

MHF® 5 / 5L Connector (φ0.81 Cable)

Part No. MHF 5L Plug:20714-001R-81, MHF 5 Receptacle:20566-001E-01

Test Report

Product Specification no. PRS-2236

| 3 | T22103 | June 23, 2022 | K.Watanabe | K.Yufu | Y.Hashimoto |
|------|--------|------------------|-------------|--------------|--------------|
| 2 | T21108 | October 28, 2021 | K. Ikeshita | | M. Takemoto |
| 1 | T19039 | March 8, 2019 | K. Tanaka | T. Yamauchi | T. Hirakawa |
| 0 | T16069 | May 10, 2016 | R. Hara | Y. Hashimoto | K. Yotsutani |
| Rev. | ECN | Date | Prepared by | Checked by | Approved by |

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1. Purpose

To evaluate the performance of MHF 5 / 5L Connector in accordance with PRS-2236.

2. Specimen

(1) MHF 5L Plug (Part No: 20714-001R-81)

Cable: AWG#33 coaxial cable (Jacket diameter 0.83 mm)

(2) MHF 5 Receptacle (Part No: 20566-001E-01)

3. Test Sequence

All the evaluations were performed in accordance with Table 1. Test Sequence.

4. Result

See Table 2, Graph 1 to 11. For the details of the testing conditions and requirements, see PRS-2236. The "n" in the tables show the number of measurement points.

5. Conclusion

All the specimens met the requirements of PRS-2236.

Table 1 Test Sequence and Sample Quantity

| To | ot Itam | | | | | | | Gro | oup | | | | | | |
|----------------------|------------|----|----|-----|----|----|-----|-----|-----|-----|-----|-----|-----|----|----|
| le | st Item | Α | В | С | D | Е | F | G | Н | J | K | L | М | N | Р |
| Contact Resista | ance | | | 1,3 | | | 1,3 | 1,3 | 1,5 | 1,5 | 1,3 | 1,3 | 1,3 | | |
| Insulation Resi | stance | | | | | | | | 2,6 | 2,6 | | | | | |
| D. W. Voltage | | | | | | | | | 3,7 | 3,7 | | | | | |
| VSWR | | 1 | | | | | | | | | | | | | |
| Unmating Forc | e | | 1 | | | | | | | | | | | | |
| Durability | | | | 2 | | | | | | | | | | | |
| Crimp Strength | | | | | 1 | | | | | | | | | | |
| Cable Retentio | n Force | | | | | 1 | | | | | | | | | |
| Vibration | | | | | | | 2 | | | | | | | | |
| Shock | | | | | | | | 2 | | | | | | | |
| Humidity (Stea | dy State) | | | | | | | | 4 | | | | | | |
| Thermal Shock | | | | | | | | | | 4 | | | | | |
| High Temperate | ure Life | | | | | | | | | | 2 | | | | |
| H ₂ S Gas | | | | | | | | | | | | 2 | | | |
| Salt Water Spray | | | | | | | | | | | | | 2 | | |
| Solder ability | | | | | | | | | | | | | | 1 | |
| Soldering Heat | Resistance | | | | | | | | | | | | | | 1 |
| Specimen quantity | Plug | 10 | 40 | 40 | 10 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | - | - |
| (pcs.) | Receptacle | 5 | 10 | 10 | - | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

*Numbers indicate sequence in which tests are performed.

