



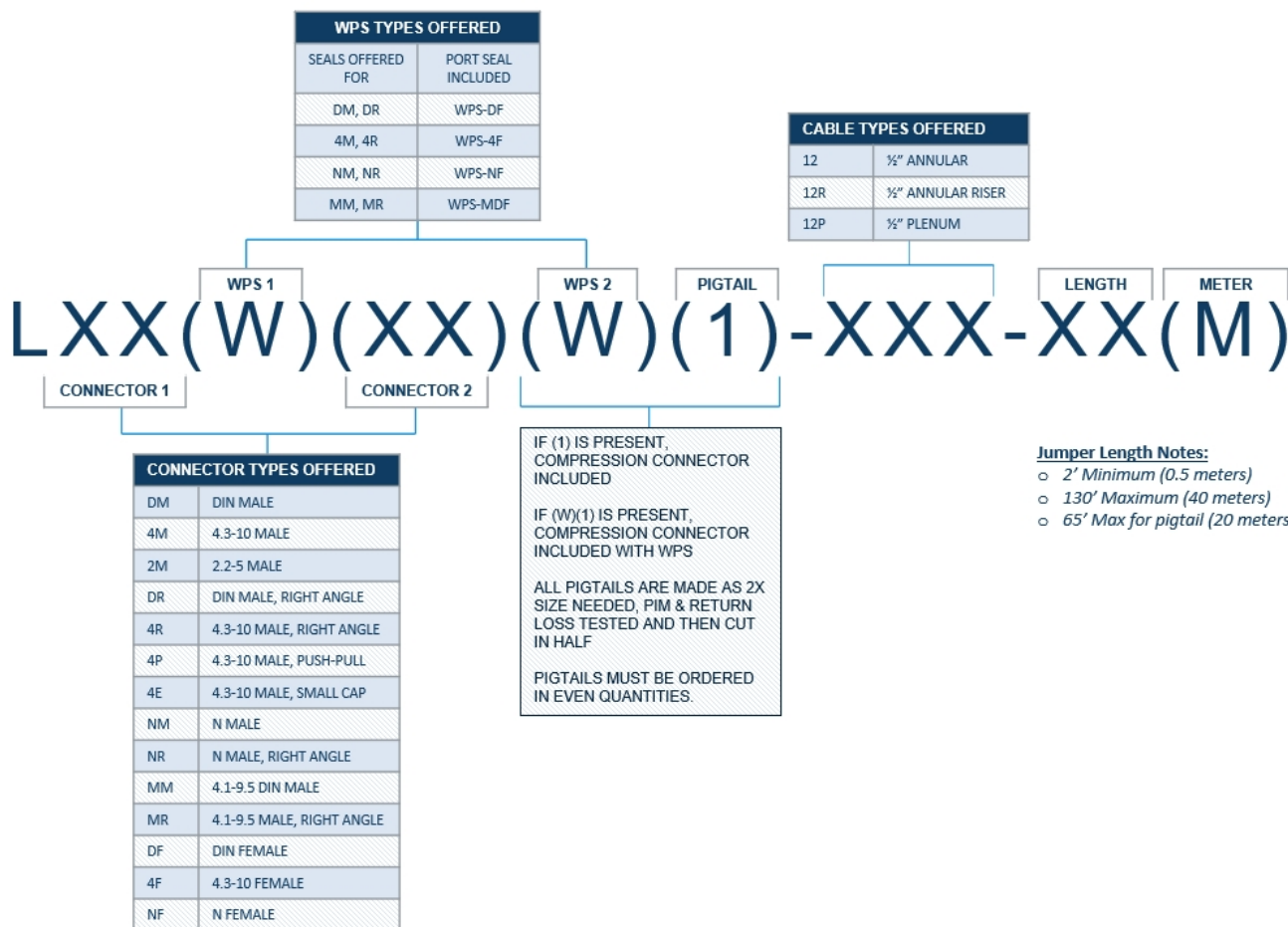
# 1/2" Factory Fit and Certified Jumpers



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| Electrical  | Specification   | Comments  |
|---|---|---|
| <b>Passive Intermodulation, 3rd Order<sup>1</sup></b> | -160 dBc minimum, dynamic HALT  | As per IEC 62037-2, -3, before, during and after HALT testing |
| <b>Operating frequency</b>                            | DC - 6 GHz  |   |
| <b>Minimum Return Loss (VSWR)<sup>1</sup></b>         | < -28 dB (1.08) 617 - 960 MHz<br>< -28 dB (1.08) 1700 - 2200 MHz<br>< -25 dB (1.12) 2200 - 2700 MHz<br>< -20 dB (1.22) 3400 - 4200 MHz <sup>2</sup><br>< -20 dB (1.22) 5150 - 5925 MHz <sup>2</sup> | As per Anatel 75  |

<sup>1</sup> 100% of jumpers factory-tested with result available via web-based portal (link below)

<sup>2</sup> Jumpers manufactured with 6 GHz-ready connectors will be factory-tested to 6 GHz.



