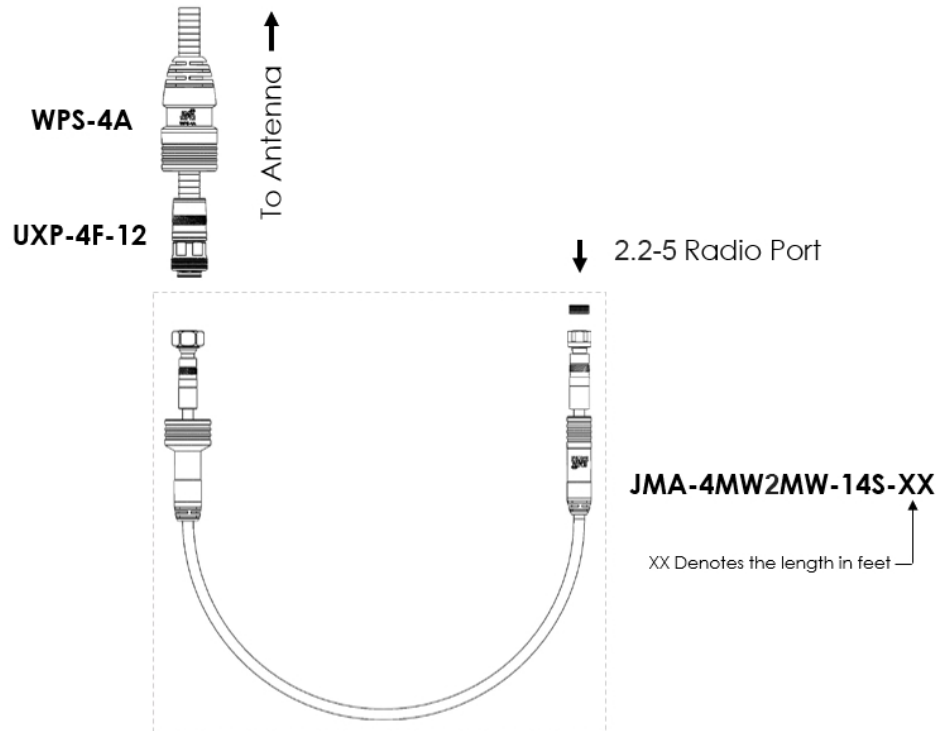


JMA's premium compression connector, laser-welded jumper, and reusable weather protection products can now be configured to provide a low-loss solution for applications using 2.2-5 radio equipment such as small cells. Our solution is easily customized to fit your application. The overall configuration, which uses a 1/2" jumper and a 1/4" Superflex jumper, is detailed below along with ordering configurations for each.

## 1/2" Loose Connector and Weatherproofing Options

When using field fit connectors and weather protection (WPS) is preferred, use the table below to select the appropriate 1/2" products for each supported cable type. If factory made and tested jumpers are preferred, please skip to the next section of this document.