Table 2-1

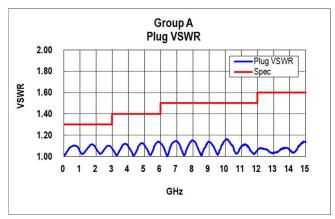
| Group | Test items | Measurements | Specification | N | Unit | AVE. | MAX. | MIN. | S | Judgemer |
|-------|--|--|---|---|-------------|---|--|----------------------------------|--------------------------------------|---|
| Α | VSWR | | | | | | | | | |
| | Plug | | | | | | | | | |
| | | 0.1~3.0GHz | 1.30 MAX. | | | 1.118 | 1.13 | 1.10 | 0.007 | Pass |
| | | 3.0~6.0GHz | 1.40 MAX. | | | 1.142 | 1.17 | 1.12 | 0.014 | Pass |
| | | 6.0~9.0 GHz | 1.50 MAX. | 10 | - | 1.149 | 1.17 | 1.12 | 0.014 | Pass |
| | | 9.0~12.0 GHz | 1.50 MAX. | | | 1.151 | 1.17 | 1.12 | 0.015 | Pass |
| | | 12.0~15.0 GHz | 1.60 MAX. | | | 1.145 | 1.19 | 1.11 | 0.018 | Pass |
| | Receptacle | | | l | ı. | | ! | ļ | l . | ļ |
| | | 0.1~3.0GHz | 1.30 MAX. | | | 1.083 | 1.09 | 1.07 | 0.008 | Pass |
| | | 3.0~6.0GHz | 1.40 MAX. | | | 1.180 | 1.20 | 1.17 | 0.012 | Pass |
| | | 6.0~9.0 GHz | 1.50 MAX. | 5 | _ | 1.213 | 1.23 | 1.19 | 0.012 | Pass |
| | | 9.0~12.0 GHz | 1.50 MAX. | Ĭ | | 1.234 | 1.26 | 1.22 | 0.017 | Pass |
| | | 12.0~15.0 GHz | 1.65 MAX. | | | 1.410 | 1.45 | 1.38 | 0.033 | Pass |
| | | 12.0° 13.0 GHZ | 1.03 IVIAA. | | | 1.410 | 1.43 | 1.30 | 0.033 | F 455 |
| В | I Inmafae force | | | | | | | | | |
| ь | Unmating force | Initial | 5 N MIN. | 1 | 1 | 11.15 | 11.9 | 10.4 | 0.32 | l Door |
| | | | | 10 | N | | | | | Pass |
| | | After 30 cycles | 3 N MIN. | | | 7.24 | 7.9 | 6.2 | 0.24 | Pass |
| | In 199 | | | | | | | | | |
| С | Durability | | | | | | | | | |
| | Contact resis | stance of main contact | 1 00 0 | 1 | | 1 | | 2.1 | 2 = 4 | - |
| | | Initial | 20mΩ MAX. | , . | | 7.30 | 8.1 | 6.4 | 0.59 | Pass |
| | | After testing | - | 10 | mΩ | 8.21 | 10.0 | 6.8 | 1.04 | Pass |
| | | ⊿R | ⊿R 20mΩ MAX. | | | 0.90 | 3.0 | -0.9 | 1.29 | Pass |
| | Contact resis | stance of ground contact | | | | | | | | |
| | | Initial | 20mΩ MAX. | | | 4.84 | 6.0 | 3.9 | 0.68 | Pass |
| | | After testing | - | 10 | mΩ | 5.05 | 6.1 | 4.3 | 0.58 | Pass |
| | | ⊿R | ⊿R 100mΩ MAX. | | | 0.31 | 1.8 | -1.3 | 0.87 | Pass |
| | Appearance |) | | | | | | | | |
| | | | | | | | | | | |
| | | Spec: No abnormality adver | sely affecting the performa | ance shall occu | r | | | | | |
| | | Spec: No abnormality adver | 1 | | r | No abnormality | / | | | Pass |
| | | Initial | sely affecting the performa No abnormality | ance shall occur | r _ | No abnormality | | | | Pass Pass |
| | | | 1 | | - - | No abnormality | | | | |
| D | Crimp strength | Initial | 1 | | - - | | | | | |
| D | Crimp strength | Initial After testing | 1 | | - I N | | | 17.2 | 0.69 | |
| D | Crimp strength | Initial | No abnormality | 10 | - | No abnormality | / | 17.2 | 0.69 | Pass |
| D | Crimp strength Cable Retention | Initial After testing After testing | No abnormality | 10 | - | No abnormality | / | 17.2 | 0.69 | Pass |
| | Cable Retention | Initial After testing After testing n Force | No abnormality | 10 | - | No abnormality | / | 17.2 | 0.69 | Pass |
| | | Initial After testing After testing n Force continuity | No abnormality 10N MIN. | 10 | - | No abnormality | / | 17.2 | 0.69 | Pass |
| | Cable Retention | Initial After testing After testing n Force continuity Spec: No electrical discontinu | No abnormality 10N MIN. | 10 10 occur. | - N | No abnormality | / | 17.2 | 0.69 | Pass |
| | Cable Retention Electrical dis | Initial After testing After testing n Force continuity Spec: No electrical discontinuation | No abnormality 10N MIN. | 10 | - | No abnormality | / | 17.2 | 0.69 | Pass |
| | Cable Retention | Initial After testing After testing n Force continuity Spec: No electrical discontinuation | No abnormality 10N MIN. uity greater than 1µs shall | 10 10 occur. | - N | No abnormality | / | 17.2 | 0.69 | Pass |
