   | RESULT              |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
|----|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|---------------------|----|----------|------------------------|------------------------|---|-----|-------|-------|---|-----|-------|-------|---|----|-------|-------|---|----|-------|-------|---|----|-------|-------|---|----|-------|-------|---|----|-------|-------|---|----|-------|-------|---|----|-------|-------|----|----|-------|--------|----|-----|-------|-------|----|------|-------|-------|----|-----|-------|-------|----|------|-------|-------|----|------|-------|-------|----|----|-------|-------|----|------|-------|-------|----|----|-------|-------|----|------|-------|-------|----|-----|-------|-------|----|----|-------|-------|----|-----|-------|-------|----|----|-------|-------|----|------|-------|-------|
| 1  | TEMPERATURE RISE TEST                                             | <div>MODEL : GSM220B20</div> <div>1. ROOM AMBIENT BURN-IN : 1HRS</div> <div>I/P : 230VAC O/P : FULL LOAD Ta= 17.7℃</div> <div>2. HIGH AMBIENT BURN-IN : 1HRS</div> <div>I/P : 230VAC O/P : FULL LOAD Ta= 39.5℃</div> <table><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT Ta= 17.7℃</th><th>HIGH AMBIENT Ta= 39.5℃</th></tr><tr><td>1</td><td>LF1</td><td>40.9℃</td><td>65.2℃</td></tr><tr><td>2</td><td>LF2</td><td>49.1℃</td><td>73.5℃</td></tr><tr><td>3</td><td>L2</td><td>50.9℃</td><td>76.0℃</td></tr><tr><td>4</td><td>D3</td><td>53.0℃</td><td>77.1℃</td></tr><tr><td>5</td><td>Q2</td><td>53.4℃</td><td>77.0℃</td></tr><tr><td>6</td><td>D2</td><td>54.5℃</td><td>78.2℃</td></tr><tr><td>7</td><td>L1</td><td>55.0℃</td><td>79.7℃</td></tr><tr><td>8</td><td>C5</td><td>57.0℃</td><td>80.5℃</td></tr><tr><td>9</td><td>Q5</td><td>53.1℃</td><td>76.9℃</td></tr><tr><td>10</td><td>T1</td><td>72.6℃</td><td>101.8℃</td></tr><tr><td>11</td><td>C81</td><td>54.5℃</td><td>78.7℃</td></tr><tr><td>12</td><td>RTH2</td><td>52.0℃</td><td>75.6℃</td></tr><tr><td>13</td><td>C13</td><td>58.5℃</td><td>82.6℃</td></tr><tr><td>14</td><td>Q101</td><td>60.2℃</td><td>83.9℃</td></tr><tr><td>15</td><td>C109</td><td>59.6℃</td><td>83.4℃</td></tr><tr><td>16</td><td>U1</td><td>61.4℃</td><td>84.7℃</td></tr><tr><td>17</td><td>C101</td><td>58.2℃</td><td>81.7℃</td></tr><tr><td>18</td><td>R5</td><td>53.3℃</td><td>77.9℃</td></tr><tr><td>19</td><td>TSW1</td><td>49.0℃</td><td>72.5℃</td></tr><tr><td>20</td><td>C11</td><td>51.0℃</td><td>75.4℃</td></tr><tr><td>21</td><td>U4</td><td>55.4℃</td><td>79.2℃</td></tr><tr><td>22</td><td>BD1</td><td>52.1℃</td><td>75.7℃</td></tr><tr><td>23</td><td>C1</td><td>46.4℃</td><td>71.0℃</td></tr><tr><td>24</td><td>CASE</td><td>43.2℃</td><td>64.1℃</td></tr></table> |                                                                  |                     | NO | Position | ROOM AMBIENT Ta= 17.7℃ | HIGH AMBIENT Ta= 39.5℃ | 1 | LF1 | 40.9℃ | 65.2℃ | 2 | LF2 | 49.1℃ | 73.5℃ | 3 | L2 | 50.9℃ | 76.0℃ | 4 | D3 | 53.0℃ | 77.1℃ | 5 | Q2 | 53.4℃ | 77.0℃ | 6 | D2 | 54.5℃ | 78.2℃ | 7 | L1 | 55.0℃ | 79.7℃ | 8 | C5 | 57.0℃ | 80.5℃ | 9 | Q5 | 53.1℃ | 76.9℃ | 10 | T1 | 72.6℃ | 101.8℃ | 11 | C81 | 54.5℃ | 78.7℃ | 12 | RTH2 | 52.0℃ | 75.6℃ | 13 | C13 | 58.5℃ | 82.6℃ | 14 | Q101 | 60.2℃ | 83.9℃ | 15 | C109 | 59.6℃ | 83.4℃ | 16 | U1 | 61.4℃ | 84.7℃ | 17 | C101 | 58.2℃ | 81.7℃ | 18 | R5 | 53.3℃ | 77.9℃ | 19 | TSW1 | 49.0℃ | 72.5℃ | 20 | C11 | 51.0℃ | 75.4℃ | 21 | U4 | 55.4℃ | 79.2℃ | 22 | BD1 | 52.1℃ | 75.7℃ | 23 | C1 | 46.4℃ | 71.0℃ | 24 | CASE | 43.2℃ | 64.1℃ |
| NO | Position                                                          | ROOM AMBIENT Ta= 17.7℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | HIGH AMBIENT Ta= 39.5℃                                           |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 1  | LF1                                                               | 40.9℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 65.2℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 2  | LF2                                                               | 49.1℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 73.5℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 3  | L2                                                                | 50.9℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 76.0℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 4  | D3                                                                | 53.0℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 77.1℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 5  | Q2                                                                | 53.4℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 77.0℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 6  | D2                                                                | 54.5℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 78.2℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 7  | L1                                                                | 55.0℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 79.7℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 8  | C5                                                                | 57.0℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 80.5℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 9  | Q5                                                                | 53.1℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 76.9℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 10 | T1                                                                | 72.6℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 101.8℃                                                           |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 11 | C81                                                               | 54.5℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 78.7℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 12 | RTH2                                                              | 52.0℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 75.6℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 13 | C13                                                               | 58.5℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 82.6℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 14 | Q101                                                              | 60.2℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 83.9℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 15 | C109                                                              | 59.6℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 83.4℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 16 | U1                                                                | 61.4℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 84.7℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 17 | C101                                                              | 58.2℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 81.7℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 18 | R5                                                                | 53.3℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 77.9℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 19 | TSW1                                                              | 49.0℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 72.5℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 20 | C11                                                               | 51.0℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 75.4℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 21 | U4                                                                | 55.4℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 79.2℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 22 | BD1                                                               | 52.1℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 75.7℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 23 | C1                                                                | 46.4℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 71.0℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 24 | CASE                                                              | 43.2℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 64.1℃                                                            |                     |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 2  | OVER LOAD BURN-IN TEST                                            | NO DAMAGE<br>1 HOUR ( MIN )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | I/P : 230 VAC<br>O/P : 120 % LOAD<br>Ta : 25℃                    | TEST : OK           |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 3  | LOW TEMPERATURE<br>TURN ON TEST                                   | TURN ON AFTER 2 HOUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | I/P : 264VAC/100VAC<br>O/P : 100 % LOAD<br>Ta= -35℃              | TEST : OK           |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 4  | HIGH HUMIDITY<br>HIGH TEMPERATURE<br>HIGH VOLTAGE<br>TURN ON TEST | AFTER 12 HOURS<br>IN CHAMBER ON<br>CONTROL 40℃<br>NO DAMAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | I/P : 272 VAC<br>O/P : FULL LOAD<br>Ta= 40℃<br>HUMIDITY= 95 %R.H | TEST : OK           |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |
| 5  | TEMPERATURE<br>COEFFICIENT                                        | ± 0.03 %/℃ (0~50℃)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | I/P : 230 VAC<br>O/P : FULL LOAD                                 | ± 0.009 %/℃ (0~50℃) |    |          |                        |                        |   |     |       |       |   |     |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |   |    |       |       |    |    |       |        |    |     |       |       |    |      |       |       |    |     |       |       |    |      |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |    |       |       |    |      |       |       |    |     |       |       |    |    |       |       |    |     |       |       |    |    |       |       |    |      |       |       |

