



DYNAMIC CONNECTOR D-5000 SERIES

1. INTRODUCTION

1.1. Purpose

Testing was performed on the Dynamic Conn. D-5000 Series to determine if it meets the requirements of Product Specification, 108-5453.

1.2. Scope

This specification covers the results of electrical, mechanical, and environmental performance tests of Dynamic connector D-5000 series.

The qualification testing was performed between 14 Feb, 1996 and 18 Mar, 1996, and between 1 Nov.2000 and 30 Nov.2000, and Jul.2009.

1.3. Conclusion

The Dynamic Conn. D-5000 Series Connector meets the electrical, mechanical and environmental performance requirements of Product Specification, 108-5453.

1.4. Product description

Power circuit connector for industrial application.

1.5. Test samples

Samples were taken randomly from current production. The following samples were used.

| Part Number | Description |
|----------------|---------------------------------------|
| 1123829-1 | D-5200M 8P(H)HEADER ASSY |
| 1-179959-2 | D-5200S 6P(H)HEADER ASSY |
| 1-2326092-2 | D-5200M 6P(V)HEADER ASSY |
| 1-1123309-2 | D-5200M 4P(H)HEADER ASSY |
| 1-917541-2 | D-5200S 4P(H)HEADER ASSY |
| 1-917542-2 | D-5200S 4P(V)HEADER ASSY |
| 1-353081-2 | D-5200S 3P(H)HEADER ASSY |
| 1-353082-2 | D-5200S 3P(V)HEADER ASSY |
| 1-353079-2 | D-5200S 2P(H)HEADER ASSY |
| 1-353080-2 | D-5200S 2P(V)HEADER ASSY |
| 1-1318983-2/-6 | D-5200alpha 4P(H)HEADER ASSY |
| 1-1941458-6 | D-5200M 4P(V)HEADER ASSY |
| 1-917807-3 | D-5200M 6P Rec Housing |
| 1-917808-3 | D-5200M 6P Tab Housing |
| 1-179958-6 | D-5200S 6P Rec Housing |
| 0-917807-2 | D-5200M 4P Rec Housing |
| 1-917808-2 | D-5200M 4P Tab Housing |
| 1-179958-4 | D-5200S 4P Rec Housing |
| 1-179958-3 | D-5200S 3P Rec Housing |
| 1-353046-3 | D-5200S 3P Tab Housing |
| 1-179958-2 | D-5200S 2P Rec Housing |
| 1-353046-2 | D-5200S 2P Tab Housing |
| 1-1747821-3 | D-5300 3P Rec Housing |
| 1-1747819-3 | D-5300 3P Tab Housing |
| 1-1747822-2 | D-5300 4P Rec Housing |
| 1-1747820-2 | D-5300 4P Tab Housing |
| 1318985-2/-6 | D-5 "SS"Size Rec Contact(Striped) |
| 179955-2/-6 | D-5 "S"Size Rec Contact(Striped) |
| 179956-2/-6 | D-5 "M"Size Rec Contact(Striped) |
| 1318696-2/-6 | D-5 "L"Size Rec Contact(Striped) |
| 1318986-2/-6 | D-5 "SS"Size Rec Contact(L/P) |
| 316040-2/-6 | D-5 "S"Size Rec Contact(L/P) |
| 316041-2/-6 | D-5 "M"Size Rec Contact(L/P) |
| 1318697-2/-6 | D-5 "L"Size Rec Contact(L/P) |
| 917804-2/-6 | D-5 "S"Size Tab Contact(L/P) |
| 917805-2/-6 | D-5 "M"Size Tab Contact(L/P) |
| 1981691-2 | D-5 "L"Size Tab Contact(L/P) |
| 1747443-6 | D-5 "L"Size Tab Contact(L/P) |
| 2174022-1 | D-5 "L"Size Long Tab Contact(L/P) |
| 2174021-1 | D-5 "L"Size Long Tab Contact(Striped) |