| | Cable Retention Electrical dis | Initial After testing After testing n Force continuity Spec: No electrical discontinuation After testing spec: No abnormality adver | No abnormality 10N MIN. uity greater than 1µs shall | 10 10 occur. 10 ance shall occu | - N | No abnormality 18.66 No discontinity | 19.8 | 17.2 | 0.69 | Pass Pass Pass |
| | Cable Retention Electrical dis | Initial After testing After testing n Force continuity Spec: No electrical discontinuation | No abnormality 10N MIN. uity greater than 1µs shall | 10 10 occur. | - N | No abnormality | 19.8 | 17.2 | 0.69 | Pass |
| Е | Cable Retention Electrical dis Appearance | Initial After testing After testing n Force continuity Spec: No electrical discontinuation After testing spec: No abnormality adver | No abnormality 10N MIN. uity greater than 1µs shall | 10 10 occur. 10 ance shall occu | - N | No abnormality 18.66 No discontinity | 19.8 | 17.2 | 0.69 | Pass Pass Pass |
| | Cable Retention Electrical dis Appearance | Initial After testing After testing Force continuity Spec: No electrical discontinuation After testing Spec: No abnormality adver After testing | No abnormality 10N MIN. uity greater than 1µs shall | 10 10 occur. 10 ance shall occu | - N | No abnormality 18.66 No discontinity | 19.8 | 17.2 | 0.69 | Pass Pass Pass |
| Е | Cable Retention Electrical dis Appearance | Initial After testing After testing Force continuity Spec: No electrical discontinual After testing Spec: No abnormality adver After testing | No abnormality 10N MIN. 10N MIN. 11ty greater than 1µs shall - sely affecting the performation | 10 10 occur. 10 ance shall occu | - N | No abnormality 18.66 No discontinity No abnormality | 19.8 | | | Pass Pass Pass |
| Е | Cable Retention Electrical dis Appearance | Initial After testing After testing Force continuity Spec: No electrical discontinual After testing Spec: No abnormality adver After testing stance of main contact Initial | No abnormality 10N MIN. uity greater than 1µs shall | 10 10 occur. 10 ance shall occu 10 | - N | No abnormality 18.66 No discontinity No abnormality 7.64 | 19.8 | 7.0 | 0.36 | Pass Pass Pass Pass |
| Е | Cable Retention Electrical dis Appearance | Initial After testing After testing n Force continuity Spec: No electrical discontinuation After testing Spec: No abnormality advertise After testing stance of main contact Initial After testing | No abnormality 10N MIN. 10N MIN. ity greater than 1μs shall - sely affecting the performation in the | 10 10 occur. 10 ance shall occu | - N | No abnormality 18.66 No discontinity No abnormality 7.64 7.42 | 19.8 19.8 7.9 | 7.0 | 0.36 0.40 | Pass Pass Pass Pass Pass Pass |
| Е | Cable Retention Electrical dis Appearance Vibration Contact resis | Initial After testing After testing n Force continuity Spec: No electrical discontinual discon | No abnormality 10N MIN. 10N MIN. 11ty greater than 1µs shall - sely affecting the performation | 10 10 occur. 10 ance shall occu 10 | - N | No abnormality 18.66 No discontinity No abnormality 7.64 | 19.8 | 7.0 | 0.36 | Pass Pass Pass Pass Pass Pass |
| Е | Cable Retention Electrical dis Appearance Vibration Contact resis | Initial After testing After testing In Force I | No abnormality 10N MIN. 10N MIN. 20mΩ MAX. 20mΩ MAX. AR 20mΩ MAX. | 10 10 occur. 10 ance shall occu 10 | - N | No abnormality 18.66 No discontinity No abnormality 7.64 7.42 -0.21 | 8.1 7.9 0.4 | 7.0 6.8 -0.8 | 0.36 0.40 0.33 | Pass Pass Pass Pass Pass Pass Pass Pass |
| Е | Cable Retention Electrical dis Appearance Vibration Contact resis | Initial After testing After testing In Force I | No abnormality 10N MIN. 10N MIN. ity greater than 1μs shall - sely affecting the performation in the | 10 10 occur. 10 ance shall occu 10 | - N N mΩ | No abnormality 18.66 No discontinity No abnormality 7.64 7.42 -0.21 | 8.1 7.9 0.4 | 7.0 6.8 -0.8 | 0.36 0.40 0.33 | Pass Pass Pass Pass Pass Pass Pass Pass |
