DVTEST

dbCoupler

RF Antenna Coupler

COUPLE. TEST. REPEAT.

Couple to wireless devices using the dbCoupler and meet the requirements for efficient broadband test. dbCouplers are omni-directional wideband antennas, operating in the frequency range of 300MHz-8GHz. This is a key tool in characterizing various antennas within wireless devices.

Test with the dbCoupler for superior coupling performance to all wireless devices. The result is very low loss in coupling path while avoiding use of RF cables and connectors. The dbCouplers come in multiple configurations to test SISO and MIMO devices.

Repeat measurements with tenth of a dB coupling accuracy. The dbCoupler's wideband characteristics encompass all frequency bands for wireless device testing. A combination of the dbCoupler and a Testforce DUT positioner eliminates error and maximizes efficiency.

dbSERIESdbCoupler

The “Internet of things” is connecting our world like never before. Everyday items are being wirelessly connected to our computers and mobile devices, relaying information related to weather, news, health and safety, and more. Being able to test such devices from a system level has never been more crucial.

Combine this with the fact that today’s mobile devices have multiple antennas, most of which are externally inaccessible, and difficult to test. Each antenna performs a specific function, unique to the device. The link between the Device Under Test (DUT) and the test equipment should be based on maximum reliability while minimizing path loss. The need to minimize this RF link budget is crucial in research and development, where critical decisions are made about vendor and component selection. The dbCoupler series is suitable for applications reaching frequencies up to 6 GHz, thereby covering all common wireless standards such as 5G/LTE, 802.11A/B/G/N/AC, WiMAX™, ZigBee, Bluetooth®, GNSS, and RFID.

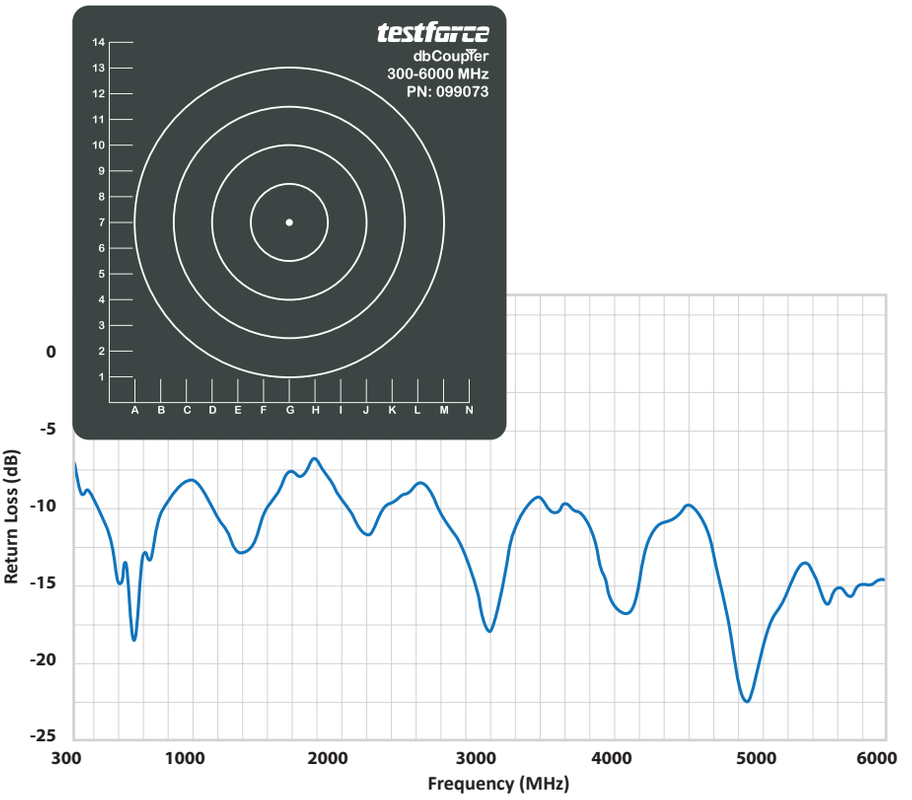
Common Configuration:
Correctly positioning a device is essential for accurate, reliable, and repeatable testing using an antenna coupler. All dbCouplers have a low profile, which allow the DUT to be maneuvered in 3 axis, achieving the highest performance. Increased repeatability can be achieved using a fixture to ensure the DUT is in the same spot each and every time. This makes the dbSafe or dbGuard RF enclosure the perfect complement to the dbCoupler.