Figure.1

2 Test contents

| No. | TEST DESCRIPTION | REQUIREMENT | JUDGEMENT | |
|--------------------------------|---------------------------------|--|----------------------|------------|
| 2.1 | Examination of product | Meets requirements of product drawing. | Acceptable | |
| ELECTRICAL REQUIREMENTS | | | | |
| 2.2 | Contact Resistance (Low Level) | 2mΩ Max | Acceptable | |
| 2.3 | Dielectric withstanding Voltage | No creeping discharge or flashover shall occur. Current leakage: 0.5 mA Max. | Acceptable | |
| 2.4 | Insulation Resistance | 1000 MΩ Min. | Acceptable | |
| 2.5 | Temperature Rising | Temperature rising: specified value Max. Under loaded specified current. Refer to 108-5453 | Acceptable | |
| MECHANICAL REQUIREMENTS | | | | |
| 2.6 | Contact Retention Force | 49N Min. | Acceptable | |
| 2.7 | Crimp Tensile Strength | Wire Size | Crimp Tensile (Min.) | |
| | | mm ² | (AWG) | |
| | | 0.50 | #20 | |
| | | 0.85 | #18 | |
| | | 1.309 | #16 | |
| | | 2.081 | #14 | |
| | | 3.309 | #12 | |
| | | 5.262 | #10 | |
| 8 | #8 | 401 | Acceptable | |
| 2.8 | Physical Shock | No electrical discontinuity greater than 1μsec shall occur. Meet requirement of Contact resistance (2mΩ Max.) | | Acceptable |
| 2.9 | Connector Mating Force | 9.8N Max per 1 contact (Initial) Silver plated product: 19.6N Max per 1 contact (Initial) | | Acceptable |
| 2.10 | Connector Unmating Force | 1.96N – 19.6N per 1 contact (Initial) | | Acceptable |
| 2.11 | Contact Insertion Force | 9.8N Max per 1 contact | | Acceptable |
| 2.12 | Vibration (High Frequency) | No electrical discontinuity greater than 1μsec shall occur. | | Acceptable |

| | | | |
|------|---|--|------------|
| 2.13 | Durability (Repeated Mate/Unmating) | Meet requirement of contact resistance (2mΩ Max.). | Acceptable |
| 2.14 | Housing Locking Strength | 98N Min. | Acceptable |
| 2.15 | Solderability | Wet Solder Coverage: 95% Min. | Acceptable |

ENVIRONMENTAL REQUIREMENTS

| | | | |
|------|-----------------------------------|---|------------|
| 2.16 | Resistance to soldering Heat | No physical damage shall occur. | Acceptable |
| 2.17 | Thermal Shock | Meet requirement of contact resistance (2mΩ Max). | Acceptable |
| 2.18 | Humidity- Temperature Cycling | Meet requirement of contact resistance (2mΩ Max). | Acceptable |
| 2.19 | Industrial Gas (SO ₂) | Meet requirement of contact resistance (2mΩ Max). | Acceptable |
| 2.20 | Temperature Life (Heat Aging) | Meet requirement of contact resistance (2mΩ Max). | Acceptable |
| 2.21 | Industrial gas (H ₂ S) | Meet requirement of contact resistance (2mΩ Max). | Acceptable |

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NOTE

Shall meet visual requirements, show no physical damage, and meet requirements of additional tests as specified in the Product Qualification and Requalification Test Sequence shown in Figure 5.

Figure 2

3 Qualification Test Sequence

| TEST OR EXAMINATION | TEST GROUP | | | | | | | | | | | |
|-------------------------------------|-------------------|-----|---------------|------|---|-----|---|---|---|----|----|-------|
| | 1 | 2 | 3 | 4(b) | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12(c) |
| | TEST SEQUENCE (a) | | | | | | | | | | | |
| Examination of product | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Contact Resistance (Low Level) | | 2,5 | 2,4,6 8,10 | 2,5 | | | | | | | | 2,5 |
| Dielectric Withstanding Voltage | | | | | | 3,6 | | | | | | |
| Insulation Resistance | | | | | | 2,5 | | | | | | |
| Temperature Rising | | | | | 2 | | | | | | | |
| Vibration | | 3 | | | | | | | | | | |
| Physical Shock | | 4 | | | | | | | | | | |
| Conn. Mating Force | 2,5, | | | | | | | | | | | |
| Conn. Unmating Force | 3,6 | | | | | | | | | | | |
| Conn. Locking Strength | | | | | | | 2 | | | | | |
| Cont. Insertion Force | | | | | | | | 2 | | | | |
| Cont. Retention Force | | | | | | | | 3 | | | | |
| Crimp Tensile Strength | | | | | | | | | 2 | | | |
| Durability (Repeated Mate/Unmating) | 4 | | 3 | 3 | | | | | | | | 3 |
| Solderability | | | | | | | | | | 2 | | |
| Resistance to Soldering heat | | | | | | | | | | | 2 | |
| Thermal Shock | | | 7 | | | | | | | | | |
| Humidity-Temperature Cycling | | | 9 | | | 4 | | | | | | |
| Industrial SO ₂ gas | | | | 4 | | | | | | | | |
| Temperature Life | | | 5 | | | | | | | | | |
| Industrial H ₂ S gas | | | | | | | | | | | | 4 |