| Е | Cable Retention Electrical dis Appearance Vibration Contact resis | Initial After testing After testing In Force I | No abnormality 10N MIN. 10N MIN. 11y greater than 1μs shall - sely affecting the performation in the self of the performation in the self of the | 10 10 occur. 10 ance shall occu 10 | - N | No abnormality 18.66 No discontinity No abnormality 7.64 7.42 -0.21 4.29 4.36 | 8.1 7.9 0.4 4.7 4.8 | 7.0 6.8 -0.8 3.9 4.0 | 0.36 0.40 0.33 0.27 0.27 | Pass Pass Pass Pass Pass Pass Pass Pass |
| Е | Cable Retention Electrical dis Appearance Vibration Contact resid | Initial After testing After testing In Force In It I | No abnormality 10N MIN. 10N MIN. 20mΩ MAX. 20mΩ MAX. AR 20mΩ MAX. | 10 10 occur. 10 ance shall occu 10 | - N N mΩ | No abnormality 18.66 No discontinity No abnormality 7.64 7.42 -0.21 | 8.1 7.9 0.4 | 7.0 6.8 -0.8 | 0.36 0.40 0.33 | Pass Pass Pass Pass Pass Pass Pass Pass |
| Е | Cable Retention Electrical dis Appearance Vibration Contact resis | Initial After testing After testing In Force In It I | No abnormality 10N MIN. 10N MIN. 10N MIN. 10N MIN. 20mΩ MAX. 10N MIN. 20mΩ MAX. 20mΩ MAX. 20mΩ MAX. 20mΩ MAX. 4R 100mΩ MAX. | 10 10 10 occur. 10 ance shall occul 10 10 | - N N mΩ | No abnormality 18.66 No discontinity No abnormality 7.64 7.42 -0.21 4.29 4.36 | 8.1 7.9 0.4 4.7 4.8 | 7.0 6.8 -0.8 3.9 4.0 | 0.36 0.40 0.33 0.27 0.27 | Pass Pass Pass Pass Pass Pass Pass Pass |
| Е | Cable Retention Electrical dis Appearance Vibration Contact resid | Initial After testing After testing In Force In It I | No abnormality 10N MIN. 10N MIN. 10N MIN. 10N MIN. 20mΩ MAX. 10N MIN. 20mΩ MAX. 20mΩ MAX. 20mΩ MAX. 20mΩ MAX. 4R 100mΩ MAX. | 10 10 10 occur. 10 ance shall occul 10 10 | - N N mΩ | No abnormality 18.66 No discontinity No abnormality 7.64 7.42 -0.21 4.29 4.36 | 8.1 7.9 0.4 4.7 4.8 | 7.0 6.8 -0.8 3.9 4.0 | 0.36 0.40 0.33 0.27 0.27 | Pass Pass Pass Pass Pass Pass Pass Pass |
| Е | Cable Retention Electrical dis Appearance Vibration Contact resid | Initial After testing After testing In Force In It I | No abnormality 10N MIN. 10N MIN. 10N MIN. 10N MIN. 20mΩ MAX. 10N MIN. 20mΩ MAX. 20mΩ MAX. 20mΩ MAX. 20mΩ MAX. 4R 100mΩ MAX. | 10 10 10 occur. 10 ance shall occul 10 10 | - N N mΩ | No abnormality 18.66 No discontinity No abnormality 7.64 7.42 -0.21 4.29 4.36 | 8.1 7.9 0.4 4.7 4.8 | 7.0 6.8 -0.8 3.9 4.0 | 0.36 0.40 0.33 0.27 0.27 | Pass Pass Pass Pass Pass Pass Pass Pass |
| Е | Cable Retention Electrical dis Appearance Vibration Contact resid | Initial After testing After testing In Force In It In In It In In It In It In It In It In | No abnormality 10N MIN. 10N MIN. 10N MIN. 20mΩ MAX. 20mΩ MAX. 20mΩ MAX. 20mΩ MAX. 4R 100mΩ MAX. | 10 10 occur. 10 ance shall occu 10 10 10 ccur. | - N N mΩ mΩ | No abnormality | 8.1 7.9 0.4 4.7 4.8 | 7.0 6.8 -0.8 3.9 4.0 | 0.36 0.40 0.33 0.27 0.27 | Pass Pass Pass Pass Pass Pass Pass Pass |
| Е | Cable Retention Electrical dis Appearance Vibration Contact resis Electrical dis | Initial After testing After testing In Force In It In In It In In It In It In It In It In | No abnormality 10N MIN. 10N MIN. 10N MIN. 20mΩ MAX. 20mΩ MAX. 20mΩ MAX. 4R 20mΩ MAX. 20mΩ MAX. | 10 10 10 occur. 10 10 10 10 10 10 10 | - N N mΩ mΩ | No abnormality | 8.1 7.9 0.4 4.7 4.8 | 7.0 6.8 -0.8 3.9 4.0 | 0.36 0.40 0.33 0.27 0.27 | Pass Pass Pass Pass Pass Pass Pass Pass |
| Е | Cable Retention Electrical dis Appearance Vibration Contact resis Electrical dis | Initial After testing After testing Force continuity Spec: No electrical discontinual After testing Spec: No abnormality adver After testing Initial After testing Restance of main contact Initial After testing Restance of ground contact Initial After testing | No abnormality 10N MIN. 10N MIN. 10N MIN. 20mΩ MAX. 20mΩ MAX. 20mΩ MAX. 4R 20mΩ MAX. 20mΩ MAX. | 10 10 10 occur. 10 10 10 10 10 10 10 | - N N mΩ mΩ | No abnormality | 7. 19.8 7. 8.1 7.9 0.4 4.7 4.8 0.6 | 7.0 6.8 -0.8 3.9 4.0 | 0.36 0.40 0.33 0.27 0.27 | Pass Pass Pass Pass Pass Pass Pass Pass |