Standard dbCoupler

PN: 099073

Broadband RF antenna coupler ideal for many different applications including security, GNSS, Bluetooth, WiMAX, Wi-Fi, 5G, LTE, and RFID (vUHF SHF).

SPECIFICATIONS	
Frequency Range	300MHz-6GHz
Impedance	50 Ohms
Radiation Pattern	Omni Directional
Input Power	5 Watts Maximum
Dimensions	169mm x 169mm x 10mm 6.65” x 6.65” x 0.39”
Connectors	MMCX
Cable Length	300mm, MMCX to SMA(M)
Weight	400 grams
Temperature	-40°C to 85°C

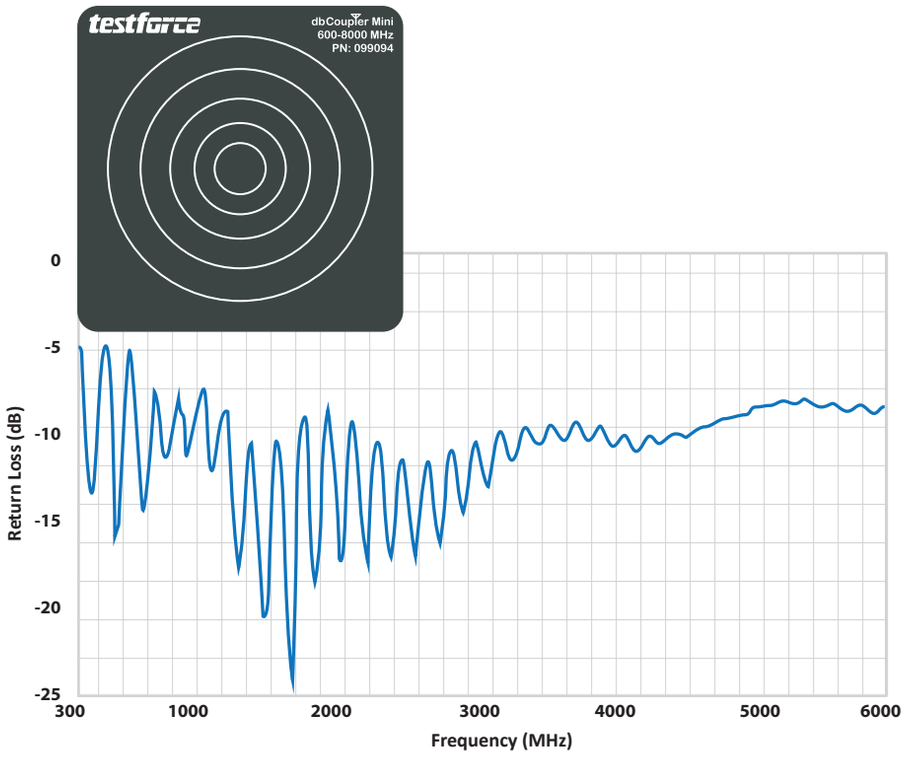


dbCoupler Mini

PN: 099094

For applications where space is an issue, the dbCoupler Mini provides comparable performance at ⅔ the size of the standard dbCoupler.