# 1/2" Factory Fit and Certified Jumpers

| Interface | 3 GHz | 6 GHz |
|-----------|-------|-------|
| 2M        |       | X     |
| 4M        |       | X     |
| 4E        |       | X     |
| 4P        | X     |       |
| 4R        | X     |       |
| 4F        | X     |       |
| DM        | X     |       |
| DR        | X     |       |
| DF        | X     |       |
| MM        | X     |       |
| MR        | X     |       |
| NM        | X     |       |
| NR        | X     |       |
| NF        | X     |       |

| 3 GHz           |                               |          |           |            |
|-----------------|-------------------------------|----------|-----------|------------|
|                 | Return Loss (dB) <sup>3</sup> |          |           |            |
| Frequency (MHz) | L<20                          | 20< L<80 | 80< L<130 | 130< L<170 |
| 617 - 960       | -31                           | -26      | -25       | -24        |
| 1700 - 2200     | -28                           | -26      | -25       | -23        |
| 2200 - 2700     | -27                           | -24      | -22       | -20        |
| 3400 - 4200     |                               |          |           |            |
| 5150 - 5925     |                               |          |           |            |

| 6 GHz           |                               |          |           |            |
|-----------------|-------------------------------|----------|-----------|------------|
|                 | Return Loss (dB) <sup>3</sup> |          |           |            |
| Frequency (MHz) | L<20                          | 20< L<80 | 80< L<130 | 130< L<170 |
| 617 - 960       | -31                           | -26      | -25       | -24        |
| 1700 - 2200     | -28                           | -26      | -25       | -23        |
| 2200 - 2700     | -27                           | -24      | -22       | -20        |
| 3400 - 4200     | -24                           | -20      | -18       | -16        |
| 5150 - 5925     | -21                           | -20      | -18       | -16        |

<sup>3</sup> For mixed interface jumpers, Return Loss specification is governed by the interface with the lowest frequency rating.



# 1/2" Factory Fit and Certified Jumpers

| Highly Accelerated Life Tests (HALT) | Specification   | Comments   |
|--------------------------------------|---|--|
| <b>Mechanical stress, dynamic</b>    | Meets electrical performance in above table before, during, and after test.   | As per IEC 62037-2, -3   |
| <b>Peak pull strength</b>            | > 200 lb min, 1/2" superflexible jumpers<br>> 350 lb min, 1/2" annular jumpers  | Cable limited, cable must fail before connection   |
| <b>Cable torque</b>                  | > 36 lbf-in min, 1/2" superflexible jumpers<br>> 60 lbf-in min, 1/2" annular jumpers  | Cable limited, cable must fail before connection   |
| <b>Thermal shock</b>                 | Meets electrical performance in above table before and after test.  | As per Anatel 75, before, during, and after HALT testing                                 |
| <b>Thermal stress</b>                | Meets electrical performance in above table before, during, and after test.   | -55 °C to +85 °C, cycled every 2 hours for 30 days minimum                               |
| <b>Moisture migration</b>            | Meets electrical performance in above table before, during, and after test. No dye present past seals at 10X magnification. | ANSI/SCTE 60 5 day submersion with thermal cycling.                                      |
| <b>Corrosion resistance</b>          | Corrosion must not penetrate plating into base metals; plating must stay adhered to base metal.                             | ASTM B117-94, 1000 hour duration   |
| <b>UV exposure</b>                   | Materials must show no signs of discoloration or embrittlement after 12 months exposure, equal to 33.4 years outdoors.      | Full UV spectrum (UVA, UVB, UVC), 12 months exposure with moisture present per ASTM G155 |
| <b>Vibration</b>                     | Meets electrical performance in above table before, during, and after test  |  |

| Jumper part number and description samples |   |                                 |
|--|---|---------------------------------|
| <b>L4MW4MW-12-8</b>                        | Jumper, 4.3-10 to 4.3-10, 1/2" Annular, WPS, 8 ft |                                 |
| <b>L4M4M-12-25</b>                         | Jumper, 4.3-10 to 4.3-10, 1/2" Annular, 25 ft     |                                 |
| <b>Customer Support</b>                    |   |                                 |
| <a href="#">Jumper performance portal</a>  |   |                                 |
| <a href="#">Request connector training</a> |   |                                 |
| <b>Customer service</b>                    | 1-315-431-7100                                    | customerservice@jmawireless.com |

All specifications are subject to change without notice.