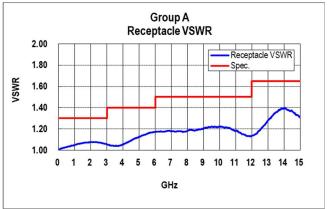
Table 2-2

| Group | | | | | | | | | | | | |
|-------|--|--|---|---------------------------|-----------------------|--|---------------------------------|---------------------------|------------------------------|---|--|--|
| | Test items | Measurements | Specification | N | Unit | AVE. | MAX. | MIN. | S | Judgeme | | |
| G | Shock | | | | | | | | | | | |
| | Contact resis | tance of main contact | | | | | | | | | | |
| | | Initial | 20mΩ MAX. | | | 7.30 | 7.7 | 7.0 | 0.27 | Pass | | |
| | | After testing | - | 10 | mΩ | 7.01 | 7.7 | 6.5 | 0.37 | Pass | | |
| | | ⊿R | ⊿R 20mΩ MAX. | | | -0.30 | 0.2 | -1.0 | 0.38 | Pass | | |
| | Contact resis | tance of ground contact | | | • | | | | • | | | |
| | | Initial | 20mΩ MAX. | | | 3.81 | 4.1 | 3.5 | 0.19 | Pass | | |
| | | After testing | - | 10 | mΩ | 4.00 | 4.4 | 3.5 | 0.29 | Pass | | |
| | | ⊿R | ⊿R 100mΩ MAX. | | | 0.19 | 0.6 | -0.6 | 0.31 | Pass | | |
| | Electrical disc | | <u>∠</u> IT 100III2 W// 01. | | | 0.10 | 0.0 | 0.0 | 0.01 | 1 000 | | |
| | Licot icai disc | Spec: No electrical discontinu | ity grator than 1uc chall o | | | | | | | | | |
| | | | lly grater train the strain of | 10 | _ | No disconfinit | | | | Dose | | |
| | | After testing | - | 10 | _ | No discontinity | | | | Pass | | |
| | Appearance | erance Spec: No abnormality adversely affecting the performance shall occur | | | | | | | | | | |
| | | | ely affecting the performa | ince shall occui | r | T | | | | | | |
| | | Initial | No abnormality | 10 | _ | No abnormality | | | | Pass | | |
| | | After testing | | ., | | No abnormality | | | | Pass | | |
| | | | | | | | | | | | | |
| Н | Humidity (Stead | y State) | | | | | | | | | | |
| | Contact resis | tance of main contact | | | | | | | | | | |
| | | Initial | 20mΩ MAX. | | | 7.50 | 8.2 | 7.0 | 0.43 | Pass | | |
| | | After testing | _ | 10 | mΩ | 7.46 | 9.1 | 6.6 | 0.70 | Pass | | |
| | | ⊿R | ⊿R 20mΩ MAX. | | | -0.04 | 1.0 | -0.7 | 0.47 | Pass | | |
| | Contact resis | tance of ground contact | ZIV ZONIZI WIVV. | | | 0.01 | 1.0 | 0.1 | 0.11 | 1 400 | | |
| | Contact resis | Initial | 20mΩ MAX. | | 1 | 4.14 | 4.6 | 3.8 | 0.23 | Pass | | |
| | | | ZUIILZ IVIAN. | 10 | mΩ | 5.17 | 6.5 | 4.6 | 0.52 | Pass | | |
| | | After testing | - 4D 400 - O MAN | 10 | 11112 | *************************************** | | | | | | |
| | | ⊿R | ⊿R 100mΩ MAX. | | | 1.03 | 2.0 | 0.5 | 0.46 | Pass | | |
| | Insulation res | | 1 | | | | | | | | | |
| | | Initial | 500MΩ MIN. | 10 | ΜΩ | 10,000MΩ MIN | | | | Pass | | |
| | | After testing | 100MΩ MIN. | | | 10,000MΩ MIN | | | | Pass | | |
| | Dielectric with | | tanding voltage | | | | | | | | | |
| | | Spec: No creeping discharge | , flashover, no insulator t | oreakdown sha | all occur. | | | | | | | |
| | | After testing | - | 10 | - | No abnormality | | | | Pass | | |
| | Appearance | • | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | Spec: No abnormality advers | ely affecting the performa | ince shall occur | r | | | | | | | |
| | | Spec: No abnormality advers | | | r | No abnormality | | | | Pass | | |
| | | Initial | ely affecting the performa No abnormality | ance shall occur | r - | No abnormality | | | | Pass Pass | | |
| | | | | | r - | No abnormality | | | | Pass Pass | | |
| J | Thermal shock | Initial | | | - - | | | | | | | |
| J | Thermal shock | Initial After testing | | | - | | | | | | | |
| J | | Initial After testing tance of main contact | No abnormality | | - - | No abnormality | 0 / | 7.0 | 0.42 | Pass | | |
| J | | Initial After testing tance of main contact Initial | | 10 | - | No abnormality | 8.4 | 7.0 | 0.42 | Pass | | |
| J | | Initial After testing tance of main contact Initial After testing | No abnormality 20mΩ MAX. | | - mΩ | 7.73 7.39 | 8.0 | 7.0 | 0.33 | Pass Pass Pass | | |
| J | Contact resis | Initial After testing tance of main contact Initial After testing □R | No abnormality | 10 | - | No abnormality | | | | Pass | | |
| J | Contact resis | Initial After testing tance of main contact Initial After testing R tance of ground contact | No abnormality 20mΩ MAX. - ΔR 20mΩ MAX. | 10 | - | 7.73 7.39 -0.34 | 8.0 0.2 | 7.0 -0.8 | 0.33 0.31 | Pass Pass Pass Pass Pass | | |
| J | Contact resis | Initial After testing tance of main contact Initial After testing R tance of ground contact Initial | No abnormality 20mΩ MAX. | 10 | mΩ | 7.73 7.39 -0.34 | 8.0 0.2 4.9 | 7.0 -0.8 | 0.33 0.31 | Pass Pass Pass Pass Pass | | |
| J | Contact resis | Initial After testing tance of main contact Initial After testing R tance of ground contact | No abnormality 20mΩ MAX. - ΔR 20mΩ MAX. | 10 | - | 7.73 7.39 -0.34 | 8.0 0.2 | 7.0 -0.8 | 0.33 0.31 | Pass Pass Pass Pass Pass | | |