SPECIFICATIONS	
Frequency Range	600MHz-8GHz
Impedance	50 Ohms
Radiation Pattern	Omni Directional
Input Power	5 Watts Maximum
Dimensions	104mm x 104mm x 10mm 4.1” x 4.1” x 0.39”
Connectors	MMCX
Cable Length	300mm, MMCX to SMA(M)
Weight	136 grams
Temperature	-40°C to 85°C

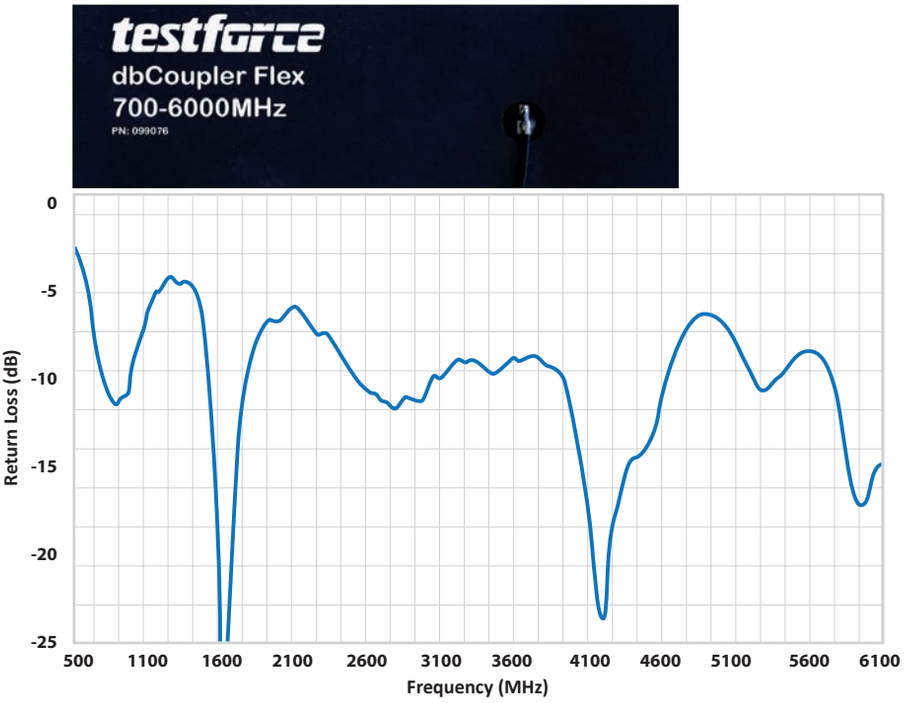


dbCoupler Flex

PN: 099076

Inexpensive and flexible RF coupler that does not make compromises on RF performance. The coupler can be installed via the 3M adhesive on the back.

SPECIFICATIONS	
Frequency Range	700MHz-6GHz
Impedance	50 Ohms
Radiation Pattern	Omni Directional
Input Power	5 Watts Maximum
Dimensions	120mm x 51mm 4.7” x 2.0”
Connectors	SMA(M)
Cable Length	150mm
Weight	4 grams
Temperature	-40°C to 85°C