NOTE

- (a) Numbers indicate sequence in which tests are performed.
- (b) Gold plating only
- (c) Silver plating only

Figure 3

4 SUMMARY OF TEST RESULTS:

| Test Group | Test Items | Unit | Result | | | | | | Spec. | Judgement |
|------------|---|------|--------|----|--|-------|--------|--------|-------------------|------------|
| | | | Set. | N | Max. | Min. | Ave. | S | | |
| 1 | Gold plating Connector Mating Force (Initial) | Kg | 10 | 10 | 4.2 | 3.3 | 3.8 | 0.284 | 6 Max | Acceptable |
| | Gold plating Connector Unmating Force (Initial) | Kg | 10 | 10 | 5.0 | 4.0 | 4.51 | 0.342 | 1.2 Min 12 Max | Acceptable |
| | Gold plating Connector Mating Force (Final) | Kg | 10 | 10 | 3.9 | 2.85 | 3.33 | 0.330 | 6 Max | Acceptable |
| | Gold plating Connector Unmating Force (Final) | Kg | 10 | 10 | 4.95 | 3.45 | 4.00 | 0.398 | 1.2 Min 12 Max | Acceptable |
| | Silver plating Connector Mating Force (Initial) | Kg | 3 | 12 | 2.3 | 1.8 | 2.23 | | 8 Max | Acceptable |
| | Silver plating Connector Unmating Force (Initial) | Kg | 3 | 12 | 2.4 | 1.35 | 1.86 | | 0.8 Min 8 Max | Acceptable |
| | Silver plating Connector Mating Force (Final) | Kg | 3 | 12 | 3.2 | 2.15 | 2.58 | | 8 Max | Acceptable |
| | Silver plating Connector Unmating Force (Final) | Kg | 3 | 12 | 3.6 | 1.60 | 2.53 | | 0.8 Min 8 Max | Acceptable |
| 2 | Termination Resistance (Low Level) (Initial) | mΩ | 4 | 24 | 0.534 | 0.390 | 0.4617 | 0.0425 | 2 Max | Acceptable |
| | Vibration (High Frequency) | — | 4 | 24 | No electric discontinuity greater than 1μsec shall occur | | | | | Acceptable |
| | Physical Shock | — | 4 | 24 | No electric discontinuity greater than 1μsec shall occur | | | | | Acceptable |
| | Termination Resistance (Low Level) (Final) | mΩ | 4 | 24 | 0.613 | 0.476 | 0.5314 | 0.0431 | 2 Max | Acceptable |
| 3 | Termination Resistance (Low Level) (Initial) | mΩ | 4 | 24 | 0.577 | 0.406 | 0.4816 | 0.0495 | 2 Max | Acceptable |
| | Termination Resistance (Low Level) (Durability) | mΩ | 4 | 24 | 0.554 | 0.397 | 0.4796 | 0.045 | 2 Max | Acceptable |
| | Termination Resistance (Low Level) (Temperature Life) | mΩ | 4 | 24 | 0.605 | 0.434 | 0.5176 | 0.0391 | 2 Max | Acceptable |
| | Termination Resistance (Low Level) (Thermal Shock) | mΩ | 4 | 24 | 0.694 | 0.431 | 0.5390 | 0.0719 | 2 Max | Acceptable |
| | Termination Resistance(Low Level) (Temperature-Humidity Cycling) | mΩ | 4 | 24 | 0.707 | 0.403 | 0.5384 | 0.0848 | 2 Max | Acceptable |
| 4 | Termination Resistance (Low Level) (Final) | mΩ | 4 | 24 | 0.577 | 0.406 | 0.4856 | 0.0413 | 2 Max | Acceptable |
| | Termination Resistance (Low Level) (Final) | mΩ | 4 | 24 | 0.691 | 0.461 | 0.5762 | 0.0686 | 2 Max | Acceptable |