| J | Contact resis | Initial After testing tance of main contact Initial After testing R tance of ground contact Initial | No abnormality 20mΩ MAX. - ΔR 20mΩ MAX. 20mΩ MAX. | 10 | mΩ | 7.73 7.39 -0.34 | 8.0 0.2 4.9 | 7.0 -0.8 | 0.33 0.31 | Pass Pass Pass Pass Pass | | |
| J | Contact resis | Initial After testing tance of main contact Initial After testing | No abnormality 20mΩ MAX. - ΔR 20mΩ MAX. 20mΩ MAX. | 10 | mΩ | 7.73 7.39 -0.34 4.28 6.12 | 8.0 0.2 4.9 7.2 | 7.0 -0.8 3.9 5.1 | 0.33 0.31 0.30 0.73 | Pass Pass Pass Pass Pass Pass | | |
| J | Contact resis | Initial After testing tance of main contact Initial After testing | No abnormality 20mΩ MAX. - ΔR 20mΩ MAX. 20mΩ MAX. | 10 | - mΩ | 7.73 7.39 -0.34 4.28 6.12 | 8.0 0.2 4.9 7.2 3.0 | 7.0 -0.8 3.9 5.1 | 0.33 0.31 0.30 0.73 | Pass Pass Pass Pass Pass Pass Pass | | |
| J | Contact resis | Initial After testing tance of main contact Initial After testing | No abnormality 20mΩ MAX. - ΔR 20mΩ MAX. 20mΩ MAX. - ΔR 100mΩ MAX. | 10 | mΩ | 7.73 7.39 -0.34 4.28 6.12 1.84 | 8.0 0.2 4.9 7.2 3.0 | 7.0 -0.8 3.9 5.1 | 0.33 0.31 0.30 0.73 | Pass Pass Pass Pass Pass Pass Pass Pass | | |
| J | Contact resis Contact resis | Initial After testing tance of main contact Initial After testing R tance of ground contact Initial After testing R tance of ground contact Initial After testing R tidence Initial After testing | No abnormality 20mΩ MAX. - ΔR 20mΩ MAX. 20mΩ MAX. - ΔR 100mΩ MAX. | 10 | - mΩ | 7.73 7.39 -0.34 4.28 6.12 1.84 | 8.0 0.2 4.9 7.2 3.0 | 7.0 -0.8 3.9 5.1 | 0.33 0.31 0.30 0.73 | Pass Pass Pass Pass Pass Pass Pass Pass | | |
| J | Contact resis Contact resis | Initial After testing tance of main contact Initial After testing ☑R tance of ground contact Initial After testing ☑R tance of ground contact Initial After testing ☑R sidence Initial After testing Initial After testing | 20mΩ MAX. - ΔR 20mΩ MAX. 20mΩ MAX. - ΔR 100mΩ MAX. 100mΩ MAX. | 10 10 10 | - mΩ mΩ | 7.73 7.39 -0.34 4.28 6.12 1.84 | 8.0 0.2 4.9 7.2 3.0 | 7.0 -0.8 3.9 5.1 | 0.33 0.31 0.30 0.73 | Pass Pass Pass Pass Pass Pass Pass Pass | | |
| J | Contact resis Contact resis | Initial After testing tance of main contact Initial After testing ☑R tance of ground contact Initial After testing ☑R tance of ground contact Initial After testing ☑R sidence Initial After testing standing voltage Spec: No creeping discharge | 20mΩ MAX. - ΔR 20mΩ MAX. 20mΩ MAX. - ΔR 100mΩ MAX. 100mΩ MAX. | 10 10 10 breakdown sha | - mΩ MΩ | 7.73 7.39 -0.34 4.28 6.12 1.84 10,000ΜΩ ΜΙΝ 10,000ΜΩ ΜΙΝ | 8.0 0.2 4.9 7.2 3.0 | 7.0 -0.8 3.9 5.1 | 0.33 0.31 0.30 0.73 | Pass Pass Pass Pass Pass Pass Pass Pass | | |
| J | Contact resis Contact resis Insulation res | Initial After testing tance of main contact Initial After testing ☑R tance of ground contact Initial After testing ☑R tance of ground contact Initial After testing ☑R sidence Initial After testing Initial After testing | 20mΩ MAX. - ΔR 20mΩ MAX. 20mΩ MAX. - ΔR 100mΩ MAX. 100mΩ MAX. | 10 10 10 | - mΩ mΩ | 7.73 7.39 -0.34 4.28 6.12 1.84 | 8.0 0.2 4.9 7.2 3.0 | 7.0 -0.8 3.9 5.1 | 0.33 0.31 0.30 0.73 | Pass Pass Pass Pass Pass Pass Pass Pass | | |
| J | Contact resis Contact resis | Initial After testing tance of main contact Initial After testing ⊿R tance of ground contact Initial After testing ⊿R sidence Initial After testing After testing standing voltage Spec: No creeping discharge After testing | 20mΩ MAX. - ΔR 20mΩ MAX. 20mΩ MAX. - ΔR 100mΩ MAX. - ΔR 100mΩ MIN. 100MΩ MIN. 100MΩ MIN. | 10 10 10 10 breakdown sha | - mΩ mΩ MΩ all occur. | 7.73 7.39 -0.34 4.28 6.12 1.84 10,000ΜΩ ΜΙΝ 10,000ΜΩ ΜΙΝ | 8.0 0.2 4.9 7.2 3.0 | 7.0 -0.8 3.9 5.1 | 0.33 0.31 0.30 0.73 | Pass Pass Pass Pass Pass Pass Pass Pass | | |
| J | Contact resis Contact resis Insulation res | Initial After testing tance of main contact Initial After testing Spec: No creeping discharge After testing Spec: No abnormality adverse | 20mΩ MAX. - ΔR 20mΩ MAX. 20mΩ MAX. - ΔR 100mΩ MAX. - ΔR 100mΩ MIN. 100MΩ MIN. 100MΩ MIN. | 10 10 10 10 breakdown sha | - mΩ mΩ MΩ all occur. | 7.73 7.39 -0.34 4.28 6.12 1.84 10,000ΜΩ ΜΙΝ 10,000ΜΩ ΜΙΝ | 8.0 0.2 4.9 7.2 3.0 | 7.0 -0.8 3.9 5.1 | 0.33 0.31 0.30 0.73 | Pass Pass Pass Pass Pass Pass Pass Pass | | |
| J | Contact resis Contact resis Insulation res | Initial After testing tance of main contact Initial After testing ⊿R tance of ground contact Initial After testing ⊿R sidence Initial After testing After testing standing voltage Spec: No creeping discharge After testing | 20mΩ MAX. - ΔR 20mΩ MAX. 20mΩ MAX. - ΔR 100mΩ MAX. - ΔR 100mΩ MIN. 100MΩ MIN. 100MΩ MIN. | 10 10 10 10 breakdown sha | - mΩ mΩ MΩ all occur. | 7.73 7.39 -0.34 4.28 6.12 1.84 10,000ΜΩ ΜΙΝ 10,000ΜΩ ΜΙΝ | 8.0 0.2 4.9 7.2 3.0 | 7.0 -0.8 3.9 5.1 | 0.33 0.31 0.30 0.73 | Pass Pass Pass Pass Pass Pass Pass Pass | | |