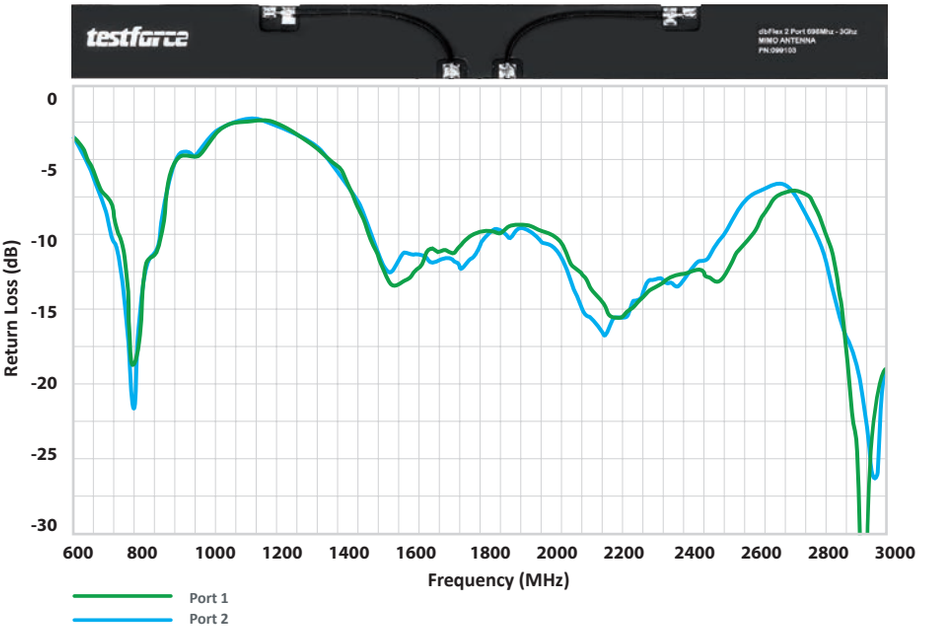


dbCoupler Flex-2 Port Broadband MIMO

PN: 099103

Flexible wideband MIMO coupler, ideal for cellular and Wi-Fi applications. Made from a durable flexible polymer, with up to 5dBi of peak gain.

SPECIFICATIONS	
Frequency Range	698MHz-3GHz
Impedance	50 Ohms
Radiation Pattern	Omni Directional
Input Power	2 Watts Maximum
Dimensions	240mm x 21mm 9.45” x 0.83”
Connectors	I-PEX MHFHT (u.fl)
Cable Length	150mm
Weight	5 grams
Temperature	-40°C to 85°C

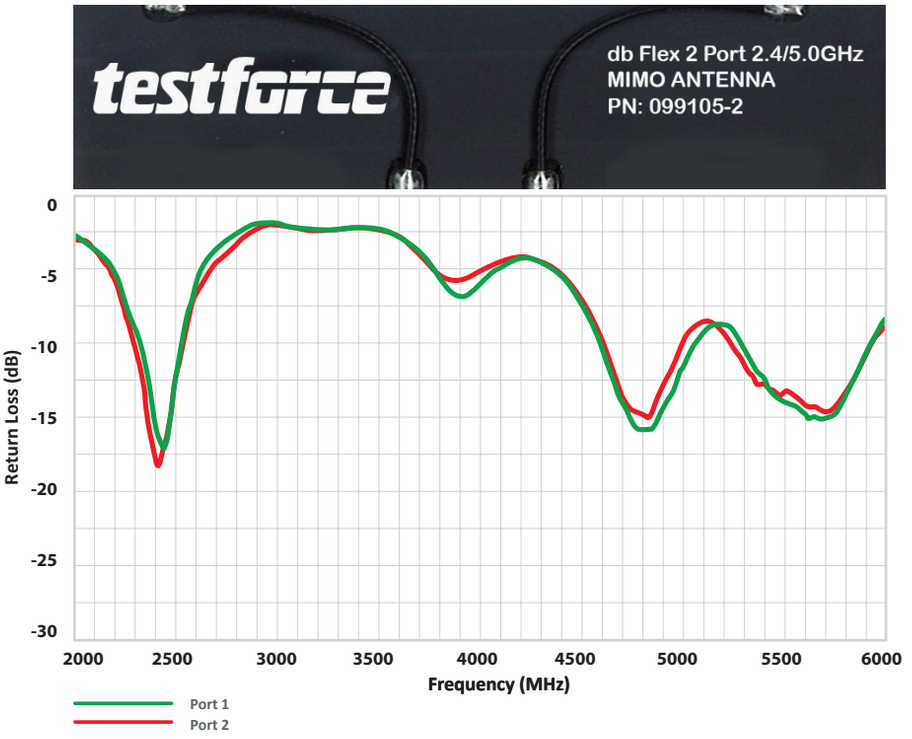


dbCoupler Flex-2 Port MIMO Antenna

PN: 099105-2

Flexible 2 port MIMO antenna Coupler offers great performance and isolation for Wi-Fi applications.