| Test Group | Test Items | Unit | Result | | | | | | Spec. | Judgement | |
|------------|--|--------------------|---|----|--------------------------------|-------|--------|--------|--------------|------------|------------|
| | | | Set. | N | Max. | Min. | Ave. | S | | | |
| 5 | Temperature Rising | °C | See Figure 5, 6, 7 Max temperature rise at rated current. Ambient-T 75°C: T-rise 30°C MAX Ambient-T 40°C: T-rise 65°C MAX Ambient-T 25°C: T-rise 80°C MAX | | | | | | See 108-5453 | Acceptable | |
| 6 | Insulation Resistance (Initial) | 10 ¹³ Ω | 4 | 20 | 1 Min. | 0.173 | — | — | 1000MΩ Min. | Acceptable | |
| | Dielectric withstanding Voltage (Initial) | — | 4 | 20 | No abnormality allowed | | | | | | |
| | Insulation Resistance (Final) | 10 ¹³ Ω | 4 | 20 | 1 Min | 0.233 | — | — | 1000MΩ Min | Acceptable | |
| | Dielectric withstanding Voltage (Final) | — | 4 | 20 | No abnormality allowed | | | | | | |
| 7 | Housing Locking Strength | Kg | 10 | 10 | 37.55 | 23.8 | 32.605 | 3.721 | 10 Min. | Acceptable | |
| 8 | Contact Insertion Force | Kg | 2 | 12 | 0.205 | 0.075 | 0.1354 | 0.0364 | 1 Max. | Acceptable | |
| | Contact Retention Force | Kg | 2 | 12 | 19 | 10.9 | 15.54 | 1.828 | 5 Min. | Acceptable | |
| 9 | Crimp Tensile Strength (Applicator) | AWG #16 | Kg | — | 10 | 34.8 | 32.8 | 33.82 | 0.62 | 18.9 Min | Acceptable |
| | | AWG #14 | Kg | — | 10 | 41.3 | 38.2 | 39.49 | 1.10 | 25 Min | |
| | | AWG #12 | Kg | — | 10 | 78.3 | 71.9 | 74.51 | 2.22 | 31.9 Min | |
| | | AWG #10 | Kg | — | 10 | 74.1 | 66.9 | 70.58 | 2.98 | 40.9 Min | |
| | Crimp Tensile Strength (Hand Tool) | AWG #16 | Kg | — | 10 | 35.1 | 33.0 | 34.43 | 0.62 | 18.9 Min | |
| | | AWG #14 | Kg | — | 10 | 38.9 | 34.1 | 37.52 | 1.75 | 25 Min | |
| | | AWG #12 | Kg | — | 10 | 78.3 | 73.2 | 76.28 | 1.65 | 31.9 Min | |
| | | AWG #10 | Kg | — | 10 | 74.2 | 62.9 | 68.47 | 3.26 | 40.9 Min | |
| | Crimp Tensile Strength (silver plating) | AWG #20 | Kg | — | 10 | 14.6 | 14.1 | 14.3 | 0.17 | 7.5 Min | |
| | | AWG #18 | Kg | — | 10 | 22.3 | 20.0 | 21.5 | 0.80 | 11.9 Min | |
| | | AWG #16 | Kg | — | 10 | 35.3 | 32.3 | 34.1 | 1.17 | 18.9 Min | |
| | | AWG #14 | Kg | — | 10 | 38.8 | 34.0 | 37.5 | 1.74 | 25 Min | |
| | AWG #12 | Kg | — | 10 | 78.2 | 73.1 | 76.2 | 1.64 | 31.9 Min | | |
| | AWG #10 | Kg | — | 10 | 74.1 | 62.8 | 68.4 | 3.26 | 40.9 Min | | |
| | AWG #8 | Kg | — | 20 | 104.5 | 93.7 | 99.7 | 2.6 | 40.9 Min | | |
| | | | | | | | | | | | |
| 10 | Solder ability | — | 4 | 24 | Wet solder coverage :95% Min | | | | Acceptable | | |
| 11 | Resistance to solderability Heat | — | 4 | 24 | No physical damage shall occur | | | | Acceptable | | |
| 12 | Termination Resistance (Low Level) (Final) | mΩ | 3 | 12 | 0.38 | 0.3 | 0.328 | — | 2 Max | Acceptable | |
| | Termination Resistance (Low Level) (Final) | mΩ | 3 | 12 | 0.54 | 0.33 | 0.401 | — | 2 Max | Acceptable | |