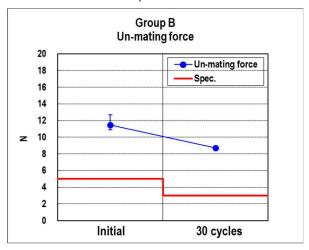
Table 2-3

| Group | Test items | Measurements | Specification | N | Unit | AVE. | MAX. | MIN. | S | Judgeme | | |
|-------|--|----------------------------|-----------------------------|-------------------|----------------|---------------------|------------------|---------|--------|-------------|--|--|
| K | High Temperate | ure Life | ' | | | | | | | | | |
| | | stance of main contact | | | | | | | | | | |
| | | Initial | 20mΩ MAX. | | | 7.74 | 8.2 | 7.3 | 0.31 | Pass | | |
| | | After testing | - | 10 | mΩ | 7.02 | 7.6 | 6.4 | 0.43 | Pass | | |
| | | ⊿R | ⊿R 20mΩ MAX. | | | -0.73 | 0.0 | -1.3 | 0.46 | Pass | | |
| | Contact resis | stance of ground contact | 2.11.201121111011 | | | | 0.0 | | 00 | . 455 | | |
| | 001120110010 | Initial | 20mΩ MAX. | | | 4.25 | 4.6 | 3.9 | 0.23 | Pass | | |
| | | After testing | - | 10 | mΩ | 4.34 | 4.8 | 4.0 | 0.23 | Pass | | |
| | | ⊿R | ⊿R 100mΩ MAX. | . • | | 0.09 | 0.7 | -0.4 | 0.34 | Pass | | |
| | Appearance | | Z11 1001112 W/ V1. | | | 0.00 | 0.1 | 0.7 | 0.04 | 1 400 | | |
| | Spec: No abnormality adversely affecting the performance shall occur | | | | | | | | | | | |
| | | Initial | scry ancoung the performe | arioc sitali occu | | No abnormalit | , | | | Pass | | |
| | | After testing | No abnormality | 10 | - | No abnormalit | | | | Pass | | |
| | | Aller leating | | | | INO abilornalit | y | | | 1 033 | | |
| L | 11.0.0 | | | | | | | | | | | |
| _ | H ₂ S Gas | stance of main contact | | | | | | | | | | |
| | Confactresis | Initial | 20mΩ MAX. | | 1 | 7.71 | 8.7 | 6.4 | 0.66 | Door | | |
| | | | ZUIILI IVIAA. | 10 | mΩ | 7.71 | 8.2 | 6.3 | 0.64 | Pass | | |
| | | After testing | _ | 10 | 1111.2 | | | • | | Pass | | |
| | 0 - 1 - 1 1 | ⊿R | ⊿R 20mΩ MAX. | | | -0.65 | 0.3 | -1.2 | 0.47 | Pass | | |
| | Contact resis | stance of ground contact | 1 00 0 1411/ | | 1 | 1 400 | I 50 | 1 04 | 1 0.47 | 1 5 | | |
| | | Initial | 20mΩ MAX. | 40 | | 4.08 | 5.0 | 3.1 | 0.47 | Pass | | |
| | | After testing | - | 10 | mΩ | 4.86 | 5.3 | 4.2 | 0.37 | Pass | | |
| | | ⊿R | ⊿R 100mΩ MAX. | | | 0.78 | 1.4 | 0.0 | 0.42 | Pass | | |
| | Appearance | | | | | | | | | | | |
| | | Spec: No abnormality adver | | | 1 | | | | | | | |
| | | After testing | No abnormality | 10 | - | No abnormalit | / | | | Pass | | |
| | To " | | | | | | | | | | | |
| М | Salt water spray | | | | | | | | | | | |
| | Contact resis | stance of main contact | | | | | | | • | - | | |
| | | Initial | 20mΩ MAX. | | | 7.51 | 8.0 | 6.8 | 0.37 | Pass | | |
| | | After testing | - | 10 | mΩ | 7.46 | 8.5 | 6.7 | 0.61 | Pass | | |
| | | ⊿R | ⊿R 20mΩ MAX. | | | -0.05 | 1.2 | -1.1 | 0.75 | Pass | | |
| | Contact resis | stance of ground contact | | | | | | | | | | |
| | 1 | Initial | 20mΩ MAX. | | | 4.15 | 4.5 | 3.6 | 0.25 | Pass | | |
| | 1 | After testing | - | 10 | mΩ | 5.41 | 6.2 | 4.6 | 0.45 | Pass | | |
| | | ⊿R | ⊿R 100mΩ MAX. | | | 1.26 | 2.0 | 0.6 | 0.45 | Pass | | |
| | Appearance | | | | | | | | | | | |
| | 1 | Spec: No abnormality adver | sely affecting the performa | ance shall occu | r | | | | | | | |
| | | After testing | No abnormality | 10 | - | No abnormalit | / | | | Pass | | |
| | • | • | | | - | | | | | - | | |
| N | Solder ability | | | | | | | | | | | |
| | 1 | Spec: More than 95% of the | dipped surface becomes | wet and the pi | nhole that sho | uld not gather at o | ne point is less | than 5% | | | | |
| | 1 | After testing | - 1 | 10 | - | No abnormalit | • | | | Pass | | |
| | 1 | <u>'</u> | 1 | 1 | | | • | | | | | |
| Р | Reflow solderin | g heat resistance | | | | | | | | | | |
| | Appearance | <u> </u> | | | | | | | | | | |
| | 7,700.0.100 | Spec: No abnormality adver | selv affecting the perform | ance shall occi | ır. | | | | | | | |
| | 1 | After testing | | 10 | - | No abnormalit | <i>I</i> | | | Pass | | |
| | | , that leading | | 10 | _ | יווטוווטווומווע | 1 | | | 1 433 | | |

