

# Multi-Co-Planar Scan (MCP) Jig



## Get Accurate Far-Field Results with MCP Jig for Large Antennas

Multi-Co-Planar Scan (MCP) function which is available only with the RFX2 enables power and pattern measurements at a single frequency or series of frequencies of antennas that are too large to measure with a single RFX2 scanner.

The MCP Jig is designed to ensure accurate antenna pattern measurements for antennas larger than L 32 cm x W 32 cm (L 12.60" x W 12.60"). With this function, the RFX2 can test antennas as large as are L 2.32 m x W 2.32 m (L 7.61' x W 7.61').

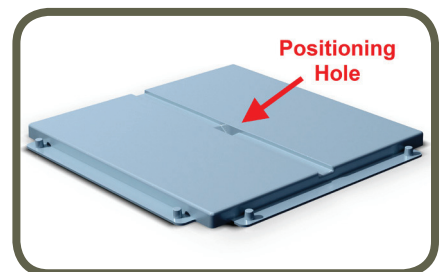
For accurate far-field results, the distance between the antenna array and the RFX2 must be constant and each measurement must be made in 40 cm (15.75") increments. A recommended approach is to suspend the antenna above the RFX2 and move the RFX2 on the MCP Jig.

Basic MCP Jig is designed for DUTs with maximum dimensions: L 1.12 m x W 0.78 m (L 3.67' x W 2.56'). It is composed of 6 tiles, 6 absorber blocks and one rolling rig.

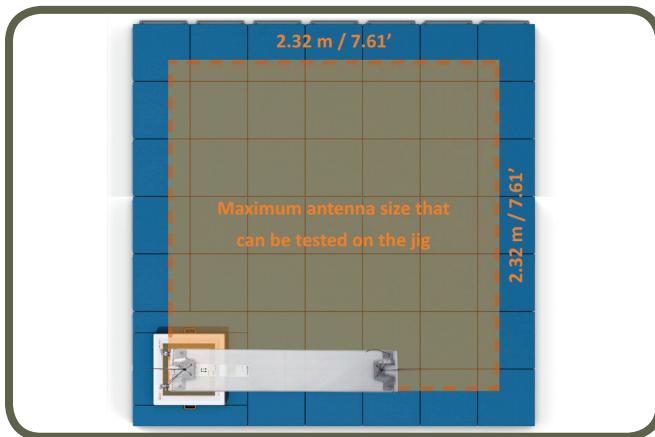
The rolling rig has wheels that allow the accurate movement and positioning of the RFX2 on tiles. Tiles have built-in tracks and positioning holes for the rolling rig which serves as a guide to move the RFX2 precisely to the next subsequent position in 40 cm (15.75") increments. The rolling jig has to be lifted up and placed on the next set of tracks for testing along another row of tiles.

Absorber blocks are required to help minimize the impact of manually moving the RFX2 on the DUT and to prevent interferences.

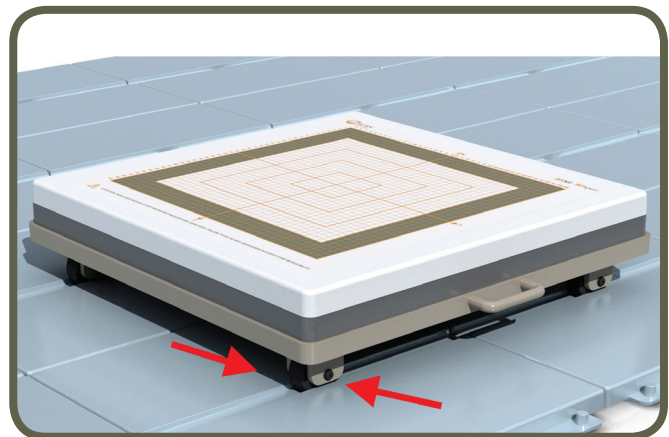
Depending on the size of the DUT, basic MCP Jig can easily be expanded with MCP Expansion Kit (part #: 3000-0821 and 3000-0823)