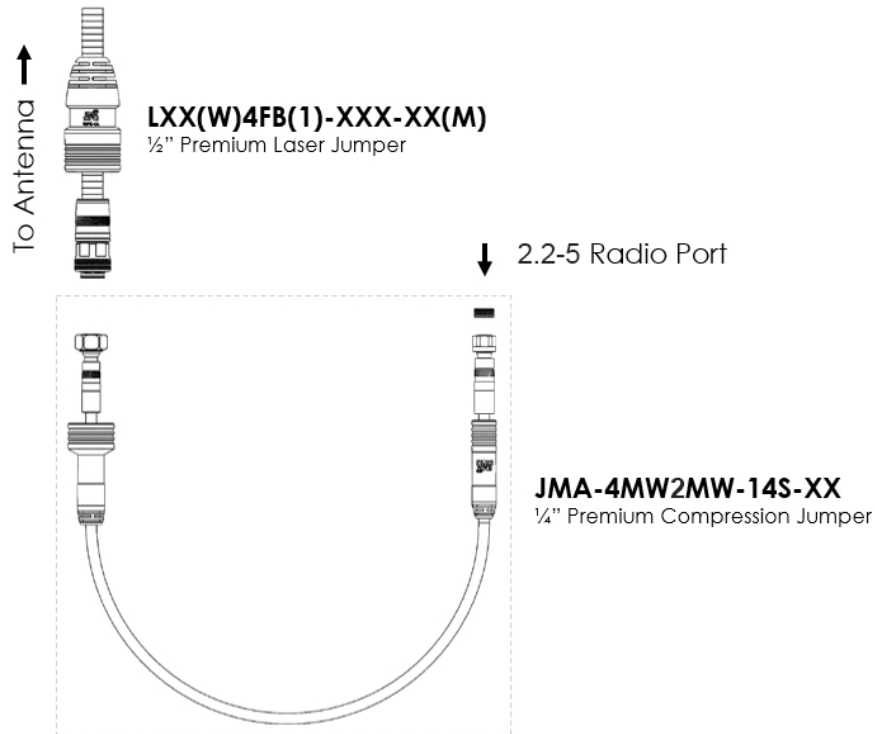


Cable Type	Connector	WPS Boot
1/2" Superflex	UXP-4F-12S	WPS-4S
1/2" Annular	UXP-4F-12	WPS-4A

Customer Support		
<a href="#">Jumper performance portal</a>		
<a href="#">Request connector training</a>		
Customer service	1-315-431-7100	customerservice@jmawireless.com

## 1/2" Weatherproofed Jumper Option

Both the 1/2" and 1/4" Superflex factory jumpers are available from JMA. Use the nomenclature below to configure the 1/2" annular jumpers for your application. Note the "B" represents the unique configuration required for a 1/4" to 1/2" weatherproofed connection. The 1/4" Superflex jumpers can be configured using the nomenclature found on the 1/4" Superflex jumper datasheet found [here](#).



WPS TYPES OFFERED	
SEALS OFFERED FOR	PORT SEAL INCLUDED
DM, DR	WPS-DF
4M, 4R	WPS-4F
NM, NR	WPS-NF

CABLE TYPES OFFERED	
12	1/2" ANNULAR
12S	1/2" SUPERFLEX
4R	1/2" ANNULAR RISER
4SR	1/2" SUPERFLEX RISER
12P	1/2" PLENUM

**LXX(W)4FB(1)-XXX-XX(M)**

6 GHz READY <sup>2</sup>	CONNECTOR TYPES OFFERED	
	DM	DIN MALE
✓	4M	4.3-10 MALE
✓	2M	2.2-5 MALE
	DR	DIN MALE, RIGHT ANGLE
	4R	4.3-10 MALE, RIGHT ANGLE
	4P	4.3-10 MALE, PUSH-PULL
✓	4E	4.3-10 MALE, SMALL CAP
	NM	N MALE
	NR	N MALE, RIGHT ANGLE
	DF	DIN FEMALE
	4F	4.3-10 FEMALE
	NF	N FEMALE

IF (1) IS PRESENT, COMPRESSION CONNECTOR INCLUDED

IF B(1) IS PRESENT, COMPRESSION CONNECTOR INCLUDED WITH WPS

ALL PIGTAILS ARE MADE AS 2X SIZE NEEDED, PIM & RETURN LOSS TESTED AND THEN CUT IN HALF

PIGTAILS MUST BE ORDERED IN EVEN QUANTITIES.

- Jumper Length Notes:**
- 2' Minimum (0.5 meters)
  - 130' Maximum (40 meters)
  - 65' Max for pigtail (20 meters)

Insertion Loss
The insertion loss of these solutions can easily be calculated using the information below.
$I_{\text{Insertion Loss}} = I_{1/4} + I_{1/2}$
Where:
$I_{1/4} = (-0.1 - 0.07L) \sqrt{f}$
$I_{1/2} = (-0.1 - 0.05L) \sqrt{f}$
$I_{1/4}$ = Insertion Loss of 1/4" jumper $I_{1/2}$ = Insertion Loss of 1/2" Jumper $L$ = Length in feet $f$ = Frequency in GHz

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 < -28 dB (1.08) 1700 - 2200 MHz < -25 dB (1.12) 2200 - 2700 MHz < -20 dB (1.22) 3400 - 3800 MHz <sup>2</sup> < -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.

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 > 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 > 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	

All specifications are subject to change without notice.