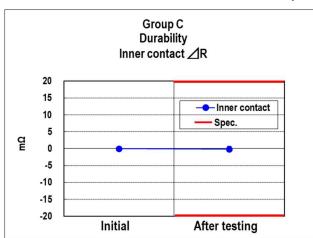


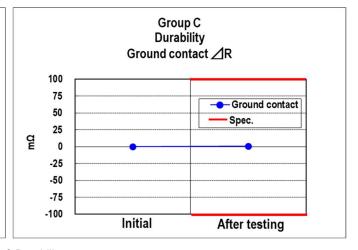


Graph 1 VSWR

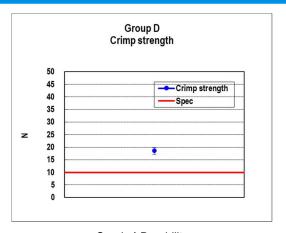


Graph 2 Unmating force

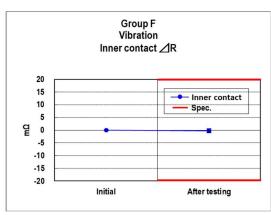


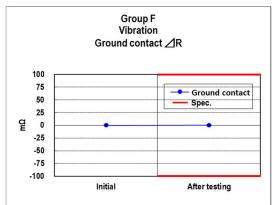


Graph 3 Durability

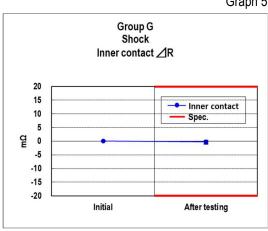


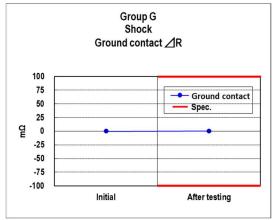
Graph 4 Durability



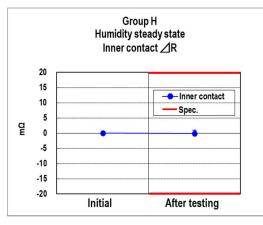


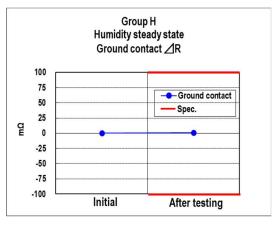
Graph 5 Vibration



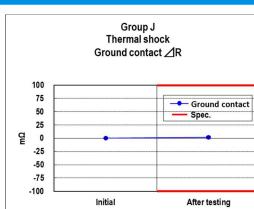


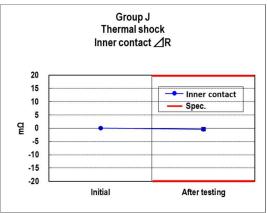
Graph 6 Shock



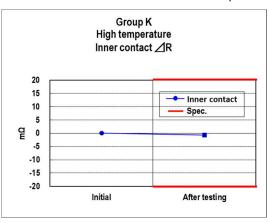


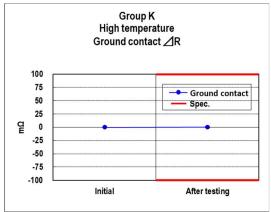
Graph 7 Humidity (Steady State)



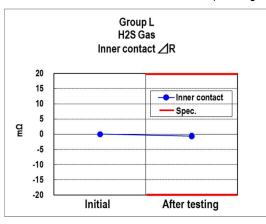


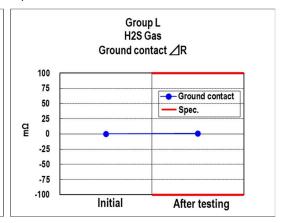
Graph 8 Thermal shock



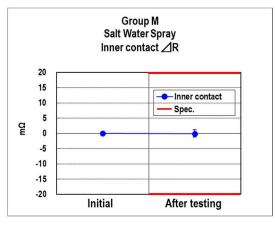


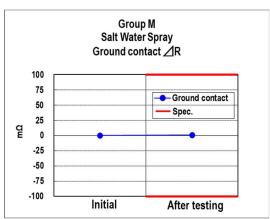
Graph 9 High Temperature Life





Graph 10 H₂S Gas





Graph 11 Salt water spray