|    |                             |                                                                                                                                                                                                                                                                               |                                                                |
|----|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| 6  | STORAGE TEMPERATURE TEST    | 1. Thermal shock Temperature : -40℃~ +85℃<br>2. Temperature change rate : 25℃ / MIN<br>3. Dwell time low and high temperature : 30 MIN/EACH<br>4. Total test cycle : 5 CYCLE<br>5. Input/Output condition : STATIC                                                            | OK                                                             |
| 7  | THERMAL SHOCK TEST          | 1. Thermal shock Temperature : -30℃~ +70℃<br>2. Temperature change rate : 25℃ / MIN<br>3. Dwell time low and high temperature : 30 MIN/EACH<br>4. Total test cycle : 10 CYCLE<br>5. Input/Output condition : 230VAC/Full Load AC ON/OFF TEST<br>turn on 58sec ; turn off 2sec | OK                                                             |
| 8  | VIBRATION TEST              | 1 Carton & 1 Set<br>(1) Waveform : Sine Wave<br>(2) Frequency : 10~500Hz<br>(3) Sweep Time : 12min/sweep cycle<br>(4) Acceleration : 2G<br>(5) Test Time : 60min in each axis (X.Y.Z)<br>(6) Ta : 25℃                                                                         | TEST : OK                                                      |
| 9  | CAPACITOR LIFE CYCLE        | SUPPOSE C109 IS THE MOST CRITICAL COMPONENT<br>(1) I/P : 230VAC O/P : FULL LOAD Ta= 25 °C LIFE TIME<br>(2) I/P : 230VAC O/P : FULL LOAD Ta= 40 °C LIFE TIME<br>(3) I/P : 230VAC O/P : 75% LOAD Ta= 40 °C LIFE TIME<br>(4) I/P : 230VAC O/P : 50% LOAD Ta= 40 °C LIFE TIME     | (1) 159661HRS<br>(2) 24580HRS<br>(3) 71921HRS<br>(4) 105265HRS |
| 10 | MTBF                        | MIL-HDBK-217F<br>TOTAL FAILURE RATE : 208.66 KHRS                                                                                                                                                                                                                             |                                                                |
| 11 | DMTBF/Accelerated Life Test | Demonstration Mean Time Between Failure (Expected Life): Above 50,000 hours @ TA 50℃                                                                                                                                                                                          |                                                                |

| TEST RESULT | TESTER | REVIEW | APPROVAL |
|-------------|--------|--------|----------|
| PASS        | FRANK  | GESG   | WANGDZ   |

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