SPECIFICATIONS	
Frequency Range	2.4/5.0GHz
Impedance	50 Ohms
Radiation Pattern	Omni Directional
Input Power	2 Watts Maximum
Dimensions	80mm x 20mm 3.15” x 0.79”
Connectors	2 x IPEX MHFI (u.fl)
Cable Length	100mm
Weight	6 grams
Temperature	-40°C to 85°C

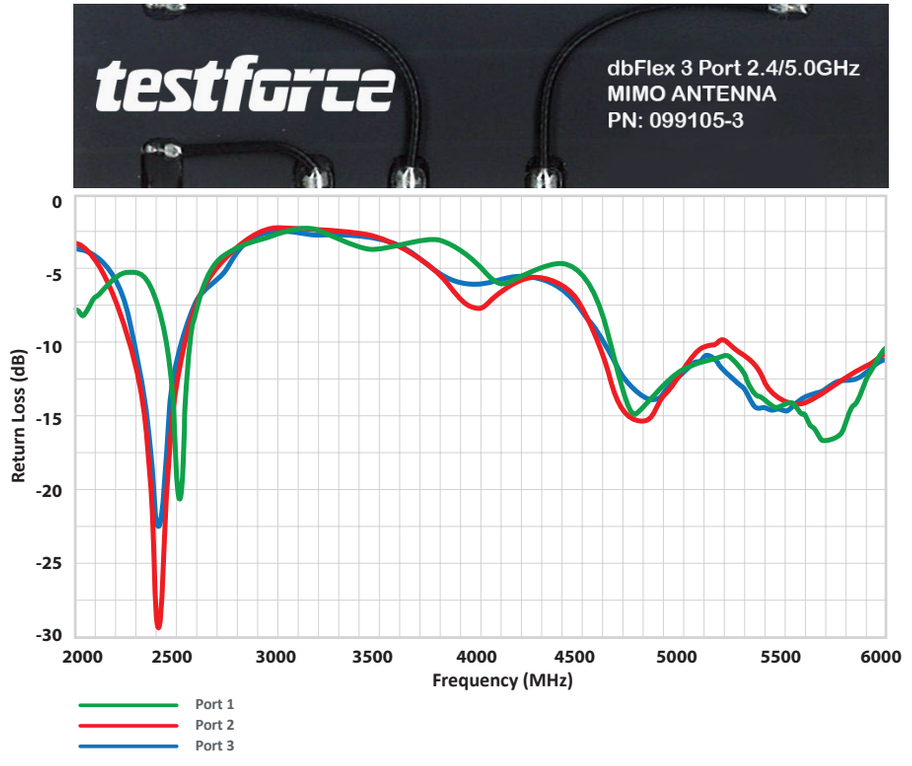


dbCoupler Flex-3 Port MIMO Antenna

PN: 099105-3

Flexible 3 port MIMO antenna coupler offers great performance and isolation for Wi-Fi applications.

SPECIFICATIONS	
Frequency Range	2.4/5.0GHz
Impedance	50 Ohms
Radiation Pattern	Omni Directional
Input Power	2 Watts Maximum
Dimensions	80mm x 20mm 3.15” x 0.79”
Connectors	IPEX MHFI (u.fl)
Cable Length	100mm
Weight	7 grams
Temperature	-40°C to 85°C