Figure 4

- Ambient temperature: 75°C, Temperature rise 30°C MAX at rated current.

| Series Plating: Au | Position | Temperature rise at rated current [unit: °C] | | | | | | |
|-----------------------|----------|--|--------|--------|--------|--------|--------|--------|
| | | AWG 8 | AWG 10 | AWG 12 | AWG 14 | AWG 16 | AWG 18 | AWG 20 |
| D5200 | 2 | 24 | 23.8 | 23.4 | 23.1 | 24.2 | 17.1 | 20.5 |
| | 3 | 24.9 | 23.5 | 24.3 | 22.2 | 23.6 | 18.9 | 18.7 |
| | 4 | 24 | 22.9 | 25.4 | 25.4 | 23.8 | 16.9 | 20.2 |
| | 6 | 19.8 | 20.7 | 21.5 | 21.1 | 19.8 | 15.4 | 18.2 |
| | 8 | 23.9 | 24.8 | 23.9 | 19.4 | 22.6 | 16.5 | 18.6 |
| D5300 | 3 | 24.1 | 26.3 | 23.5 | 22.4 | 21.9 | - | - |
| | 4 | 26.7 | 26.7 | 26.3 | 21.7 | 23.4 | - | - |
| D5200alpha | 3 | - | - | - | - | - | - | - |
| | 4 | 24.4 | 24.5 | 21.1 | 18.9 | 17.3 | 18.6 | 17.1 |

| Series Plating: Ag | Type | Position | Temperature rise at rated current [unit: °C] | | | | | | |
|-----------------------|------|----------|--|--------|--------|--------|--------|--------|--------|
| | | | AWG 8 | AWG 10 | AWG 12 | AWG 14 | AWG 16 | AWG 18 | AWG 20 |
| D5200 | WTB | 4 | 24 | 24.1 | 24 | 23.2 | 20.4 | 20.4 | 19.4 |
| | WTW | 2 | 21.7 | 22.6 | 21.9 | 23.3 | 22.4 | - | - |
| | | 3 | 22.5 | 24.4 | 23.2 | 23.7 | 21.8 | - | - |
| | | 4 | 23.1 | 22.2 | 20.4 | 23.6 | 21.6 | - | - |
| | | 6 | 24.2 | 24.7 | 24.6 | 24.2 | 19.3 | - | - |
| D5300 | WTW | 3 | 21.8 | 23.1 | 21.3 | 22.8 | 22.4 | - | - |
| | | 4 | 21.6 | 22.4 | 26 | 21.8 | 22.2 | - | - |
| D5200alpha | WTB | 3 | 25 | 25 | 25.7 | 28.1 | 26.3 | 26.6 | 22.3 |
| | | 4 | 25.1 | 26.6 | 27.1 | 25.8 | 26.5 | 24.1 | 26.7 |

Figure 5

- Ambient temperature: 40°C, Temperature rise 65°C MAX at rated current.

| Series Plating: Au | Position | Temperature rise at rated current [unit: °C] | | | | | | |
|-----------------------|----------|--|--------|--------|--------|--------|--------|--------|
| | | AWG 8 | AWG 10 | AWG 12 | AWG 14 | AWG 16 | AWG 18 | AWG 20 |
| D5200 | 2 | 41.5 | 41.9 | 40.7 | 42.1 | 42.6 | 38.8 | 37.4 |
| | 3 | 43.4 | 41.8 | 40.6 | 39.6 | 38.8 | 36.4 | 35.8 |
| | 4 | 41.6 | 40.5 | 40.3 | 41.8 | 39.8 | 37.5 | 38.1 |
| | 6 | 41.2 | 41.5 | 42.2 | 41.5 | 39.1 | 37.2 | 35.8 |
| | 8 | 37.8 | 37.1 | 39.2 | 34.5 | 38.3 | 34.6 | 31.5 |
| D5300 | 3 | 40.7 | 40.8 | 41.8 | 41 | 40.8 | - | - |
| | 4 | 41.2 | 43 | 41.5 | 42 | 39.2 | - | - |
| D5200alpha | 3 | - | - | - | - | - | - | - |
| | 4 | 40.7 | 41.8 | 42.8 | 41.5 | 39.9 | 38 | 41.7 |