Assembling tiles is easy:  
Snap 'n Fix



MCP Jig with absorber pad:  
Move rolling rig to the next position



MCP Jig without absorber pad:  
Rolling rig in the next position

## MCP (Multi Co-Planar) Jig Features

<b>Features</b>	Allows precise positioning of RFX2 along antenna to enable accurate antenna pattern measurements for antennas larger than 32 cm x 32 cm.																										
<b>Hardware requirement</b>	RFX2 (part number 3000-0604, 3000-0605, 3000-0606 or 3000-0607)																										
<b>Software requirement</b>	RFxpert 4.0 and above																										
<b>Part number</b>	<b>3000-0820</b>	Basic MCP Jig: Set of tiles, absorber blocks and rolling rig to enable high frequency 1.3 GHz to 6 GHz multiple-co-planar measurements with RFX2. Includes - 6 tiles with positioning holes for a 3 x 2 set - 6 absorbers: 4 RFX2 blocks and 2 standard blocks for test above 1.3 GHz - 1 rolling rig for RFX2 with positioning wheels																									
	<b>3000-0821</b>	High Frequency MCP Jig Expansion : One tile and absorber block for test > 1.3 GHz - Expanding the basic set requires at least 2 tiles																									
	<b>3000-0822</b>	Basic Low Frequency MCP Jig Absorber Kit. Includes the following addition to 3000-0820: - 6 absorbers: 4 RFX2 blocks and 2 standard blocks for test < 1.3 GHz																									
	<b>3000-0823</b>	Low Frequency MCP Jig Expansion: One tile and absorber block for test < 1.3 GHz - Expanding the basic set requires at least 2 tiles																									
<b>Dimensions</b>	Tile : ~ L 42 cm x W 42 cm x H 2 cm (~ L 16.54" x W 16.54" x H 0.79") Rolling rig : ~ L 50 cm x W 50 cm x H 6 cm (~ L 15.75" x W 15.75" x H 2.36")																										
<b>Weight</b>	Tile: 0.6 kg (1.32 lb) Rolling rig: 1.7 kg (3.75 lb)																										
<b>Absorber foam (Frequency dependant)</b>	<table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">Thickness</th> <th colspan="2">Weight</th> <th rowspan="2">Frequency Range</th> </tr> <tr> <th>cm</th> <th>inch</th> <th>kg</th> <th>lb</th> </tr> </thead> <tbody> <tr> <td>LF-77</td> <td>5.72</td> <td>2.25</td> <td>1.5</td> <td>3.3</td> <td>-20dB 1.3 GHz – 40 GHz</td> </tr> <tr> <td>LF-79</td> <td>11.43</td> <td>4.5</td> <td>2.95</td> <td>6.5</td> <td>-20dB 0.6 GHz – 40 GHz</td> </tr> </tbody> </table>						Thickness		Weight		Frequency Range	cm	inch	kg	lb	LF-77	5.72	2.25	1.5	3.3	-20dB 1.3 GHz – 40 GHz	LF-79	11.43	4.5	2.95	6.5	-20dB 0.6 GHz – 40 GHz
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## RFX2 Scanner Specifications

<b>Broadband frequency coverage</b>	300 MHz to 6 GHz					
<b>Antenna array</b>	1,600 (40 x 40) H-field probes					
<b>Measurement sensitivity</b>	0 dBm source power for a reasonably efficient antenna					
<b>Measurement accuracy</b>	<b>Band 1:</b>		<b>Band 2:</b>		<b>Band3:</b>	
	300MHz-1GHz		1GHz-3GHz		3GHz-6GHz	
	$\sigma$	N	$\sigma$	N	$\sigma$	N
	<b>1.54</b>	195	<b>0.81</b>	517	<b>0.94</b>	247
<b>Measurement repeatability</b>	+/- 0.2 dB					
<b>Far-field resolution</b>	1.8° for theta and 3.6° for phi					
<b>Maximum radiator size</b>	RFX2 L 32 cm x W 32 cm (L 12.60" x W 12.60") RFX2 with MCP Option: L 2.32 m x W 2.32 m (L 7.61' x W 7.61')					