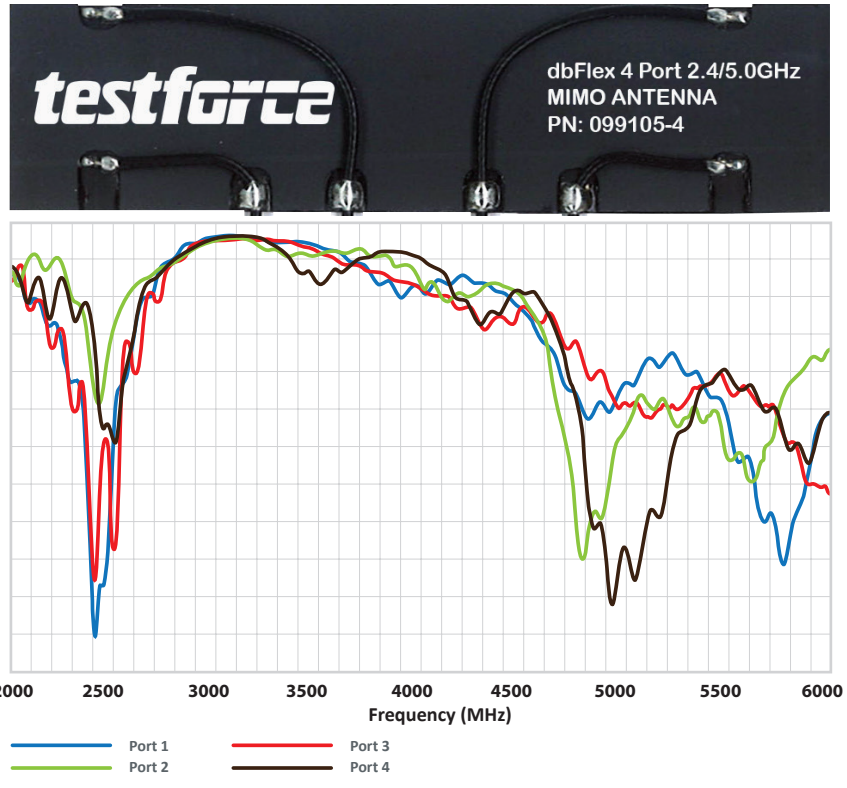


dbCoupler Flex-4 Port MIMO Antenna

PN: 099105-4

Flexible 4 port MIMO antenna Coupler offers great performance and isolation for Wi-Fi applications.

SPECIFICATIONS	
Frequency Range	2GHz-6GHz
Impedance	50 Ohms
Radiation Pattern	Omni Directional
Input Power	2 Watts Maximum
Dimensions	80mm x 20mm 3.1" x 0.7"
Connectors	IPEX MHFHT (u.fl)
Cable Length	100mm
Weight	8 grams
Temperature	-40°C to 85°C



Comparison Specifications Table

		Standard dbCoupler	dbCoupler Mini	dbCoupler Flex	Flex-2 Port Broadband MIMO	Flex-2 Port MIMO Antenna	Flex-3 Port MIMO Antenna	Flex-4 Port MIMO Antenna
Frequency Range		300MHz-6GHz	600MHz-8GHz	700MHz-6GHz	700MHz-3GHz	2GHz-6GHz	2GHz-6GHz	2GHz-6GHz
Impedance		50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms
Radiation Pattern		Omni DIrectional	Omni Directional	Omni Directional	Omni Directional	Omni Directional	Omni Directional	Omni Directional
Input Power		5 Watts Maximum	5 Watts Maximum	5 Watts Maximum	2 Watts Maximum	2 Watts Maximum	2 Watts Maximum	2 Watts Maximum
Dimensions	mm inches	169mm x 169mm 6.65" x 6.65"	104mm x 104mm 4.09" x 0.39"	120mm x 51mm 4.72" x 2.00"	240mm x 21mm 9.45" x 0.83"	80mm x 20mm 3.15" x 0.79"	80mm x 20mm 3.15" x 0.79"	80mm x 20mm 3.15" x 0.79"
Connectors		MMCX	MMCX	SMA(M)	I-PEX MHFHT (u.fl)	2 x IPEX MHFI (u.fl)	IPEX MHFI (u.fl)	IPEX MHFHT (u.fl)
Cable Length	mm inches	30mm 1.18" MMCX to SMA(M)	300mm 11.81" MMCX to SMA(M)	150mm 5.9"	150mm 5.9"	100mm 3.9"	100mm 3.9"	100mm 3.9"
Weight		400 grams	136 grams	4 grams	5 grams	6 grams	7 grams	8 grams
Temperature		-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C	-40°C to 85°C