| Series Plating: Ag | Type | Position | Temperature rise at rated current [unit: °C] | | | | | | |
|-----------------------|------|----------|--|--------|--------|--------|--------|--------|--------|
| | | | AWG 8 | AWG 10 | AWG 12 | AWG 14 | AWG 16 | AWG 18 | AWG 20 |
| D5200 | WTB | 4 | 41.5 | 43.3 | 44.9 | 41.1 | 40.8 | 41.6 | 39.7 |
| | WTW | 2 | 43.3 | 42.5 | 42.1 | 40.8 | 41.2 | - | - |
| | | 3 | 42.2 | 42.8 | 43.2 | 42.6 | 41.2 | - | - |
| | | 4 | 42.6 | 42.3 | 41.7 | 42.1 | 40.8 | - | - |
| | | 6 | 42.5 | 42.2 | 44.1 | 43.6 | 39.3 | - | - |
| D5300 | WTW | 3 | 41.4 | 41.2 | 41.4 | 40.1 | 40.8 | - | - |
| | | 4 | 41.2 | 41.5 | 43.1 | 41.1 | 40.4 | - | - |
| D5200alpha | WTB | 3 | - | - | - | - | - | - | - |
| | | 4 | 41.5 | 42.3 | 41.8 | 42.2 | 40.3 | 40.9 | 40.5 |

Figure 6

- Ambient temperature: 25°C, Temperature rise 80°C MAX at rated current.

| Series Plating: Au | Position | Temperature rise at rated current [unit: °C] | | | | | | |
|-----------------------|----------|--|--------|--------|--------|--------|--------|--------|
| | | AWG 8 | AWG 10 | AWG 12 | AWG 14 | AWG 16 | AWG 18 | AWG 20 |
| D5200 | 2 | 51.8 | 49.6 | 50 | 50.5 | 50.4 | 46.6 | 47.9 |
| | 3 | 53 | 51.7 | 50.3 | 48.5 | 49.8 | 45.2 | 41.2 |
| | 4 | 50.3 | 49.8 | 50.2 | 51.5 | 51.4 | 46.4 | 43.5 |
| | 6 | 50.4 | 50.6 | 50.1 | 51.1 | 47.2 | 41.8 | 41.2 |
| | 8 | 45.9 | 44.9 | 46.9 | 40.2 | 45.6 | 38.7 | 41.8 |
| D5300 | 3 | 49.8 | 51.4 | 51.5 | 50.1 | 48.4 | - | - |
| | 4 | 50.1 | 51.4 | 51.5 | 51.5 | 50.5 | - | - |
| D5200alpha | 3 | - | - | - | - | - | - | - |
| | 4 | 49.9 | 52.1 | 51.5 | 51.3 | 49.5 | 50.4 | 50.7 |

| Series Plating: Ag | Type | Position | Temperature rise at rated current [unit: °C] | | | | | | |
|-----------------------|------|----------|--|--------|--------|--------|--------|--------|--------|
| | | | AWG 8 | AWG 10 | AWG 12 | AWG 14 | AWG 16 | AWG 18 | AWG 20 |
| D5200 | WTB | 4 | 51.9 | 54.2 | 56.7 | 51.8 | 50.1 | 49.5 | 49.9 |
| | WTW | 2 | 54.1 | 52.2 | 53.7 | 50.2 | 54.5 | - | - |
| | | 3 | 51.6 | 53.8 | 53.5 | 50.1 | 52.9 | - | - |
| | | 4 | 52.1 | 52.2 | 50.3 | 52.3 | 51 | - | - |
| | | 6 | 50.8 | 51.7 | 54.5 | 52.1 | 50.1 | - | - |
| D5300 | WTW | 3 | 50.9 | 51.2 | 50.5 | 49 | 48.1 | - | - |
| | | 4 | 51.3 | 51.4 | 50.2 | 49.9 | 51.5 | - | - |
| D5200alpha | WTB | 3 | - | - | - | - | - | - | - |
| | | 4 | 50.5 | 51.3 | 52.6 | 50.3 | 50.1 | 49.3 | 50.1 |

Figure 7